



Cable ladder, Trunking , Unistrut



Industrial control panel, Fire hose cabinet



Facebook : Prodetech

Rectangular duct, spiral duct, Volume Damper , Silencer , EI Duct System



CATALOGUE

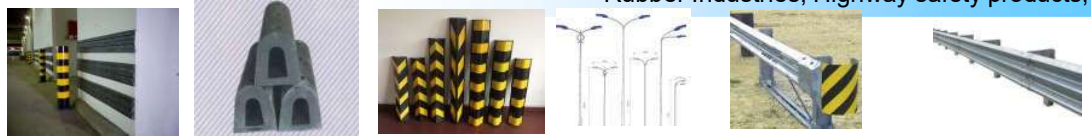
Air diffuser, Ventcap, Filter,,Flexible duct, Copper Tube



Volume control damper, Non return valve, Fire damper, Smoke exhaust damper, OBD



Rubber Industries, Highway safety products,



Rubber Foam Insulation (ATATA & Nanoflex)



PRODETECH ONE MEMBER COMPANY LIMITED

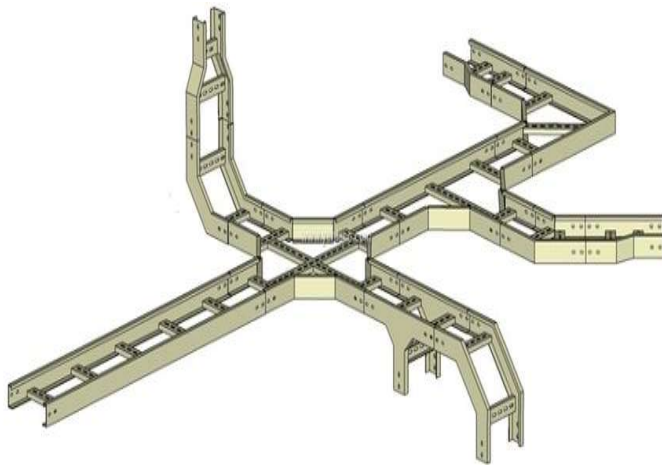
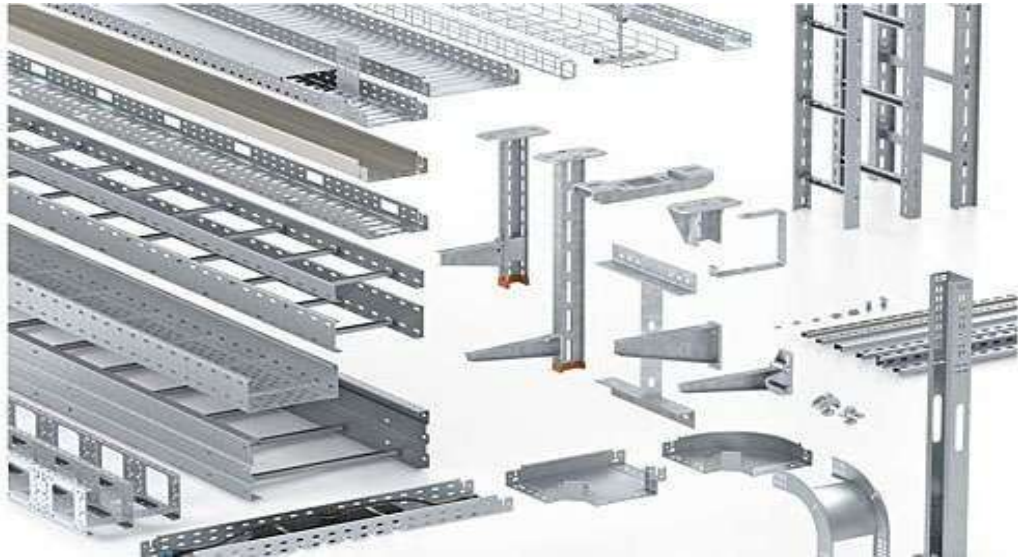
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A: Electrical

Cable ladder, Cable tray & Accessories

SYSTEM CABLE LADDER & CABLE TRAY

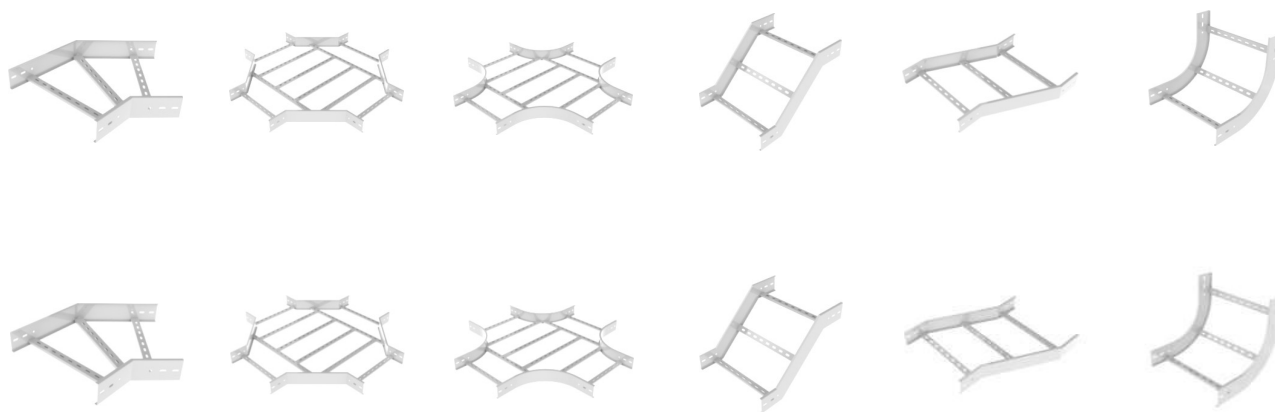


A1

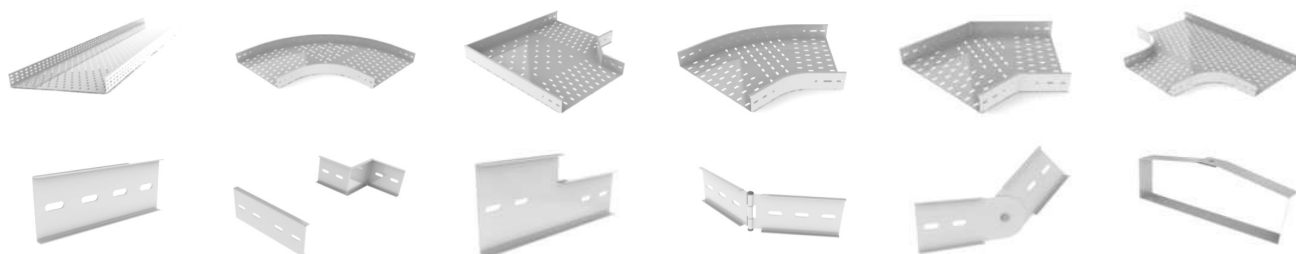


A2

A1	Cable Leader
A2	Cable Tray

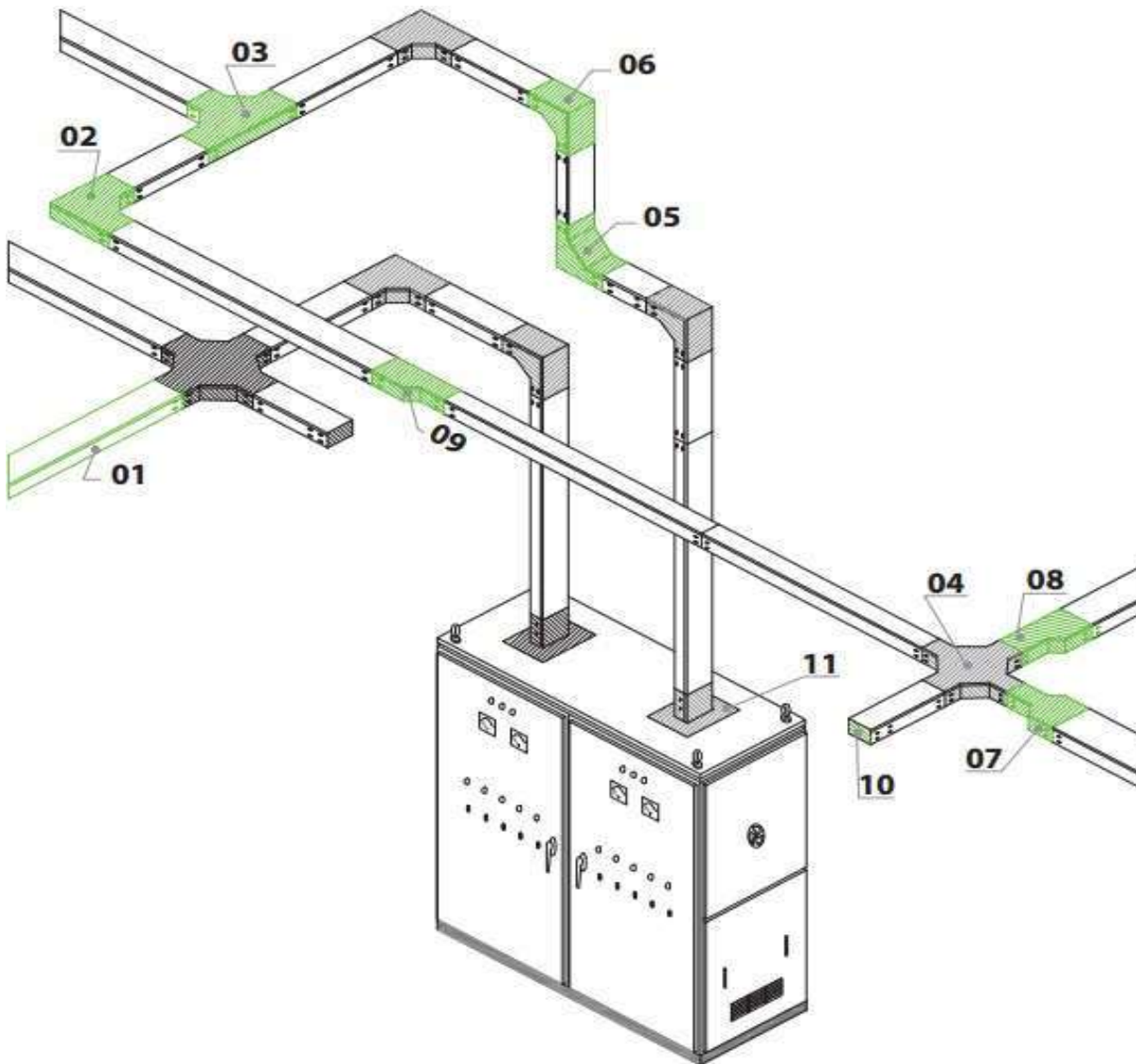


CABLE LADDER,



Cable ladder, Cable tray & Accessories

SYSTEM CABLE LADDER & CABLE TRAY



01	Cable Straight
02	Horizontal Elbow
03	Horizontal Tee
04	Horizontal Cross
05	Elbow Downer
06	Elbow Upper
07	Reducer
08	Reducer Left
09	Reducer Right

GIẤY CHỨNG NHẬN - DAS CERTIFICATION



Certificate of Registration

The Management System of:

PRODETECH ONE MEMBER COMPANY LIMITED

No. B5-20, Vinhomes Gardenia urban area, Ham Nghi street, Cau Dien ward, Nam Tu Liem district, Hanoi City, Vietnam

Refer to Attachment to Certificate of Registration dated 27 July 2025 for additional certified sites.

Operates a

Quality Management System

Which complies with the requirements of

ISO 9001:2015

For the following scope of certification

Manufacture and supply of cable ladder, cable tray, air duct, air diffuser and electrical distribution panel

EA Code: 17 & 19

Certificate of Registration No: VN-10041-QMS

Initial Certification Date:	21 April 2025
Current Certification Date:	27 July 2025
Certificate Issue Date:	27 July 2025
Certificate Expiry Date:	20 April 2028

SIGNATURE

Yevgeniya Mikhayeva
Operations Manager



Registered by:
Sustainable Management Group SMG, 78 George Street, Ottawa Ontario, K1N 2M1 Canada
This certificate is subject to the SMG Terms and Conditions for Certification, and remains the property of SMG and must be returned to SMG upon its request.
To verify that this certificate is current, please refer to SMG online certification register at: <https://smg-us.com/inquire-about-your-certificate/>

Cable ladder, Cable tray & Accessories

GIẤY CHỨNG NHẬN - QUATEST CERTIFICATION



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Số No: 2016.1906.1.M.1.3 Trang: Page: 1/1

KẾT QUẢ THỬ NGHIỆM

TEST RESULT

1. Tên mẫu thử (Sample): **THANG CẤP ĐIỆN PHỦ SƠN TÍNH ĐIỆN (CABLE LEADER PAINTING POWDER COAT) CÔNG TY CP PRODETECH**
 2. Khách hàng (Client): **01**
 3. Số lượng mẫu (Quantity): **Mẫu mới/ New sample**
 4. Tình trạng mẫu (Status of Sample): **29/6/2016**
 5. Ngày nhận mẫu (Reception date): **29/6/2016**
 6. Thời gian thử nghiệm (Time of testing): **29/6/2016**

TT Item	TÊN CHI TIẾT Specifications	PHƯƠNG PHÁP THỬ Test method	KẾT QUẢ Results
1	Kích thước - Dimensions • Chiều dài - Length (L) • Chiều rộng - Width (W) • Chiều cao cạnh 1 - Height of Side 1 (H) • Chiều cao cạnh 2 - Height of Side 2 (H) • Chiều dày - Thickness (t)	NEMA VE 1-2002	3002,0 302,0 101,3 101,6 2,48
2	Khả năng chịu tải - Load capacity • Khoảng cách giữa 2 gối đỡ (L) • Khoảng cách giữa 2 support (L) • Tải (w) cấp nhịp chi định • Tải trọng thử (1,5 x L x w) • Tải load (1,5 x L x w) • Biến dạng dư sau khi thử tải • Residual deflection after test • Tình trạng mẫu sau khi thử • Sample status after testing	NEMA VE 1-2002	3,0 74(kg/m) / 8A 333,0 0,25 Mẫu không bị phá hủy (Not damaged)
3	Chiều dày lớp sơn - Paint thickness	ASTM E376:2011	137 - 315
4	Thử kéo - Tensile test • Giới hạn chảy - Yield strength • Độ bền kéo đứt - Tensile strength • Độ giãn dài tương đối - Elongation	TCVN 197-1:2014	256 350 36

P. TRƯỞNG PHÒNG THỬ NGHIỆM I
Head of Lab I


Bùi Thành Nam


PHÓ GIÁM ĐỐC
Nguyễn Ngọc Châm

1. *Phép kết quả này chỉ có giá trị đối với mẫu thử do khách hàng đưa tới.
This test results is value only for samples taken by customer.*
 2. *Không được trích sao một phần kết quả này nếu không được sự đồng ý của trung tâm kỹ thuật I.
This test results shall not reproduced except in full, without the written approval of QUATEST I.*
 3. *Tên mẫu và tên khách hàng được ghi theo yêu cầu của khách hàng.
Name of sample and customer are written as customer's request.*

TN/05.3-La00.2014



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Quality Assurance and Testing Center I

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Số No: 2016.1906.1.M.1.2 Trang: Page: 1/1

KẾT QUẢ THỬ NGHIỆM


TEST RESULT

1. Tên mẫu thử (Sample): **THANG CẤP ĐIỆN MA KÉM NHUNG NÓNG (CABLE LEADER HOT DIP GALVANIZED COATED) CÔNG TY CP PRODETECH**
 2. Khách hàng (Client): **01**
 3. Số lượng mẫu (Quantity): **Mẫu mới/ New sample**
 4. Tình trạng mẫu (Status of Sample): **29/6/2016**
 5. Ngày nhận mẫu (Reception date): **29/6/2016**
 6. Thời gian thử nghiệm (Time of testing): **29/6/2016**

TT Item	TÊN CHI TIẾT Specifications	PHƯƠNG PHÁP THỬ Test method	KẾT QUẢ Results
1	Kích thước - Dimensions • Chiều dài - Length (L) • Chiều rộng - Width (W) • Chiều cao cạnh 1 - Height of Side 1 (H) • Chiều cao cạnh 2 - Height of Side 2 (H) • Chiều dày - Thickness (t)	NEMA VE 1-2002	3002,0 302,0 100,3 100,4 2,13
2	Khả năng chịu tải - Load capacity • Khoảng cách giữa 2 gối đỡ (L) • Khoảng cách giữa 2 support (L) • Tải (w) cấp nhịp chi định • Tải trọng thử (1,5 x L x w) • Tải load (1,5 x L x w) • Biến dạng dư sau khi thử tải • Residual deflection after test • Tình trạng mẫu sau khi thử • Sample status after testing	NEMA VE 1-2002	3,0 74(kg/m) / 8A 333,0 0,30 Mẫu không bị phá hủy (Not damaged)
3	Chiều dày lớp sơn - Coating thickness	ASTM E376:2011	44 - 52
4	Thử kéo - Tensile test • Giới hạn chảy - Yield strength • Độ bền kéo đứt - Tensile strength • Độ giãn dài tương đối - Elongation	TCVN 197-1:2014	367 408 31

P. TRƯỞNG PHÒNG THỬ NGHIỆM I
Head of Lab I


Bùi Thành Nam


PHÓ GIÁM ĐỐC
Nguyễn Ngọc Châm

1. *Phép kết quả này chỉ có giá trị đối với mẫu thử do khách hàng đưa tới.
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 2. *Không được trích sao một phần kết quả này nếu không được sự đồng ý của trung tâm kỹ thuật I.
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 3. *Tên mẫu và tên khách hàng được ghi theo yêu cầu của khách hàng.
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TN/05.3-La00.2014



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Số No: 2016.1906.1.M.1.3 Trang: Page: 1/1

KẾT QUẢ THỬ NGHIỆM

TEST RESULT

1. Tên mẫu thử (Sample): **MÀNG CẤP ĐIỆN PHỦ SƠN TÍNH ĐIỆN (CABLE TRAY PAINTING POWDER COAT) CÔNG TY CP PRODETECH**
 2. Khách hàng (Client): **01**
 3. Số lượng mẫu (Quantity): **Mẫu mới/ New sample**
 4. Tình trạng mẫu (Status of Sample): **29/6/2016**
 5. Ngày nhận mẫu (Reception date): **29/6/2016**
 6. Thời gian thử nghiệm (Time of testing): **29/6/2016**

TT Item	TÊN CHI TIẾT Specifications	PHƯƠNG PHÁP THỬ Test method	KẾT QUẢ Results
1	Kích thước - Dimensions • Chiều dài - Length (L) • Chiều rộng - Width (W) • Chiều cao cạnh 1 - Height of Side 1 (H) • Chiều cao cạnh 2 - Height of Side 2 (H) • Chiều dày - Thickness (t)	NEMA VE 1-2002	3005,0 296,6 100,4 100,8 2,45
2	Khả năng chịu tải - Load capacity • Khoảng cách giữa 2 gối đỡ (L) • Khoảng cách giữa 2 support (L) • Tải (w) cấp nhịp chi định • Tải trọng thử (1,5 x L x w) • Tải load (1,5 x L x w) • Biến dạng dư sau khi thử tải • Residual deflection after test • Tình trạng mẫu sau khi thử • Sample status after testing	NEMA VE 1-2002	3,0 74(kg/m) / 8A 333,0 0,25 Mẫu không bị phá hủy (Not damaged)
3	Chiều dày lớp sơn - Paint thickness	ASTM E376:2011	165 - 242
4	Thử kéo - Tensile test • Giới hạn chảy - Yield strength • Độ bền kéo đứt - Tensile strength • Độ giãn dài tương đối - Elongation	TCVN 197-1:2014	240 332 34

P. TRƯỞNG PHÒNG THỬ NGHIỆM I
Head of Lab I


Bùi Thành Nam


PHÓ GIÁM ĐỐC
Nguyễn Ngọc Châm

1. *Phép kết quả này chỉ có giá trị đối với mẫu thử do khách hàng đưa tới.
This test results is value only for samples taken by customer.*
 2. *Không được trích sao một phần kết quả này nếu không được sự đồng ý của trung tâm kỹ thuật I.
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Số No: 2016.1906.1.M.1.4 Trang: Page: 1/1

KẾT QUẢ THỬ NGHIỆM

TEST RESULT

1. Tên mẫu thử (Sample): **MÀNG CẤP ĐIỆN MA KÉM NHUNG NÓNG (CABLE TRAY HOT DIP GALVANIZED COATED) CÔNG TY CP PRODETECH**
 2. Khách hàng (Client): **01**
 3. Số lượng mẫu (Quantity): **Mẫu mới/ New sample**
 4. Tình trạng mẫu (Status of Sample): **29/6/2016**
 5. Ngày nhận mẫu (Reception date): **29/6/2016**
 6. Thời gian thử nghiệm (Time of testing): **29/6/2016**

TT Item	TÊN CHI TIẾT Specifications	PHƯƠNG PHÁP THỬ Test method	KẾT QUẢ Results
1	Kích thước - Dimensions • Chiều dài - Length (L) • Chiều rộng - Width (W) • Chiều cao cạnh 1 - Height of Side 1 (H) • Chiều cao cạnh 2 - Height of Side 2 (H) • Chiều dày - Thickness (t)	NEMA VE 1-2002	3003,0 298,9 101,1 101,6 2,11
2	Khả năng chịu tải - Load capacity • Khoảng cách giữa 2 gối đỡ (L) • Khoảng cách giữa 2 support (L) • Tải (w) cấp nhịp chi định • Tải trọng thử (1,5 x L x w) • Tải load (1,5 x L x w) • Biến dạng dư sau khi thử tải • Residual deflection after test • Tình trạng mẫu sau khi thử • Sample status after testing	NEMA VE 1-2002	3,0 74(kg/m) / 8A 333,0 0,2 Mẫu không bị phá hủy (Not damaged)
3	Chiều dày lớp sơn - Coating thickness	ASTM E376:2011	47 - 55
4	Thử kéo - Tensile test • Giới hạn chảy - Yield strength • Độ bền kéo đứt - Tensile strength • Độ giãn dài tương đối - Elongation	TCVN 197-1:2014	304 380 36

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Head of Lab I


Bùi Thành Nam


PHÓ GIÁM ĐỐC
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Name of sample and customer are written as customer's request.*

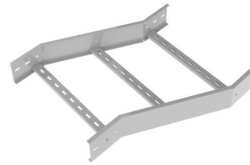
TN/05.3-La00.2014

Cable ladder, Cable tray & Accessories

PRODUCT SUMMARY



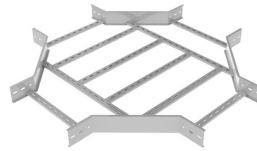
LHZ
Vertical Ladder Z



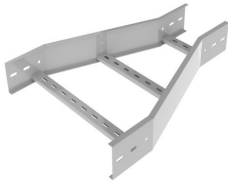
LHZ
Horizontal Ladder Z



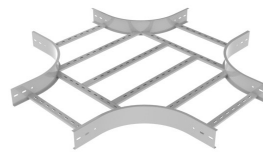
LVT
Vertical Ladder Tee



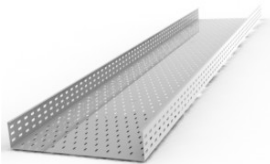
LHCS
Horizontal Ladder Cross S



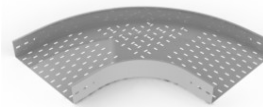
LR
Ladder Reducer



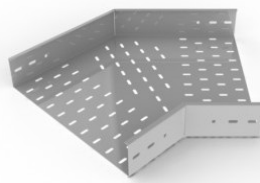
LHCR
Horizontal Ladder Cross R



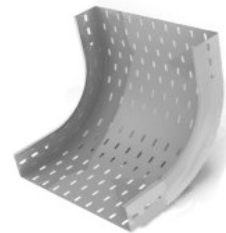
CT
Cable Tray Straight



THER
Horizontal Tray Elbow R



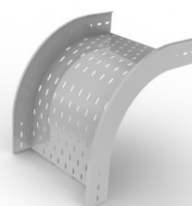
THE45S
Horizontal Tray Elbow 45S



TVEUR
Vertical Tray Elbow UR



TVEUS
Vertical Tray Elbow US



TVEDR
Vertical Tray Elbow DR

Cable ladder, Cable tray & Accessories

PRODUCT SUMMARY - DANH MỤC SẢN PHẨM



CL

Cable Ladder Straight



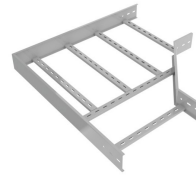
HG

Hanger



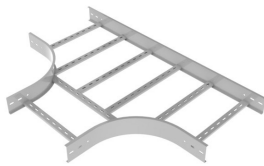
LHER

Horizontal Ladder Elbow R



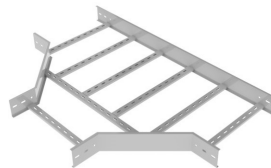
LHES

Horizontal Ladder Elbow S



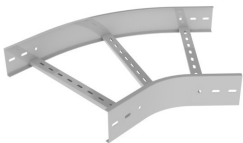
LHTR

Horizontal Ladder Tee R



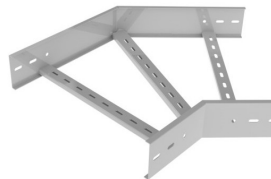
LHTS

Horizontal Ladder Tee S



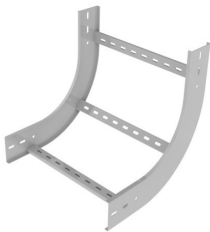
LHE45R

Horizontal Ladder Elbow
45 R



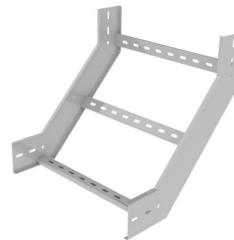
LHE45S

Horizontal Ladder Elbow 45 S



LVEUR

Vertical Ladder Elbow UR



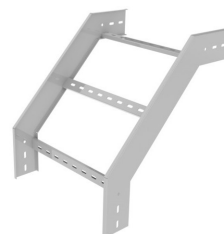
LVEUS

Vertical Ladder Elbow US



LVEDR

Vertical Ladder Elbow DR

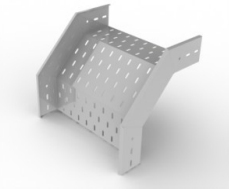

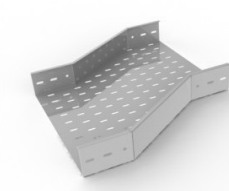
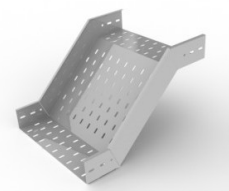
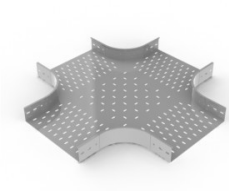
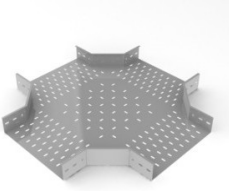
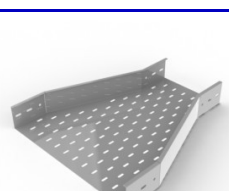

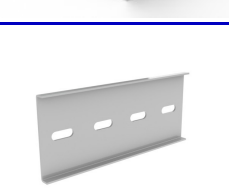
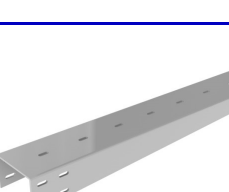




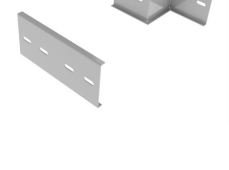


LVEUS

Vertical Ladder Elbow DR

Cable ladder, Cable tray & Accessories

PRODUCT SUMMARY - DANH MỤC SẢN PHẨM

	TVEDS Vertical Tray Elbow DS		TVT Vertical Tray Tee
	THZ Horizontal Tray Z		TVZ Vertical Tray Z
	THCR Horizontal Tray Cross R		THCS Horizontal Tray Cross S
	THR Tray Reducer		CRH Connector
	CS		BA01
	CSRV		BA02
	CRV		BA03
	CSRH Connector		Bracket Arm

Cable ladder, Cable tray & Accessories

PRODUCT INSTRUCTION

Material: Black Steel or Stainless Steel

Material Thickness: 0.8mm ; 1.0mm ; 1.2mm ; 1.5mm ; 2.0mm

Finished: Electro Static Powder Coating or Galvanized Hot Deep zinc

Color: RAL 70 32 as Standard, other color depend on custom

Standard: IEC - 61537

ORDER CODE

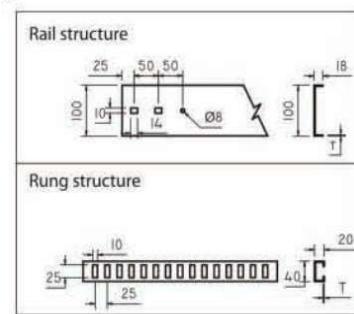
CL: Cable Ladder	LS: Ladder Straight	WIDTH (mm)	HEIGHT (mm)	THICKNESS (mm)	LENGTH (mm)
		100	50	1.0: 10	550
CT: Cable Tray	TS: Tray Straight	200	100	1.2: 12	650
	(L/T)_Ladder/Tray)HES/HES: Horizontal Elbow	300		1.5: 15	750
	(L/T)VEDS/VEDS: Vertical Elbow Downer	400		2.0: 20	850
	(L/T)VEUS/VEUS: Vertical Elbow Upper	500			950
	(L/T)HTS: Horizontal Tee	600			1050
	(L/T)HCS: Horizontal Cross				
	(L/TH)R: Reduce				
	(L/T)HZ: Horizontal Zigzag				
	(L/T)VZ: Vertical zigzag				
	(L/T)HER: Horizontal Elbow R				
	(L/T)HTR: Horizontal Tee R				
	(L/T)HE45R: Horizontal Elbow 45° R				
	(L/T)HE45s: Horizontal Elbow 45° S				
	(L/T)VEUR: Vertical Elbow Downer R				
	(L/T)VEDR: Vertical Elbow Upper R				
	(L/T)HCR: Horizontal Cross R				
	(L/T)VT: Vertical Tee				

- Note: The products are not punching it filled two characters 'NP' at

Cable ladder, Cable tray & Accessories

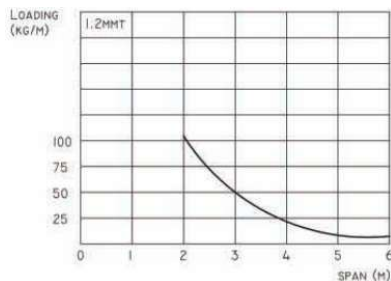
Cable Ladder

- **Material:** Black Steel , Stainless Steel, ZAM steel, GI sheet
- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2.5mm; 3mm
- **Finished:**
 - + Cable Leader and Tray meets compliance standards : QCVN16:2023/BXD, TCVN 10688:2015
 - + Electric Static Powder coating or Galvanized Hot Deep zinc : Standard: ASTM-D3359-93, ASTM-D3363-92, ASTM-D4138-94

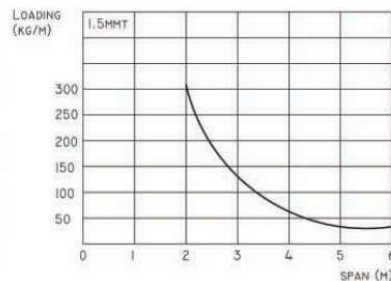


Typically, cable trays and leader are manufactured according to the standard specifications described in the table of sheet thickness below:

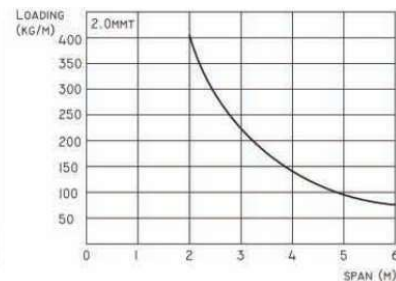
Chiều ngang W thông dụng [mm]	75	100	150	200	300	450	600	750	900	1000
Máng cáp	0.95	1.15	1.15	1.15	1.5	2.0	2.0	2.0	2.0	2.0
Thang cáp				1.5	1.5	2.0	2.0	2.0	2.0	2.0



GRAPH DEFLECTIONS
TOLE THICKNESS: 1.2MM



GRAPH DEFLECTIONS
TOLE THICKNESS: 1.5MM



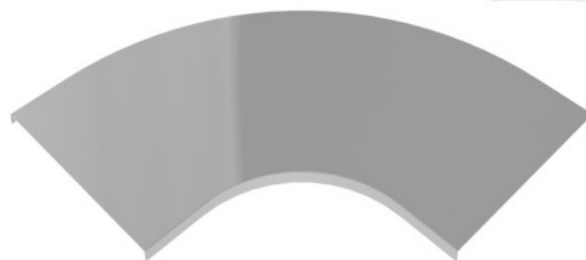
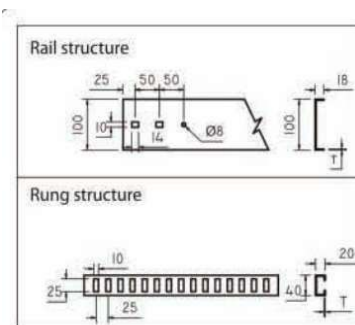
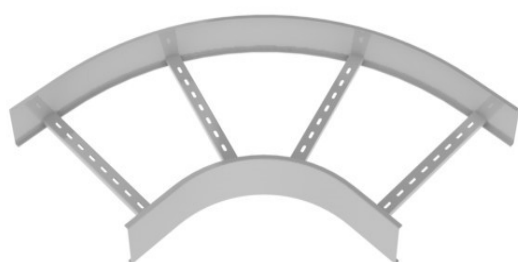
GRAPH DEFLECTIONS
TOLE THICKNESS: 2.0MM

ID	CODE	Technical Specification					
		W(mm)	H(mm)	t(mm)			L(mm)
				12	15	20	
1	CL-LS-100-100-(12/15/20)-3000	100	100	1.2	1.5	2	3000
2	CL-LS-200-100-(12/15/20)-3000	200	100	1.2	1.5	2	3000
3	CL-LS-300-100-(12/15/20)-3000	300	100	1.2	1.5	2	3000
4	CL-LS-400-100-(12/15/20)-3000	400	100	1.2	1.5	2	3000
5	CL-LS-500-100-(12/15/20)-3000	500	100	1.2	1.5	2	3000
6	CL-LS-600-100-(12/15/20)-3000	600	100	1.2	1.5	2	3000

Cable ladder, Cable tray & Accessories

Horizontal Elbow R

- **Material:** Black Steel , Stainless Steell, ZAM steel, GI sheet
- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2.5mm; 3mm
- **Finished:**
 - + Cable Leader and Tray meets compliance standards : QCVN16:2023/BXD, TCVN 10688:2015
 - + Electric Static Powder coating or Galvanaized Hot Deep zinz : Standard: ASTM-D3359-93, ASTM-D3363-92, ASTM-D4138-94

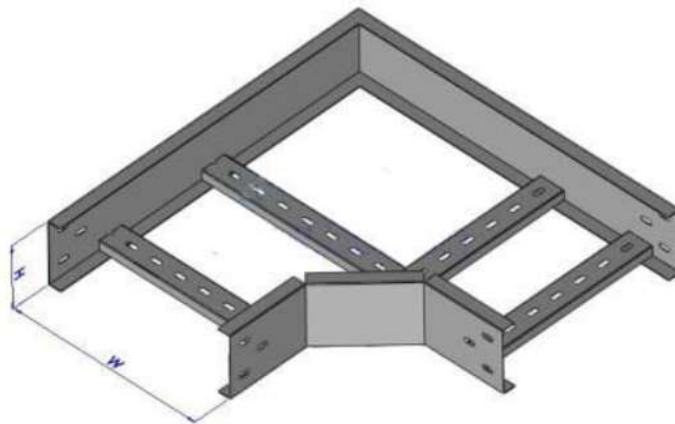


ID	CODE	Technical Specification					
		W(mm)	H(mm)	t(mm)			L(mm)
				12	15	20	
1	CL-LHER-100-100-(12/15/20)-400	100	100	1.2	1.5	2	400
2	CL-LHER-200-100-(12/15/20)-500	200	100	1.2	1.5	2	500
3	CL-LHER-300-100-(12/15/20)-600	300	100	1.2	1.5	2	600
4	CL-LHER-400-100-(12/15/20)-700	400	100	1.2	1.5	2	700
5	CL-LHER-500-100-(12/15/20)-800	500	100	1.2	1.5	2	800
6	CL-LHER-600-100-(12/15/20)-900	600	100	1.2	1.5	2	900
7	CL-LHER-700-100-(12/15/20)-1000	700	100	1.2	1.5	2	1000
8	CL-LHER-800-100-(12/15/20)-1100	800	100	1.2	1.5	2	1100
9	CL-LHER-900-100-(12/15/20)-1200	900	100	1.2	1.5	2	1200

Cable ladder, Cable tray & Accessories

Cable Ladder Horizontal 90° Elbow

- **Material:** Black Steel , Stainless Steel, ZAM steel, GI sheet
- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2.5mm; 3mm
- **Finished:**
 - + Cable Leader and Tray meets compliance standards : QCVN16:2023/BXD, TCVN 10688:2015
 - + Electric Static Powder coating or Galvanized Hot Deep zinc: Standard: ASTM-D3359-93, ASTM-D3363-92, ASTM-D4138-94



ID	CODE	Technical Specification					
		W (mm)	H (mm)	t (mm)			L (mm)
				12	15	20	
1	CL-LHES-100-100-(12/15/20)-400	100	100	1.2	1.5	2	400
2	CL-LHES-200-100-(12/15/20)-500	200	100	1.2	1.5	2	500
3	CL-LHES-300-100-(12/15/20)-600	300	100	1.2	1.5	2	600
4	CL-LHES-400-100-(12/15/20)-700	400	100	1.2	1.5	2	700
5	CL-LHES-500-100-(12/15/20)-800	500	100	1.2	1.5	2	800
6	CL-LHES-600-100-(12/15/20)-900	600	100	1.2	1.5	2	900
7	CL-LHES-700-100-(12/15/20)-1000	700	100	1.2	1.5	2	1000
8	CL-LHES-800-100-(12/15/20)-1100	800	100	1.2	1.5	2	1100
9	CL-LHES-900-100-(12/15/20)-1200	900	100	1.2	1.5	2	1200
10	CL-LHES-1000-100-(12/15/20)-1300	1000	100	1.2	1.5	2	1300

Cable ladder, Cable tray & Accessories

Cable Ladder Horizontal Tee R

- **Material:** Black Steel , Stainless Steel, ZAM steel, GI sheet

- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2.5mm; 3mm

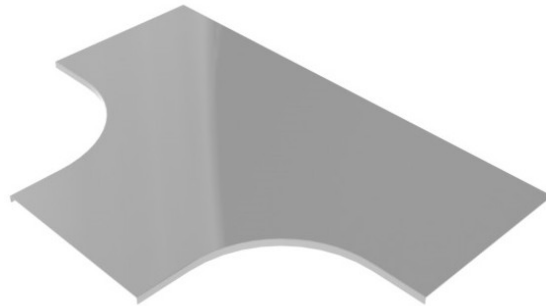
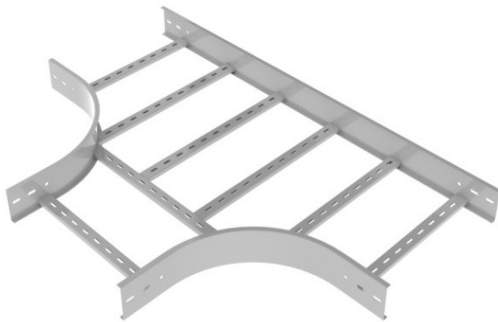
- **Finished:**

+ Cable Ladder and Tray meets compliance standards : QCVN16:2023/BXD,

TCVN 10688:2015

+ Electric Static Powder coating or Galvanized Hot Deep zinc : Standard:

ASTM-D3359-93, ASTM-D3363-92, ASTM-D4138-94



ID	CODE	Technical Specification					
		W (mm)	H (mm)	t (mm)			L (mm)
				12	15	20	
1	CL-LHTR-100-100-(12/15/20)-700	100	100	1.2	1.5	2	700
2	CL-LHTR-200-100-(12/15/20)-800	200	100	1.2	1.5	2	800
3	CL-LHTR-300-100-(12/15/20)-900	300	100	1.2	1.5	2	900
4	CL-LHTR-400-100-(12/15/20)-1000	400	100	1.2	1.5	2	1000
5	CL-LHTR-500-100-(12/15/20)-1100	500	100	1.2	1.5	2	1100
6	CL-LHTR-600-100-(12/15/20)-1200	600	100	1.2	1.5	2	1200
7	CL-LHTR-700-100-(12/15/20)-1300	700	100	1.2	1.5	2	1300
8	CL-LHTR-800-100-(12/15/20)-1400	800	100	1.2	1.5	2	1400
9	CL-LHTR-900-100-(12/15/20)-1500	900	100	1.2	1.5	2	1500
10	CL-LHTR-1000-100-(12/15/20)-1600	1000	100	1.2	1.5	2	1600

Cable ladder, Cable tray & Accessories

Cable Ladder Horizontal Tee

- **Material:** Black Steel , Stainless Steel, ZAM steel, GI sheet

- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2.5mm; 3mm

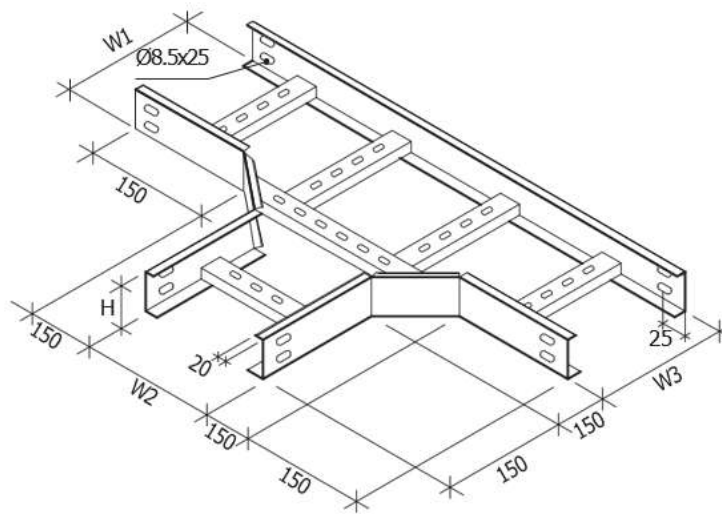
- **Finished:**

+ Cable Leader and Tray meets compliance standards : QCVN16:2023/BXD,

TCVN 10688:2015

+ Electric Static Powder coating or Galvanized Hot Deep zinc : Standard:

ASTM-D3359-93, ASTM-D3363-92, ASTM-D4138-94



ID	CODE	Technical Specification					
		W (mm)	H (mm)	t (mm)			L (mm)
				12	15	20	
1	CL-LHTS-100-100-(12/15/20)-700	100	100	1.2	1.5	2	700
2	CL-LHTS-200-100-(12/15/20)-800	200	100	1.2	1.5	2	800
3	CL-LHTS-300-100-(12/15/20)-900	300	100	1.2	1.5	2	900
4	CL-LHTS-400-100-(12/15/20)-1000	400	100	1.2	1.5	2	1000
5	CL-LHTS-500-100-(12/15/20)-1000	500	100	1.2	1.5	2	1100
6	CL-LHTS-600-100-(12/15/20)-1100	600	100	1.2	1.5	2	1200
7	CL-LHTS-700-100-(12/15/20)-1200	700	100	1.2	1.5	2	1400
8	CL-LHTS-900-100-(12/15/20)-1400	900	100	1.2	1.5	2	1500
9	CL-LHTS-1000-100-(12/15/20)-1500	1000	100	1.2	1.5	2	1600

Cable ladder, Cable tray & Accessories

Horizontal Elbow 45 R

- **Material:** Black Steel , Stainless Steel, ZAM steel, GI sheet

- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2.5mm; 3mm

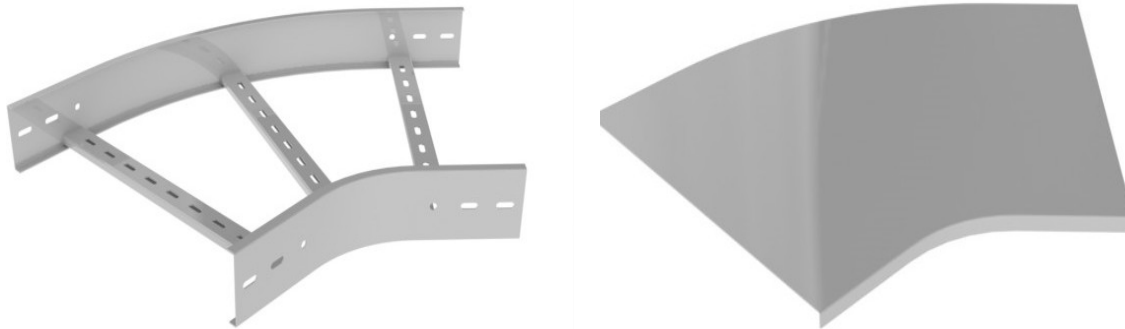
- **Finished:**

+ Cable Leader and Tray meets compliance standards : QCVN16:2023/BXD,

TCVN 10688:2015

+ Electric Static Powder coating or Galvanized Hot Deep zinc : Standard:

ASTM-D3359-93, ASTM-D3363-92, ASTM-D4138-94



ID	CODE	Technical Specification					
		W (mm)	H (mm)	t (mm)			L (mm)
				12	15	20	
1	CL-LHE45R-100-100-(12/15/20)-400	100	100	1.2	1.5	2	400
2	CL-LHE45R-200-100-(12/15/20)-500	200	100	1.2	1.5	2	500
3	CL-LHE45R-300-100-(12/15/20)-600	300	100	1.2	1.5	2	600
4	CL-LHE45R-400-100-(12/15/20)-700	400	100	1.2	1.5	2	700
5	CL-LHE45R-500-100-(12/15/20)-800	500	100	1.2	1.5	2	800
6	CL-LHE45R-600-100-(12/15/20)-900	600	100	1.2	1.5	2	900
7	CL-LHE45R-700-100-(12/15/20)-1000	700	100	1.2	1.5	2	1000
8	CL-LHE45R-800-100-(12/15/20)-1100	800	100	1.2	1.5	2	1100
9	CL-LHE45R-900-100-(12/15/20)-1200	900	100	1.2	1.5	2	1200
10	CL-LHE45R-1000-100-(12/15/20)-1300	1000	100	1.2	1.5	2	1300

Cable ladder, Cable tray & Accessories

Horizontal Elbow 45 S

- **Material:** Black Steel , Stainless Steel, ZAM steel, GI sheet

- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2.5mm; 3mm

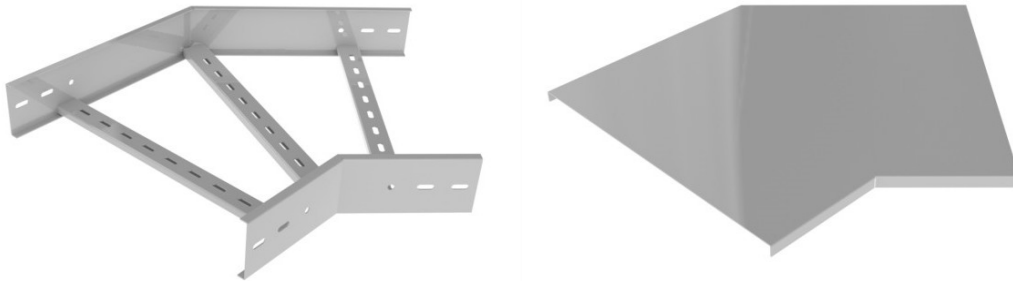
- **Finished:**

+ Cable Leader and Tray meets compliance standards : QCVN16:2023/BXD,

TCVN 10688:2015

+ Electric Static Powder coating or Galvanized Hot Deep zinc: Standard:

ASTM-D3359-93, ASTM-D3363-92, ASTM-D4138-94



ID	CODE	Technical Specification-					
		W (mm)	H (mm)	t (mm)			L (mm)
				12	15	20	
1	CL-LHE45S-100-100-(12/15/20)-400	100	100	1.2	1.5	2	400
2	CL-LHE45S-200-100-(12/15/20)-500	200	100	1.2	1.5	2	500
3	CL-LHE45S-300-100-(12/15/20)-600	300	100	1.2	1.5	2	600
4	CL-LHE45S-400-100-(12/15/20)-700	400	100	1.2	1.5	2	700
5	CL-LHE45S-500-100-(12/15/20)-800	500	100	1.2	1.5	2	800
6	CL-LHE45S-600-100-(12/15/20)-900	600	100	1.2	1.5	2	900
7	CL-LHE45S-700-100-(12/15/20)-1000	700	100	1.2	1.5	2	1000
8	CL-LHE45S-800-100-(12/15/20)-1100	800	100	1.2	1.5	2	1100
9	CL-LHE45S-900-100-(12/15/20)-1200	900	100	1.2	1.5	2	1200
10	CL-LHE45S-1000-100-(12/15/20)-1300	1000	100	1.2	1.5	2	1300

Cable ladder, Cable tray & Accessories

Cable Ladder 90° Vertical Upper R

- **Material:** Black Steel , Stainless Steel, ZAM steel, GI sheet

- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2,5mm; 3mm

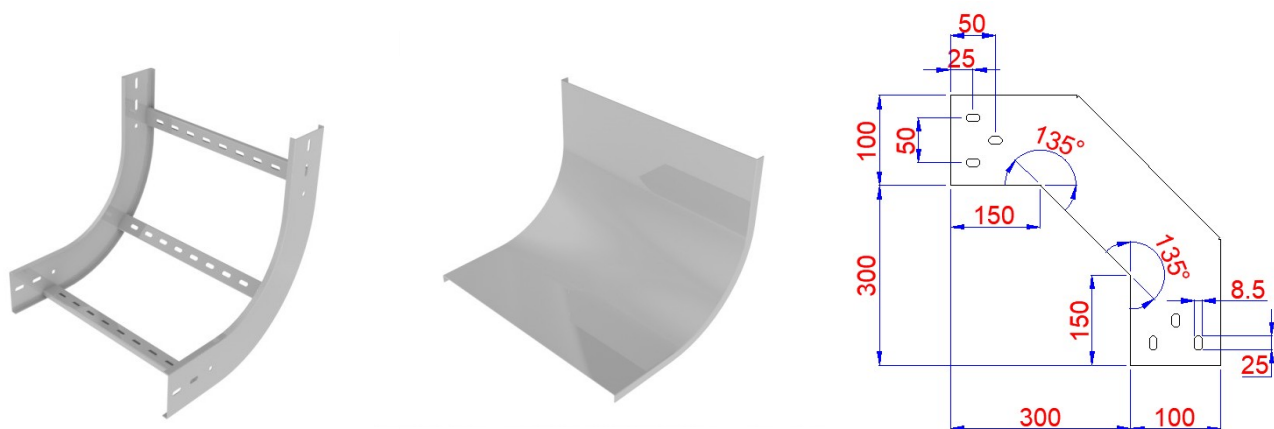
- **Finished:**

+ Cable Leader and Tray meets compliance standards : QCVN16:2023/BXD,

TCVN 10688:2015

+ Electric Static Powder coating or Galvanized Hot Deep zinc: Standard:

ASTM-D3359-93, ASTM-D3363-92, ASTM-D4138-94



ID	CODE	Technical Specification					
		W (mm)	H (mm)	t (mm)			L (mm)
				12	15	20	
1	CL-LVEUR-100-100-(12/15/20)-400	100	100	1.2	1.5	2	400
2	CL-LVEUR-200-100-(12/15/20)-400	200	100	1.2	1.5	2	400
3	CL-LVEUR-300-100-(12/15/20)-400	300	100	1.2	1.5	2	400
4	CL-LVEUR-400-100-(12/15/20)-400	400	100	1.2	1.5	2	400
5	CL-LVEUR-500-100-(12/15/20)-400	500	100	1.2	1.5	2	400
6	CL-LVEUR-600-100-(12/15/20)-400	600	100	1.2	1.5	2	400
7	CL-LVEUR-700-100-(12/15/20)-400	700	100	1.2	1.5	2	400
8	CL-LVEUR-800-100-(12/15/20)-400	800	100	1.2	1.5	2	400
9	CL-LVEUR-900-100-(12/15/20)-400	900	100	1.2	1.5	2	400
10	CL-LVEUR-1000-100-(12/15/20)-400	1000	100	1.2	1.5	2	400

Cable ladder, Cable tray & Accessories

Cable Ladder 90° Vertical Upper

- **Material:** Black Steel , Stainless Steel, ZAM steel, GI sheet

- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2.5mm; 3mm

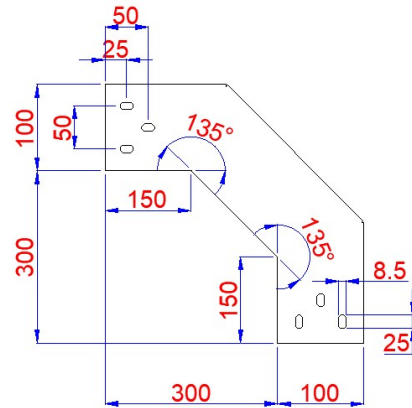
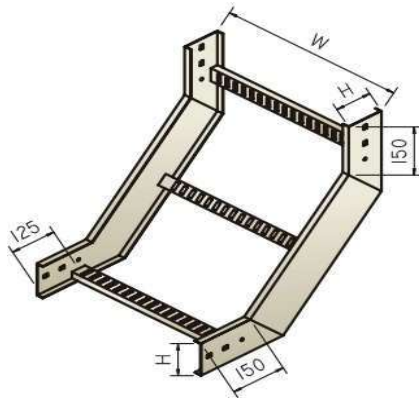
- **Finished:**

+ Cable Leader and Tray meets compliance standards : QCVN16:2023/BXD,

TCVN 10688:2015

+ Electric Static Powder coating or Galvanized Hot Deep zinc: Standard:

ASTM-D3359-93, ASTM-D3363-92, ASTM-D4138-94



ID	CODE	Technical Specification					
		W(mm)	H (mm)	t (mm)			L (mm)
				12	15	20	
1	CL-LVEUS-100-100-(12/15/20)-400	100	100	1.2	1.5	2	400
2	CL-LVEUS-200-100-(12/15/20)-400	200	100	1.2	1.5	2	400
3	CL-LVEUS-300-100-(12/15/20)-400	300	100	1.2	1.5	2	400
4	CL-LVEUS-400-100-(12/15/20)-400	400	100	1.2	1.5	2	400
5	CL-LVEUS-500-100-(12/15/20)-400	500	100	1.2	1.5	2	400
6	CL-LVEUS-600-100-(12/15/20)-400	600	100	1.2	1.5	2	400
7	CL-LVEUS-700-100-(12/15/20)-400	700	100	1.2	1.5	2	400
8	CL-LVEUS-800-100-(12/15/20)-400	800	100	1.2	1.5	2	400
9	CL-LVEUS-900-100-(12/15/20)-400	900	100	1.2	1.5	2	400
10	CL-LVEUS-1000-100-(12/15/20)-400	1000	100	1.2	1.5	2	400

Cable ladder, Cable tray & Accessories

Cable Ladder 90° Vertical Downer

- **Material:** Black Steel , Stainless Steell, ZAM steel, GI sheet

- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2.5mm; 3mm

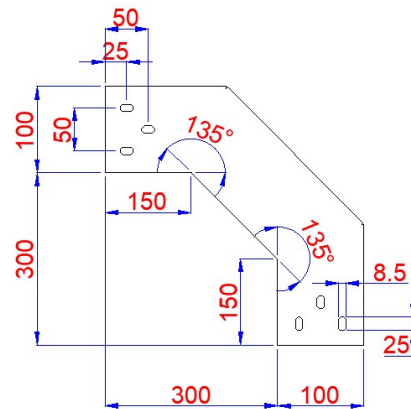
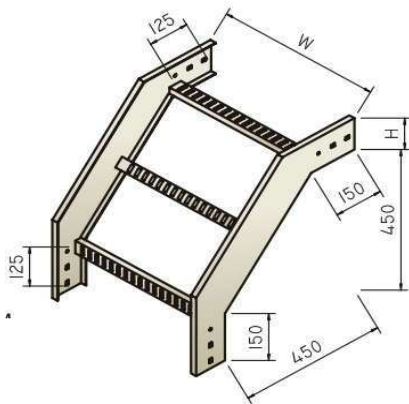
- **Finished:**

+ Cable Leader and Tray meets compliance standards : QCVN16:2023/BXD,

TCVN 10688:2015

+ Electric Static Powder coating or Galvanaized Hot Deep zinz: Standard:

ASTM-D3359-93, ASTM-D3363-92, ASTM-D4138-94



ID	CODE	Technical Specification					
		W (mm)	H (mm)	t (mm)			L (mm)
				12	15	20	
1	CL-LVEDS-100-100-(12/15/20)-400	100	100	1.2	1.5	2	400
2	CL-LVEDS-200-100-(12/15/20)-400	200	100	1.2	1.5	2	400
3	CL-LVEDS-300-100-(12/15/20)-400	300	100	1.2	1.5	2	400
4	CL-LVEDS-400-100-(12/15/20)-400	400	100	1.2	1.5	2	400
5	CL-LVEDS-500-100-(12/15/20)-400	500	100	1.2	1.5	2	400
6	CL-LVEDS-600-100-(12/15/20)-400	600	100	1.2	1.5	2	400
7	CL-LVEDS-700-100-(12/15/20)-400	700	100	1.2	1.5	2	400
8	CL-LVEDS-800-100-(12/15/20)-400	800	100	1.2	1.5	2	400
9	CL-LVEDS-900-100-(12/15/20)-400	900	100	1.2	1.5	2	400
10	CL-LVEDS-1000-100-(12/15/20)-400	1000	100	1.2	1.5	2	400

Cable ladder, Cable tray & Accessories

Cable Ladder 90° Vertical Downer R

- **Material:** Black Steel , Stainless Steel, ZAM steel, GI sheet

- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2.5mm; 3mm

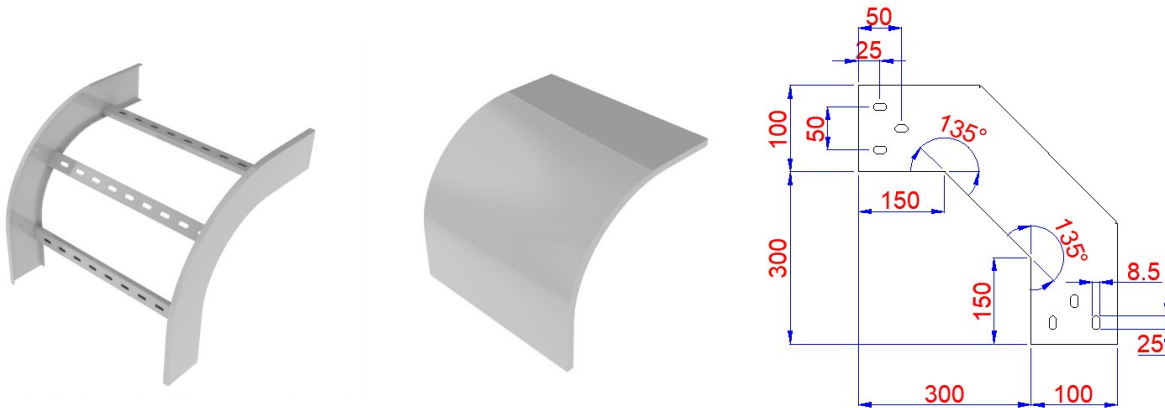
- **Finished:**

+ Cable Leader and Tray meets compliance standards : QCVN16:2023/BXD,

TCVN 10688:2015

+ Electric Static Powder coating or Galvanneized Hot Deep zinc: Standard:

ASTM-D3359-93, ASTM-D3363-92, ASTM-D4138-94



ID	CODE	Technical Specification					
		W (mm)	H (mm)	t (mm)			L (mm)
				12	15	20	
1	CL-LVEDR-100-100-(12/15/20)-400	100	100	1.2	1.5	2	400
2	CL-LVEDR-200-100-(12/15/20)-400	200	100	1.2	1.5	2	400
3	CL-LVEDR-300-100-(12/15/20)-400	300	100	1.2	1.5	2	400
4	CL-LVEDR-400-100-(12/15/20)-400	400	100	1.2	1.5	2	400
5	CL-LVEDR-500-100-(12/15/20)-400	500	100	1.2	1.5	2	400
6	CL-LVEDR-600-100-(12/15/20)-400	600	100	1.2	1.5	2	400
7	CL-LVEDR-700-100-(12/15/20)-400	700	100	1.2	1.5	2	400
8	CL-LVEDR-800-100-(12/15/20)-400	800	100	1.2	1.5	2	400
9	CL-LVEDR-900-100-(12/15/20)-400	900	100	1.2	1.5	2	400
10	CL-LVEDR-1000-100-(12/15/20)-400	1000	100	1.2	1.5	2	400

Cable ladder, Cable tray & Accessories

Vertical Tee

- **Material:** Black Steel , Stainless Steel, ZAM steel, GI sheet

- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2.5mm; 3mm

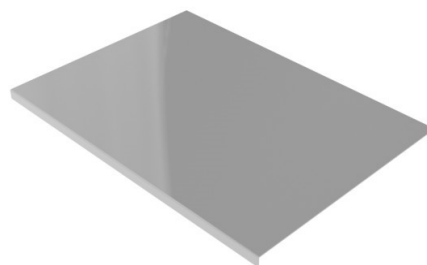
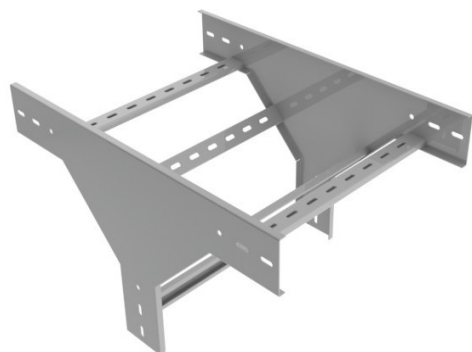
- **Finished:**

+ Cable Leader and Tray meets compliance standards : QCVN16:2023/BXD,

TCVN 10688:2015

+ Electric Static Powder coating or Galvanaized Hot Deep zinz: Standard:

ASTM-D3359-93, ASTM-D3363-92, ASTM-D4138-94



ID	CODE	Technical Specification					
		W (mm)	H (mm)	t (mm)			L (mm)
				12	15	20	
1	CL-LVT-100-100-(12/15/20)-700	100	100	1.2	1.5	2	700
2	CL-LVT-200-100-(12/15/20)-700	200	100	1.2	1.5	2	700
3	CL-LVT-300-100-(12/15/20)-700	300	100	1.2	1.5	2	700
4	CL-LVT-400-100-(12/15/20)-700	400	100	1.2	1.5	2	700
5	CL-LVT-500-100-(12/15/20)-700	500	100	1.2	1.5	2	700
6	CL-LVT-600-100-(12/15/20)-700	600	100	1.2	1.5	2	700
7	CL-LVT-700-100-(12/15/20)-700	700	100	1.2	1.5	2	700
8	CL-LVT-800-100-(12/15/20)-700	800	100	1.2	1.5	2	700
9	CL-LVT-900-100-(12/15/20)-700	900	100	1.2	1.5	2	700
10	CL-LVT-1000-100-(12/15/20)-700	1000	100	1.2	1.5	2	700

Cable ladder, Cable tray & Accessories

Horizontal Z

- **Material:** Black Steel , Stainless Steel, ZAM steel, GI sheet

- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2.5mm; 3mm

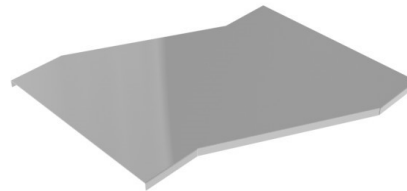
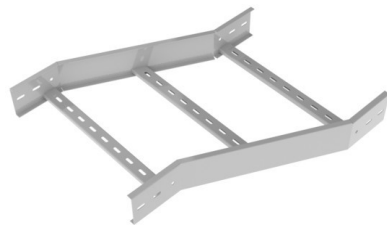
- **Finished:**

+ Cable Leader and Tray meets compliance standards : QCVN16:2023/BXD,

TCVN 10688:2015

+ Electric Static Powder coating or Galvanized Hot Deep zinc: Standard:

ASTM-D3359-93, ASTM-D3363-92, ASTM-D4138-94

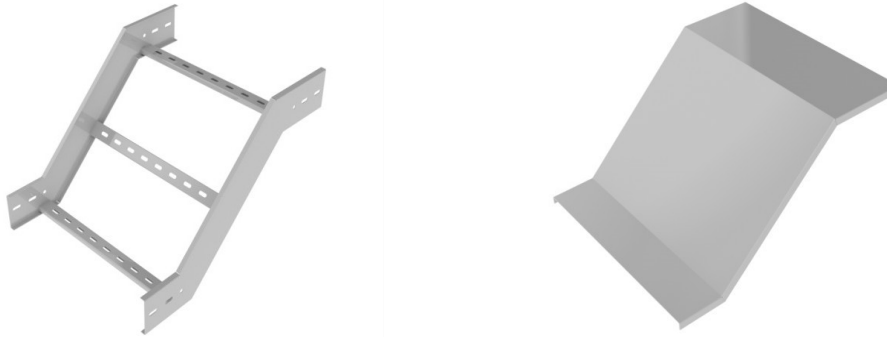


ID	CODE	Technical Specification					
		W (mm)	H (mm)	t (mm)			L (mm)
				12	15	20	
1	CL-LHZ-100-100-(12/15/20)-500	100	100	1.2	1.5	2	500
2	CL-LHZ-200-100-(12/15/20)-600	200	100	1.2	1.5	2	600
3	CL-LHZ-300-100-(12/15/20)-600	300	100	1.2	1.5	2	600
4	CL-LHZ-400-100-(12/15/20)-700	400	100	1.2	1.5	2	700
5	CL-LHZ-500-100-(12/15/20)-700	500	100	1.2	1.5	2	700
6	CL-LHZ-600-100-(12/15/20)-800	600	100	1.2	1.5	2	800
7	CL-LHZ-700-100-(12/15/20)-900	700	100	1.2	1.5	2	900
8	CL-LHZ-800-100-(12/15/20)-900	800	100	1.2	1.5	2	1000

Cable ladder, Cable tray & Accessories

Vertical Z

- **Material:** Black Steel , Stainless Steell, ZAM steel, GI sheet
- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2.5mm; 3mm
- **Finished:**
 - + Electric Static Powder coating: Standard: ASTM-D3359-93, ASTM-D3363-92A,ASTM-D4138-94
 - + Galvanized Hot Deep zinz Standard: ASTM-A123
- **Color:** RAL 7032 as Standard, other color depend on customer
- **Standard:** IEC-61537, QCVN16:2023/BXD, TCVN 10688:2015

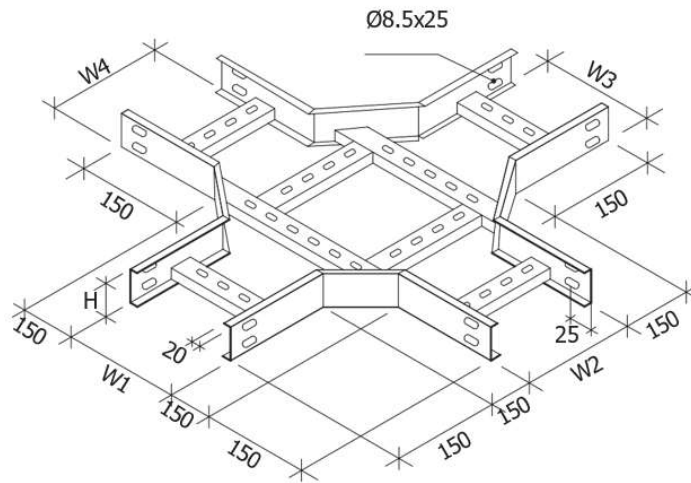


ID	CODE	Technical Specification					
		W (mm)	H (mm)	t (mm)			L (mm)
				12	15	20	
1	CL-LVZ-100-100-(12/15/20)-500	100	100	1.2	1.5	2	500
2	CL-LVZ-200-100-(12/15/20)-600	200	100	1.2	1.5	2	600
3	CL-LVZ-300-100-(12/15/20)-600	300	100	1.2	1.5	2	600
4	CL-LVZ-400-100-(12/15/20)-700	400	100	1.2	1.5	2	700
5	CL-LVZ-500-100-(12/15/20)-700	500	100	1.2	1.5	2	700
6	CL-LVZ-600-100-(12/15/20)-800	600	100	1.2	1.5	2	800
7	CL-LVZ-700-100-(12/15/20)-900	700	100	1.2	1.5	2	900
8	CL-LVZ-800-100-(12/15/20)-1000	800	100	1.2	1.5	2	1000
9	CL-LVZ-900-100-(12/15/20)-1100	900	100	1.2	1.5	2	1100

Cable ladder, Cable tray & Accessories

Cable Ladder Horizontal Cross

- **Material:** Black Steel , Stainless Steel, ZAM steel, GI sheet
- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2,5mm; 3mm
- **Finished:**
 - + Electric Static Powder coating: Standard: ASTM-D3359-93, ASTM-D3363-92A,ASTM-D4138-94
 - + Galvanized Hot Deep zinc Standard: ASTM-A123
- **Color:** RAL 7032 as Standard, other color depend on customer
- **Standard:** IEC-61537, QCVN16:2023/BXD, TCVN 10688:2015

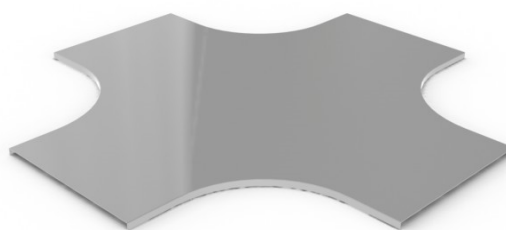
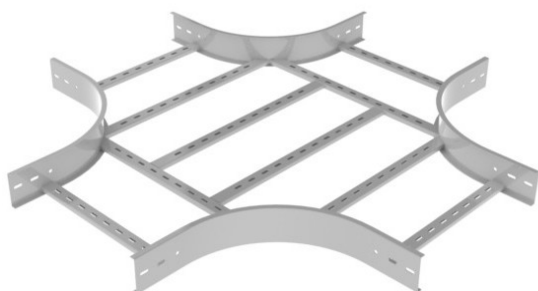


ID (STT)	CODE	Technical Specification					
		W (mm)	H (mm)	t (mm)			L (mm)
				12	15	20	
1	CL-LHCS-100-100-(12/15/20)-700	100	100	1.2	1.5	2	700
2	CL-LHCS-200-100-(12/15/20)-800	200	100	1.2	1.5	2	800
3	CL-LHCS-300-100-(12/15/20)-900	300	100	1.2	1.5	2	900
4	CL-LHCS-400-100-(12/15/20)-1000	400	100	1.2	1.5	2	1000
5	CL-LHCS-500-100-(12/15/20)-1100	500	100	1.2	1.5	2	1100
6	CL-LHCS-600-100-(12/15/20)-1200	600	100	1.2	1.5	2	1200
7	CL-LHCS-700-100-(12/15/20)-1300	700	100	1.2	1.5	2	1300
8	CL-LHCS-800-100-(12/15/20)-1400	800	100	1.2	1.5	2	1400
9	CL-LHCS-900-100-(12/15/20)-1500	900	100	1.2	1.5	2	1500
10	CL-LHCS-1000-100-(12/15/20)-1600	1000	100	1.2	1.5	2	1600

Cable ladder, Cable tray & Accessories

Cable Ladder Horizontal Cross R

- **Material:** Black Steel , Stainless Steel, ZAM steel, GI sheet
- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2,5mm; 3mm
- **Finished:**
 - + Electric Static Powder coating: Standard: ASTM-D3359-93, ASTM-D3363-92A,ASTM-D4138-94
 - + Galvanized Hot Deep zinz Standard: ASTM-A123
- **Color:** RAL 7032 as Standard, other color depend on customer
- **Standard:** IEC-61537, QCVN16:2023/BXD, TCVN 10688:2015

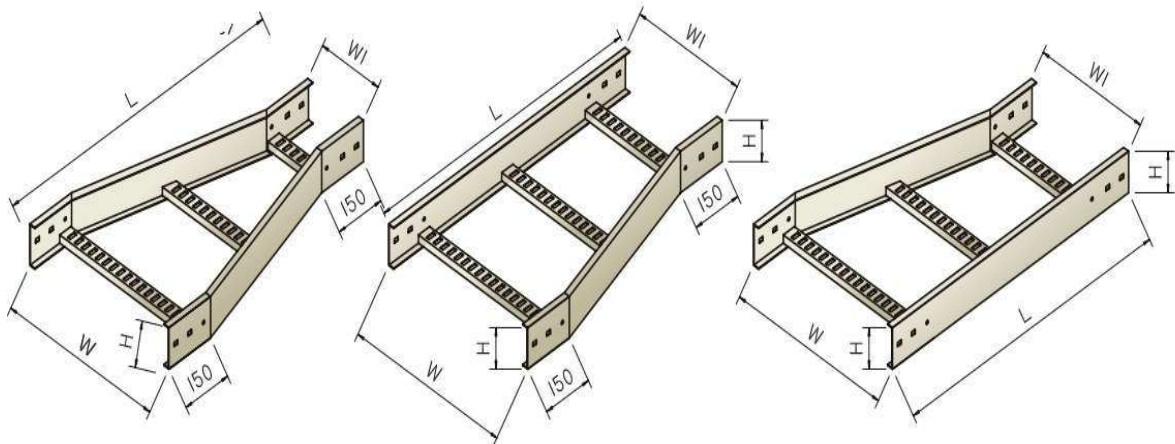


ID	CODE	Technical Specification					
		W (mm)	H (mm)	t (mm)			L (mm)
				12	15	20	
1	CL-LHCR-100-100-(12/15/20)-700	100	100	1.2	1.5	2	700
2	CL-LHCR-200-100-(12/15/20)-800	200	100	1.2	1.5	2	800
3	CL-LHCR-300-100-(12/15/20)-900	300	100	1.2	1.5	2	900
4	CL-LHCR-400-100-(12/15/20)-1000	400	100	1.2	1.5	2	1000
5	CL-LHCR-500-100-(12/15/20)-1100	500	100	1.2	1.5	2	1100
6	CL-LHCR-600-100-(12/15/20)-1200	600	100	1.2	1.5	2	1200
7	CL-LHCR-700-100-(12/15/20)-1300	700	100	1.2	1.5	2	1300
8	CL-LHCR-800-100-(12/15/20)-1400	800	100	1.2	1.5	2	1400
9	CL-LHCR-900-100-(12/15/20)-1500	900	100	1.2	1.5	2	1500
10	CL-LHCR-1000-100-(12/15/20)-1600	1000	100	1.2	1.5	2	1600

Cable ladder, Cable tray & Accessories

Cable Ladder Reduce

- **Material:** Black Steel , Stainless Steell, ZAM steel, GI sheet
- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2.5mm; 3mm
- **Finished:**
 - + Electric Static Powder coating: Standard: ASTM-D3359-93, ASTM-D3363-92A,ASTM-D4138-94
 - + Galvanized Hot Deep zinz Standard: ASTM-A123
- **Color:** RAL 7032 as Standard, other color depend on customer
- **Standard:** IEC-61537, QCVN16:2023/BXD, TCVN 10688:2015

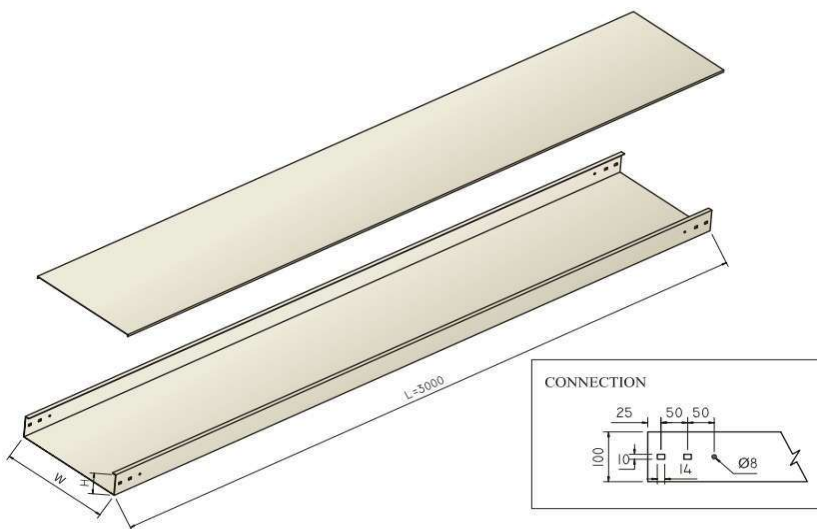


ID	CODE	Technical Specification						
		W1 (mm)	W (mm)	H (mm)	t (mm)			L (mm)
					12	15	20	
1	CL-LR-100/(W1)-100-(12/15/20)-600	Request	100	100	1.2	1.5	2	600
2	CL-LR-200/(W1)-100-(12/15/20)-600	Request	200	100	1.2	1.5	2	600
3	CL-LR-300/(W1)-100-(12/15/20)-600	Request	300	100	1.2	1.5	2	600
4	CL-LR-400/(W1)-100-(12/15/20)-600	Request	400	100	1.2	1.5	2	600
5	CL-LR-500/(W1)-100-(12/15/20)-600	Request	500	100	1.2	1.5	2	600
6	CL-LR-600/(W1)-100-(12/15/20)-600	Request	600	100	1.2	1.5	2	600
7	CL-LR-700/(W1)-100-(12/15/20)-600	Request	700	100	1.2	1.5	2	600
8	CL-LR-800/(W1)-100-(12/15/20)-600	Request	800	100	1.2	1.5	2	600
9	CL-LR-900/(W1)-100-(12/15/20)-600	Request	900	100	1.2	1.5	2	600

Cable ladder, Cable tray & Accessories

Cable Tray Straight

- **Material:** Black Steel , Stainless Steell, ZAM steel, GI sheet
- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2,5mm; 3mm
- **Finished:**
 - + Electric Static Powder coating: Standard: ASTM-D3359-93, ASTM-D3363-92A,ASTM-D4138-94
 - + Galvanized Hot Deep zinz Standard: ASTM-A123
- **Color:** RAL 7032 as Standard, other color depend on customer
- **Standard:** IEC-61537, QCVN16:2023/BXD, TCVN 10688:2015

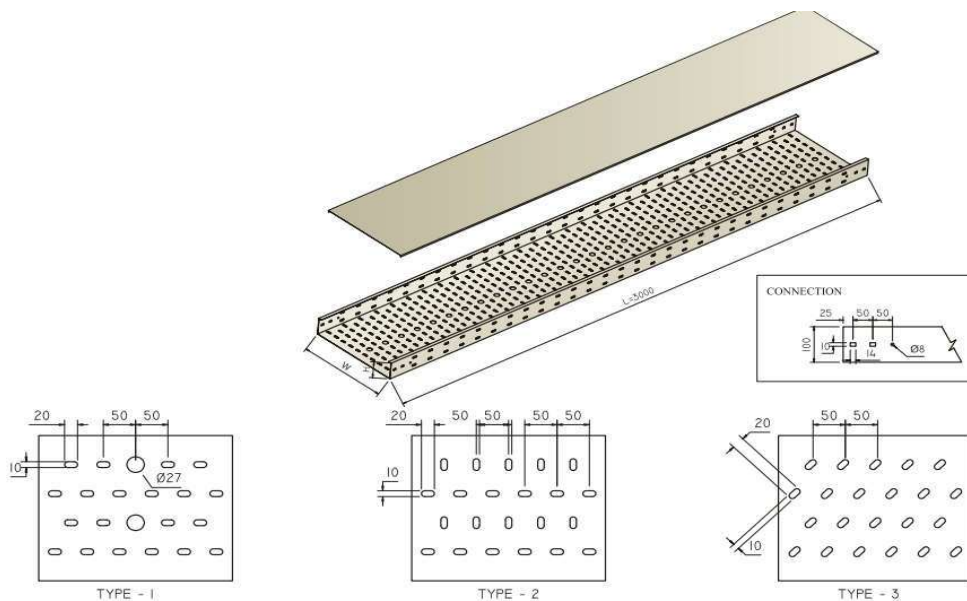


ID	CODE	Technical Specification					
		W (mm)	H (mm)	t (mm)			L (mm)
				12	15	20	
1	CT-TS-100-100-(12/15/20)-3000-NP	100	100	1.2	1.5	2	3000
2	CT-TS-200-100-(12/15/20)-3000-NP	200	100	1.2	1.5	2	3000
3	CT-TS-300-100-(12/15/20)-3000-NP	300	100	1.2	1.5	2	3000
4	CT-TS-400-100-(12/15/20)-3000-NP	400	100	1.2	1.5	2	3000
5	CT-TS-500-100-(12/15/20)-3000-NP	500	100	1.2	1.5	2	3000
6	CT-TS-600-100-(12/15/20)-3000-NP	600	100	1.2	1.5	2	3000
7	CT-TS-700-100-(12/15/20)-3000-NP	700	100	1.2	1.5	2	3000
8	CT-TS-800-100-(12/15/20)-3000-NP	800	100	1.2	1.5	2	3000
9	CT-TS-900-100-(12/15/20)-3000-NP	900	100	1.2	1.5	2	3000
10	CT-TS-1000-100-(12/15/20)-3000-NP	1000	100	1.2	1.5	2	3000

Cable ladder, Cable tray & Accessories

Cable Tray Straight

- **Material:** Black Steel , Stainless Steell, ZAM steel, GI sheet
- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2.5mm; 3mm
- **Finished:**
 - + Electric Static Powder coating: Standard: ASTM-D3359-93, ASTM-D3363-92A,ASTM-D4138-94
 - + Galvanized Hot Deep zinz Standard: ASTM-A123
- **Color:** RAL 7032 as Standard, other color depend on customer
- **Standard:** IEC-61537, QCVN16:2023/BXD, TCVN 10688:2015

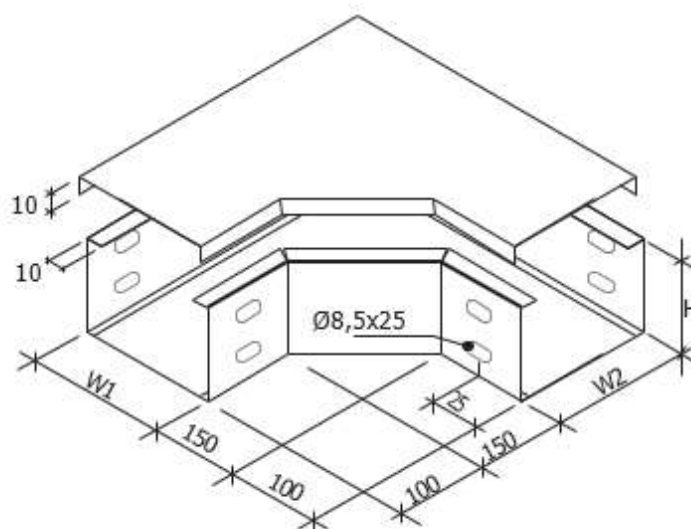


ID	CODE	Technical Specification					
		W (mm)	H (mm)	t (mm)			L (mm)
				12	15	20	
1	CT-TS-100-100-(12/15/20)-3000	100	100	1.2	1.5	2	3000
2	CT-TS-200-100-(12/15/20)-3000	200	100	1.2	1.5	2	3000
3	CT-TS-300-100-(12/15/20)-3000	300	100	1.2	1.5	2	3000
4	CT-TS-400-100-(12/15/20)-3000	400	100	1.2	1.5	2	3000
5	CT-TS-500-100-(12/15/20)-3000	500	100	1.2	1.5	2	3000
6	CT-TS-600-100-(12/15/20)-3000	600	100	1.2	1.5	2	3000
7	CT-TS-700-100-(12/15/20)-3000	700	100	1.2	1.5	2	3000
8	CT-TS-800-100-(12/15/20)-3000	800	100	1.2	1.5	2	3000

Cable ladder, Cable tray & Accessories

Cable Tray Horizontal 90° Elbow

- **Material:** Black Steel , Stainless Steell, ZAM steel, GI sheet
- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2.5mm; 3mm
- **Finished:**
 - + Electric Static Powder coating: Standard: ASTM-D3359-93, ASTM-D3363-92A,ASTM-D4138-94
 - + Galvanized Hot Deep zinz Standard: ASTM-A123
- **Color:** RAL 7032 as Standard, other color depend on customer
- **Standard:** IEC-61537, QCVN16:2023/BXD, TCVN 10688:2015

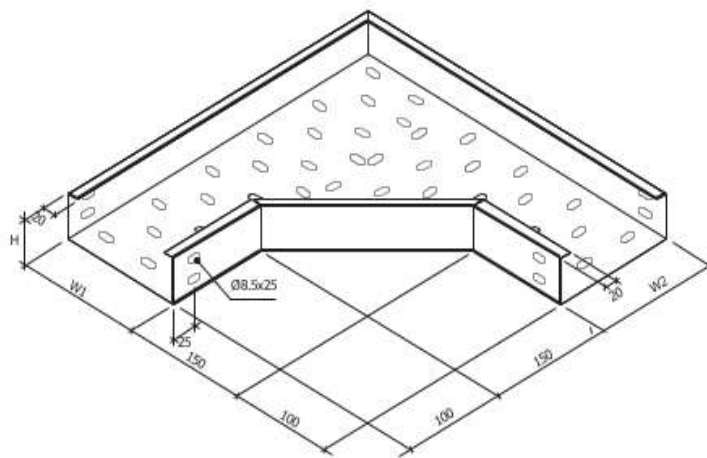


ID	CODE	Technical Specification					
		W (mm)	H (mm)	t (mm)			L (mm)
				12	15	20	
1	CT-THES-100-100-(12/15/20)-350-NP	100	100	1.2	1.5	2	350
2	CT-THES-200-100-(12/15/20)-450-NP	200	100	1.2	1.5	2	450
3	CT-THES-300-100-(12/15/20)-550-NP	300	100	1.2	1.5	2	550
4	CT-THES-400-100-(12/15/20)-650-NP	400	100	1.2	1.5	2	650
5	CT-THES-500-100-(12/15/20)-750-NP	500	100	1.2	1.5	2	750
6	CT-THES-600-100-(12/15/20)-850-NP	600	100	1.2	1.5	2	850
7	CT-THES-700-100-(12/15/20)-950-NP	700	100	1.2	1.5	2	950
8	CT-THES-800-100-(12/15/20)-1250-NP	800	100	1.2	1.5	2	1050
9	CT-THES-900-100-(12/15/20)-1350-NP	900	100	1.2	1.5	2	1150

Cable ladder, Cable tray & Accessories

Cable Tray Horizontal 90° Elbow

- **Material:** Black Steel , Stainless Steell, ZAM steel, GI sheet
- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2.5mm; 3mm
- **Finished:**
 - + Electric Static Powder coating: Standard: ASTM-D3359-93, ASTM-D3363-92A,ASTM-D4138-94
 - + Galvanized Hot Deep zinz Standard: ASTM-A123
- **Color:** RAL 7032 as Standard, other color depend on customer
- **Standard:** IEC-61537, QCVN16:2023/BXD, TCVN 10688:2015

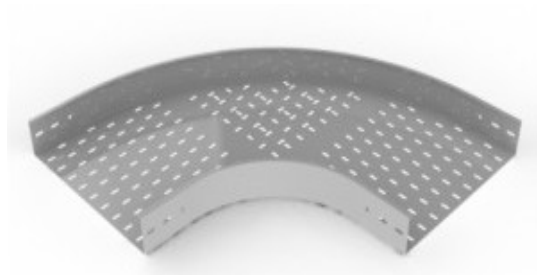


ID	CODE	Technical Specification					
		W (mm)	H (mm)	t (mm)			L (mm)
				12	15	20	
1	CT-THES-100-100-(12/15/20)-350	100	100	1.2	1.5	2	350
2	CT-THES-200-100-(12/15/20)-450	200	100	1.2	1.5	2	450
3	CT-THES-300-100-(12/15/20)-550	300	100	1.2	1.5	2	550
4	CT-THES-400-100-(12/15/20)-650	400	100	1.2	1.5	2	650
5	CT-THES-500-100-(12/15/20)-750	500	100	1.2	1.5	2	750
6	CT-THES-600-100-(12/15/20)-850	600	100	1.2	1.5	2	850
7	CT-THES-700-100-(12/15/20)-950	700	100	1.2	1.5	2	950
8	CT-THES-800-100-(12/15/20)-1050	800	100	1.2	1.5	2	1050
9	CT-THES-900-100-(12/15/20)-1150	900	100	1.2	1.5	2	1150

Cable ladder, Cable tray & Accessories

Horizontal Elbow R

- **Material:** Black Steel , Stainless Steell, ZAM steel, GI sheet
- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2.5mm; 3mm
- **Finished:**
 - + Electric Static Powder coating: Standard: ASTM-D3359-93, ASTM-D3363-92A,ASTM-D4138-94
 - + Galvanized Hot Deep zinz Standard: ASTM-A123
- **Color:** RAL 7032 as Standard, other color depend on customer
- **Standard:** IEC-61537, QCVN16:2023/BXD, TCVN 10688:2015

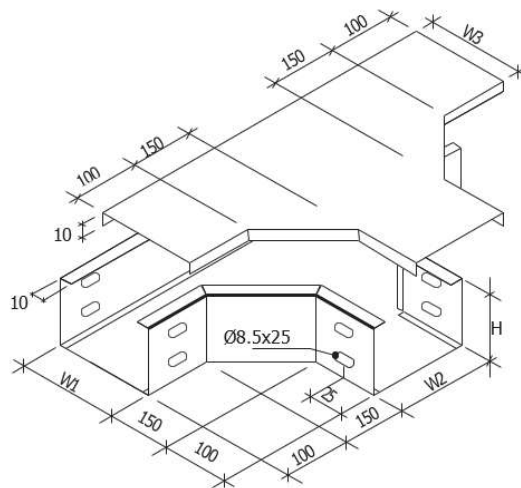


ID	CODE	Technical Specification					
		W (mm)	H (mm)	t (mm)			L (mm)
				12	15	20	
1	CT-THER-100-100-(12/15/20)-350	100	100	1.2	1.5	2	350
2	CT-THER-200-100-(12/15/20)-450	200	100	1.2	1.5	2	450
3	CT-THER-300-100-(12/15/20)-550	300	100	1.2	1.5	2	550
4	CT-THER-400-100-(12/15/20)-650	400	100	1.2	1.5	2	650
5	CT-THER-500-100-(12/15/20)-750	500	100	1.2	1.5	2	750
6	CT-THER-600-100-(12/15/20)-850	600	100	1.2	1.5	2	850
7	CT-THER-700-100-(12/15/20)-950	700	100	1.2	1.5	2	950
8	CT-THER-800-100-(12/15/20)-1050	800	100	1.2	1.5	2	1050
9	CT-THER-900-100-(12/15/20)-1150	900	100	1.2	1.5	2	1150
10	CT-THER-1000-100-(12/15/20)-1250	1000	100	1.2	1.5	2	1250

Cable ladder, Cable tray & Accessories

Cable Tray Horizontal Tee

- **Material:** Black Steel , Stainless Steell, ZAM steel, GI sheet
- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2.5mm; 3mm
- **Finished:**
 - + Electric Static Powder coating: Standard: ASTM-D3359-93, ASTM-D3363-92A,ASTM-D4138-94
 - + Galvanized Hot Deep zinz Standard: ASTM-A123
- **Color:** RAL 7032 as Standard, other color depend on customer
- **Standard:** IEC-61537, QCVN16:2023/BXD, TCVN 10688:2015

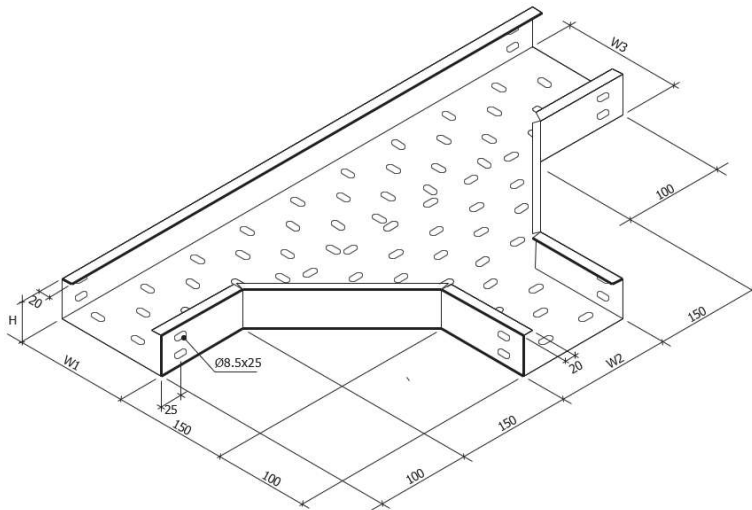


ID	CODE	Technical Specification					
		W(mm)	H (mm)	t (mm)			L (mm)
				12	15	20	
1	CT-THTS-100-100-(12/15/20)-600-NP	100	100	1.2	1.5	2	600
2	CT-THTS-200-100-(12/15/20)-700-NP	200	100	1.2	1.5	2	700
3	CT-THTS-300-100-(12/15/20)-800-NP	300	100	1.2	1.5	2	800
4	CT-THTS-400-100-(12/15/20)-900-NP	400	100	1.2	1.5	2	900
5	CT-THTS-500-100-(12/15/20)-1000-NP	500	100	1.2	1.5	2	1000
6	CT-THTS-600-100-(12/15/20)-1100-NP	600	100	1.2	1.5	2	1100
7	CT-THTS-700-100-(12/15/20)-1200-NP	700	100	1.2	1.5	2	1200
8	CT-THTS-800-100-(12/15/20)-1300-NP	800	100	1.2	1.5	2	1300
9	CT-THTS-900-100-(12/15/20)-1400-NP	900	100	1.2	1.5	2	1400

Cable ladder, Cable tray & Accessories

Cable Tray Horizontal Tee

- **Material:** Black Steel , Stainless Steell, ZAM steel, GI sheet
- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2.5mm; 3mm
- **Finished:**
 - + Electric Static Powder coating: Standard: ASTM-D3359-93, ASTM-D3363-92A,ASTM-D4138-94
 - + Galvanized Hot Deep zinz Standard: ASTM-A123
- **Color:** RAL 7032 as Standard, other color depend on customer
- **Standard:** IEC-61537, QCVN16:2023/BXD, TCVN 10688:2015

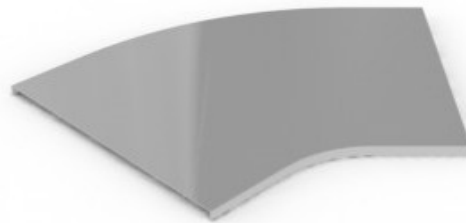
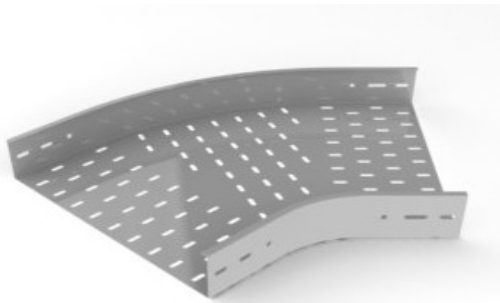


ID	CODE	Technical Specification					
		W (mm)	H (mm)	t (mm)			L (mm)
				12	15	20	
1	CT-THTS-100-100-(12/15/20)-600	100	100	1.2	1.5	2	600
2	CT-THTS-200-100-(12/15/20)-700	200	100	1.2	1.5	2	700
3	CT-THTS-300-100-(12/15/20)-800	300	100	1.2	1.5	2	800
4	CT-THTS-400-100-(12/15/20)-900	400	100	1.2	1.5	2	900
5	CT-THTS-500-100-(12/15/20)-1000	500	100	1.2	1.5	2	1000
6	CT-THTS-600-100-(12/15/20)-1100	600	100	1.2	1.5	2	1100
7	CT-THTS-700-100-(12/15/20)-1200	700	100	1.2	1.5	2	1200
8	CT-THTS-800-100-(12/15/20)-1300	800	100	1.2	1.5	2	1300
9	CT-THTS-900-100-(12/15/20)-1400	900	100	1.2	1.5	2	1400

Cable ladder, Cable tray & Accessories

Horizontal Elbow 45 R

- **Material:** Black Steel , Stainless Steell, ZAM steel, GI sheet
- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2.5mm; 3mm
- **Finished:**
 - + Electric Static Powder coating: Standard: ASTM-D3359-93, ASTM-D3363-92A,ASTM-D4138-94
 - + Galvanized Hot Deep zinz Standard: ASTM-A123
- **Color:** RAL 7032 as Standard, other color depend on customer
- **Standard:** IEC-61537, QCVN16:2023/BXD, TCVN 10688:2015

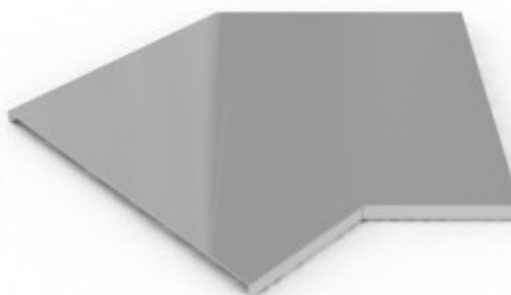
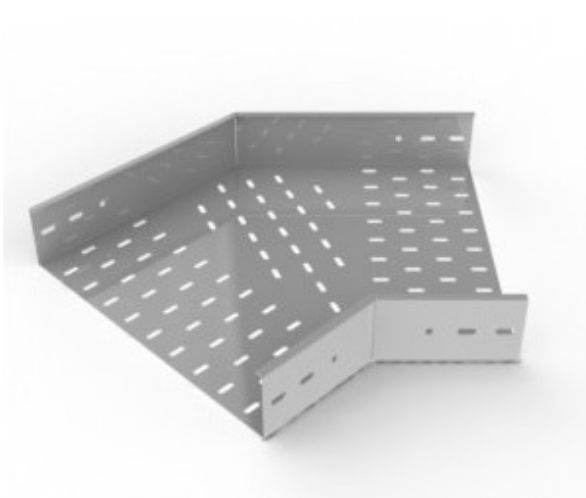


ID	CODE	Technical Specification					
		W (mm)	H (mm)	t (mm)			L (mm)
				12	15	20	
1	CT-THE45R-100-100-(12/15/20)-350	100	100	1.2	1.5	2	350
2	CT-THE45R-200-100-(12/15/20)-450	200	100	1.2	1.5	2	450
3	CT-THE45R-300-100-(12/15/20)-550	300	100	1.2	1.5	2	550
4	CT-THE45R-400-100-(12/15/20)-650	400	100	1.2	1.5	2	650
5	CT-THE45R-500-100-(12/15/20)-750	500	100	1.2	1.5	2	750
6	CT-THE45R-600-100-(12/15/20)-850	600	100	1.2	1.5	2	850
7	CT-THE45R-700-100-(12/15/20)-950	700	100	1.2	1.5	2	950
8	CT-THE45R-800-100-(12/15/20)-1050	800	100	1.2	1.5	2	1050
9	CT-THE45R-900-100-(12/15/20)-1150	900	100	1.2	1.5	2	1150
10	CT-THE45R-1000-100-(12/15/20)-1250	1000	100	1.2	1.5	2	1250

Cable ladder, Cable tray & Accessories

Horizontal Elbow 45 S

- **Material:** Black Steel , Stainless Steel, ZAM steel, GI sheet
- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2.5mm; 3mm
- **Finished:**
 - + Electric Static Powder coating: Standard: ASTM-D3359-93, ASTM-D3363-92A,ASTM-D4138-94
 - + Galvanized Hot Deep zinz Standard: ASTM-A123
- **Color:** RAL 7032 as Standard, other color depend on customer
- **Standard:** IEC-61537, QCVN16:2023/BXD, TCVN 10688:2015

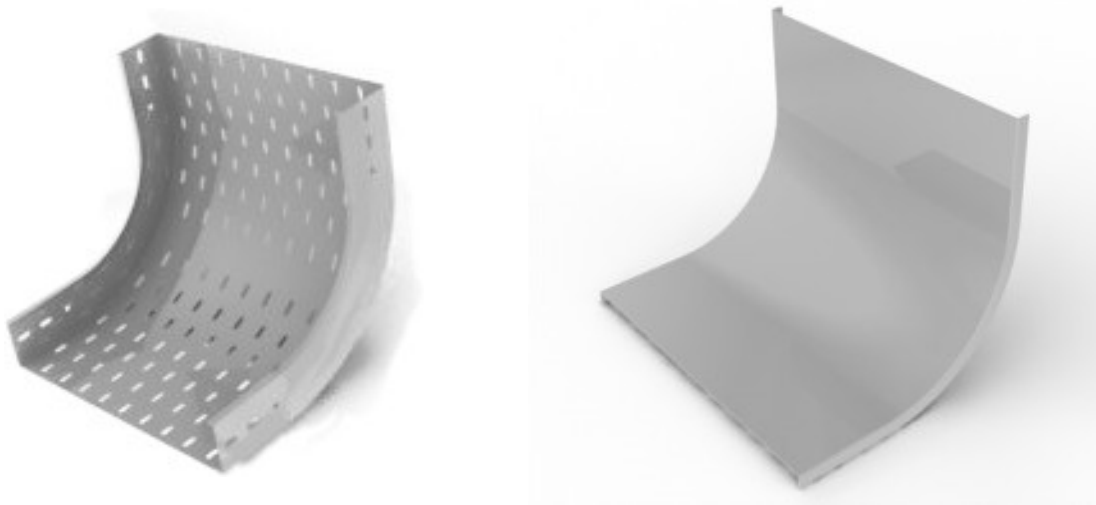


ID	CODE	Technical Specification					
		W (mm)	H (mm)	t (mm)			L (mm)
				12	15	20	
1	CT-THE45S-100-100-(12/15/20)-350	100	100	1.2	1.5	2	350
2	CT-THE45S-200-100-(12/15/20)-450	200	100	1.2	1.5	2	450
3	CT-THE45S-300-100-(12/15/20)-550	300	100	1.2	1.5	2	550
4	CT-THE45S-400-100-(12/15/20)-650	400	100	1.2	1.5	2	650
5	CT-THE45S-500-100-(12/15/20)-750	500	100	1.2	1.5	2	750
6	CT-THE45S-600-100-(12/15/20)-850	600	100	1.2	1.5	2	850
7	CT-THE45S-700-100-(12/15/20)-950	700	100	1.2	1.5	2	950
8	CT-THE45S-800-100-(12/15/20)-1050	800	100	1.2	1.5	2	1050
9	CT-THE45S-900-100-(12/15/20)-1150	900	100	1.2	1.5	2	1150

Cable ladder, Cable tray & Accessories

Cable Tray 90° Vertical Upper R

- **Material:** Black Steel , Stainless Steel, ZAM steel, GI sheet
- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2,5mm; 3mm
- **Finished:**
 - + Electric Static Powder coating: Standard: ASTM-D3359-93, ASTM-D3363-92A,ASTM-D4138-94
 - + Galvanized Hot Deep zinc Standard: ASTM-A123
- **Color:** RAL 7032 as Standard, other color depend on customer
- **Standard:** IEC-61537, QCVN16:2023/BXD, TCVN 10688:2015

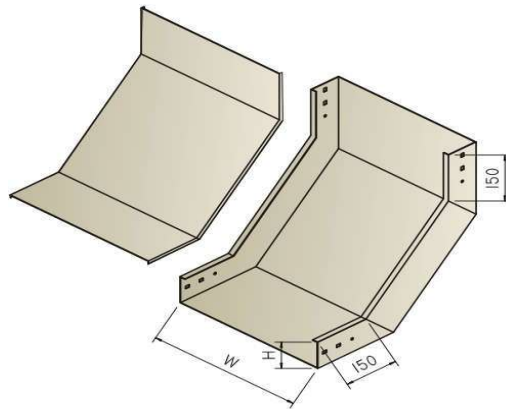


ID	CODE	Technical Specification					
		W (mm)	H (mm)	t (mm)			L (mm)
				12	15	20	
1	CT-TVEUR-100-100-(12/15/20)-350	100	100	1.2	1.5	2	350
2	CT-TVEUR-200-100-(12/15/20)-350	200	100	1.2	1.5	2	350
3	CT-TVEUR-300-100-(12/15/20)-350	300	100	1.2	1.5	2	350
4	CT-TVEUR-400-100-(12/15/20)-350	400	100	1.2	1.5	2	350
5	CT-TVEUR-500-100-(12/15/20)-350	500	100	1.2	1.5	2	350
6	CT-TVEUR-600-100-(12/15/20)-350	600	100	1.2	1.5	2	350
7	CT-TVEUR-700-100-(12/15/20)-350	700	100	1.2	1.5	2	350
8	CT-TVEUR-800-100-(12/15/20)-350	800	100	1.2	1.5	2	350
9	CT-TVEUR-900-100-(12/15/20)-350	900	100	1.2	1.5	2	350

Cable ladder, Cable tray & Accessories

Cable Tray 90° Vertical Upper

- **Material:** Black Steel , Stainless Steel, ZAM steel, GI sheet
- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2.5mm; 3mm
- **Finished:**
 - + Electric Static Powder coating: Standard: ASTM-D3359-93, ASTM-D3363-92A,ASTM-D4138-94
 - + Galvanized Hot Deep zinz Standard: ASTM-A123
- **Color:** RAL 7032 as Standard, other color depend on customer
- **Standard:** IEC-61537, QCVN16:2023/BXD, TCVN 10688:2015

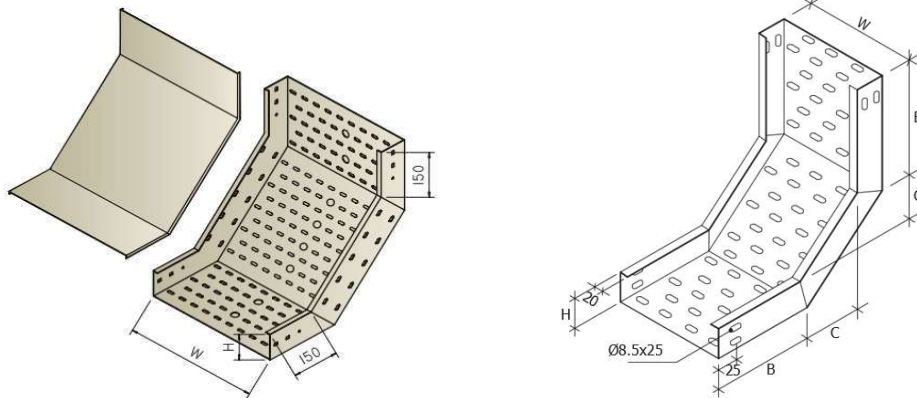


ID	CODE	Technical Specification					
		W (mm)	H (mm)	t (mm)			L (mm)
				12	15	20	
1	CT-TVEUS-100-100-(12/15/20)-350-NP	100	100	1.2	1.5	2	350
2	CT-TVEUS-200-100-(12/15/20)-350-NP	200	100	1.2	1.5	2	350
3	CT-TVEUS-300-100-(12/15/20)-350-NP	300	100	1.2	1.5	2	350
4	CT-TVEUS-400-100-(12/15/20)-350-NP	400	100	1.2	1.5	2	350
5	CT-TVEUS-500-100-(12/15/20)-350-NP	500	100	1.2	1.5	2	350
6	CT-TVEUS-600-100-(12/15/20)-350-NP	600	100	1.2	1.5	2	350
7	CT-TVEUS-700-100-(12/15/20)-350-NP	700	100	1.2	1.5	2	350
8	CT-TVEUS-800-100-(12/15/20)-350-NP	800	100	1.2	1.5	2	350
9	CT-TVEUS-900-100-(12/15/20)-350-NP	900	100	1.2	1.5	2	350
10	CT-TVEUS-1000-100-(12/15/20)-350-NP	1000	100	1.2	1.5	2	350

Cable ladder, Cable tray & Accessories

Cable Tray 90° Vertical Upper

- **Material:** Black Steel , Stainless Steell, ZAM steel, GI sheet
- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2.5mm; 3mm
- **Finished:**
 - + Electric Static Powder coating: Standard: ASTM-D3359-93, ASTM-D3363-92A,ASTM-D4138-94
 - + Galvanized Hot Deep zinz Standard: ASTM-A123
- **Color:** RAL 7032 as Standard, other color depend on customer
- **Standard:** IEC-61537, QCVN16:2023/BXD, TCVN 10688:2015

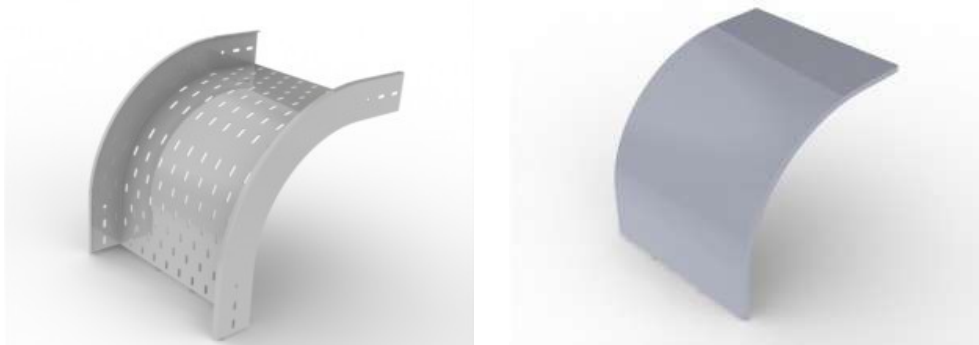


ID	CODE	Technical Specification					
		W (mm)	H (mm)	t (mm)			L (mm)
				12	15	20	
1	CT-TVEUS-100-100-(12/15/20)-350	100	100	1.2	1.5	2	350
2	CT-TVEUS-200-100-(12/15/20)-350	200	100	1.2	1.5	2	350
3	CT-TVEUS-300-100-(12/15/20)-350	300	100	1.2	1.5	2	350
4	CT-TVEUS-400-100-(12/15/20)-350	400	100	1.2	1.5	2	550
5	CT-TVEUS-500-100-(12/15/20)-350	500	100	1.2	1.5	2	350
6	CT-TVEUS-600-100-(12/15/20)-350	600	100	1.2	1.5	2	350
7	CT-TVEUS-700-100-(12/15/20)-350	700	100	1.2	1.5	2	350
8	CT-TVEUS-800-100-(12/15/20)-350	800	100	1.2	1.5	2	350
9	CT-TVEUS-900-100-(12/15/20)-350	900	100	1.2	1.5	2	350
10	CT-TVEUS-1000-100-(12/15/20)-350	1000	100	1.2	1.5	2	350

Cable ladder, Cable tray & Accessories

Cable Tray 90° Vertical Downer R

- **Material:** Black Steel , Stainless Steell, ZAM steel, GI sheet
- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2.5mm; 3mm
- **Finished:**
 - + Electric Static Powder coating: Standard: ASTM-D3359-93, ASTM-D3363-92A,ASTM-D4138-94
 - + Galvanized Hot Deep zinz Standard: ASTM-A123
- **Color:** RAL 7032 as Standard, other color depend on customer
- **Standard:** IEC-61537, QCVN16:2023/BXD, TCVN 10688:2015

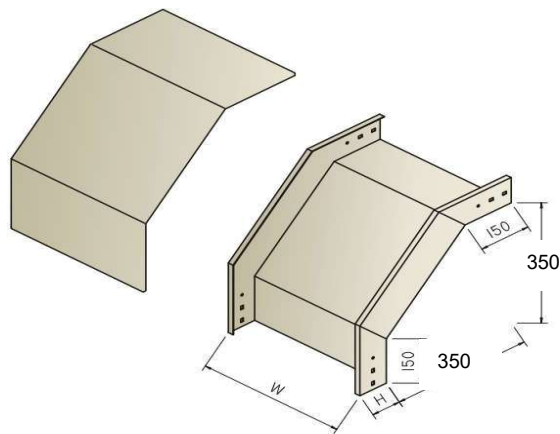


ID	CODE	Technical Specification					
		W (mm)	H (mm)	t (mm)			L (mm)
				12	15	20	
1	CT-TVEDR-100-100-(12/15/20)-350	100	100	1.2	1.5	2	350
2	CT-TVEDR-200-100-(12/15/20)-350	200	100	1.2	1.5	2	350
3	CT-TVEDR-300-100-(12/15/20)-350	300	100	1.2	1.5	2	350
4	CT-TVEDR-400-100-(12/15/20)-350	400	100	1.2	1.5	2	350
5	CT-TVEDR-500-100-(12/15/20)-350	500	100	1.2	1.5	2	350
6	CT-TVEDR-600-100-(12/15/20)-350	600	100	1.2	1.5	2	350
7	CT-TVEDR-700-100-(12/15/20)-350	700	100	1.2	1.5	2	350
8	CT-TVEDR-800-100-(12/15/20)-350	800	100	1.2	1.5	2	350
9	CT-TVEDR-900-100-(12/15/20)-350	900	100	1.2	1.5	2	350
10	CT-TVEDR-1000-100-(12/15/20)-550	1000	100	1.2	1.5	2	350

Cable ladder, Cable tray & Accessories

Cable Tray 90° Vertical Downer

- **Material:** Black Steel , Stainless Steell, ZAM steel, GI sheet
- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2.5mm; 3mm
- **Finished:**
 - + Electric Static Powder coating: Standard: ASTM-D3359-93, ASTM-D3363-92A,ASTM-D4138-94
 - + Galvanized Hot Deep zinz Standard: ASTM-A123
- **Color:** RAL 7032 as Standard, other color depend on customer
- **Standard:** IEC-61537, QCVN16:2023/BXD, TCVN 10688:2015

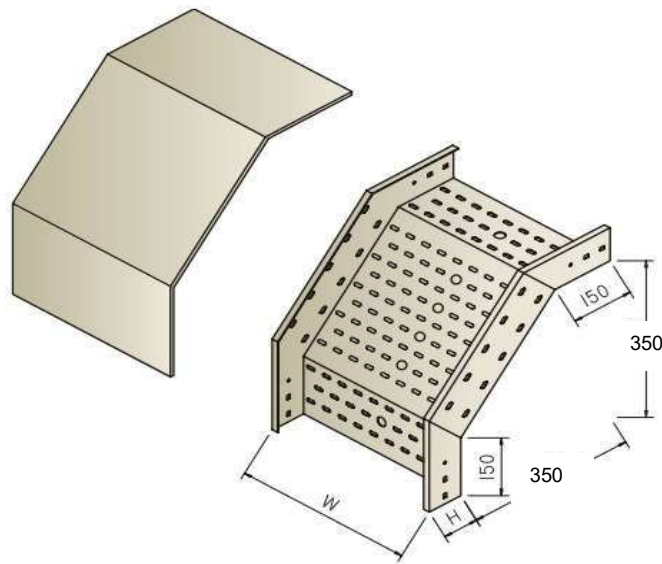


ID	CODE	Technical Specification					
		W (mm)	H (mm)	t (mm)			L (mm)
				12	15	20	
1	CT-TVEDS-100-100-(12/15/20)-350-NP	100	100	1.2	1.5	2	350
2	CT-TVEDS-200-100-(12/15/20)-350-NP	200	100	1.2	1.5	2	350
3	CT-TVEDS-300-100-(12/15/20)-350-NP	300	100	1.2	1.5	2	350
4	CT-TVEDS-400-100-(12/15/20)-350-NP	400	100	1.2	1.5	2	350
5	CT-TVEDS-500-100-(12/15/20)-350-NP	500	100	1.2	1.5	2	350
6	CT-TVEDS-600-100-(12/15/20)-350-NP	600	100	1.2	1.5	2	350
7	CT-TVEDS-700-100-(12/15/20)-350-NP	700	100	1.2	1.5	2	350
8	CT-TVEDS-800-100-(12/15/20)-350-NP	800	100	1.2	1.5	2	350
9	CT-TVEDS-900-100-(12/15/20)-350-NP	900	100	1.2	1.5	2	350
10	CT-TVEDS-1000-100-(12/15/20)-350-NP	1000	100	1.2	1.5	2	350

Cable ladder, Cable tray & Accessories

Cable Tray 90° Vertical Downer

- **Material:** Black Steel , Stainless Steell, ZAM steel, GI sheet
- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2.5mm; 3mm
- **Finished:**
 - + Electric Static Powder coating: Standard: ASTM-D3359-93, ASTM-D3363-92A,ASTM-D4138-94
 - + Galvanized Hot Deep zinz Standard: ASTM-A123
- **Color:** RAL 7032 as Standard, other color depend on customer
- **Standard:** IEC-61537, QCVN16:2023/BXD, TCVN 10688:2015

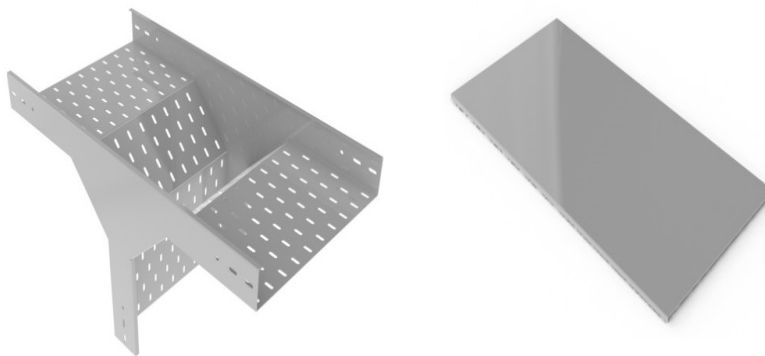


ID	CODE	Technical Specification					
		W (mm)	H (mm)	t (mm)			L (mm)
				12	15	20	
1	CT-TVEDS-100-100-(12/15/20)-350	100	100	1.2	1.5	2	350
2	CT-TVEDS-200-100-(12/15/20)-350	200	100	1.2	1.5	2	350
3	CT-TVEDS-300-100-(12/15/20)-350	300	100	1.2	1.5	2	350
4	CT-TVEDS-400-100-(12/15/20)-350	400	100	1.2	1.5	2	350
5	CT-TVEDS-500-100-(12/15/20)-350	500	100	1.2	1.5	2	350
6	CT-TVEDS-600-100-(12/15/20)-350	600	100	1.2	1.5	2	350
7	CT-TVEDS-700-100-(12/15/20)-350	700	100	1.2	1.5	2	350
8	CT-TVEDS-800-100-(12/15/20)-350	800	100	1.2	1.5	2	350

Cable ladder, Cable tray & Accessories

Vertical Tee

- **Material:** Black Steel , Stainless Steell, ZAM steel, GI sheet
- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2.5mm; 3mm
- **Finished:**
 - + Electric Static Powder coating: Standard: ASTM-D3359-93, ASTM-D3363-92A,ASTM-D4138-94
 - + Galvanized Hot Deep zinz Standard: ASTM-A123
- **Color:** RAL 7032 as Standard, other color depend on customer
- **Standard:** IEC-61537, QCVN16:2023/BXD, TCVN 10688:2015

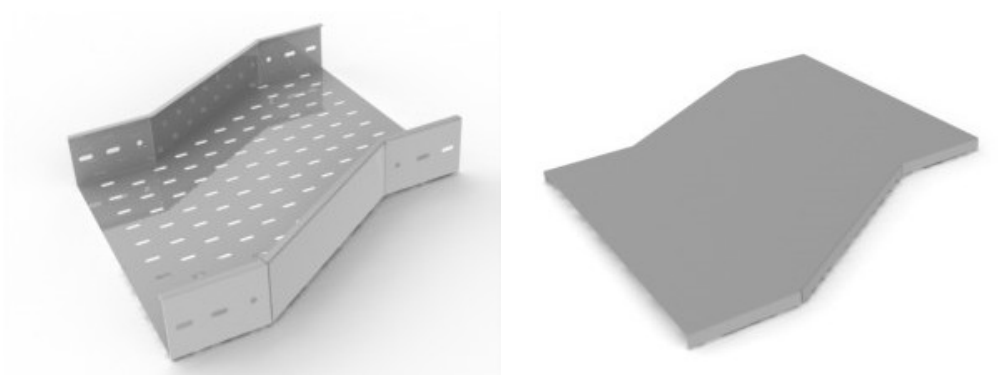


ID	CODE	Technical Specification					
		W (mm)	H (mm)	t (mm)			L (mm)
				12	15	20	
1	CT-TVT-100-100-(12/15/20)-600	100	100	1.2	1.5	2	600
2	CT-TVT-200-100-(12/15/20)-600	200	100	1.2	1.5	2	600
3	CT-TVT-300-100-(12/15/20)-600	300	100	1.2	1.5	2	600
4	CT-TVT-400-100-(12/15/20)-600	400	100	1.2	1.5	2	600
5	CT-TVT-500-100-(12/15/20)-600	500	100	1.2	1.5	2	600
6	CT-TVT-600-100-(12/15/20)-600	600	100	1.2	1.5	2	600
7	CT-TVT-700-100-(12/15/20)-600	700	100	1.2	1.5	2	600
8	CT-TVT-800-100-(12/15/20)-600	800	100	1.2	1.5	2	600
9	CT-TVT-900-100-(12/15/20)-600	900	100	1.2	1.5	2	600
10	CT-TVT-1000-100-(12/15/20)-600	1000	100	1.2	1.5	2	600

Cable ladder, Cable tray & Accessories

Horizontal Z

- **Material:** Black Steel , Stainless Steel, ZAM steel, GI sheet
- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2.5mm; 3mm
- **Finished:**
 - + Electric Static Powder coating: Standard: ASTM-D3359-93, ASTM-D3363-92A,ASTM-D4138-94
 - + Galvanized Hot Deep zinz Standard: ASTM-A123
- **Color:** RAL 7032 as Standard, other color depend on customer
- **Standard:** IEC-61537, QCVN16:2023/BXD, TCVN 10688:2015

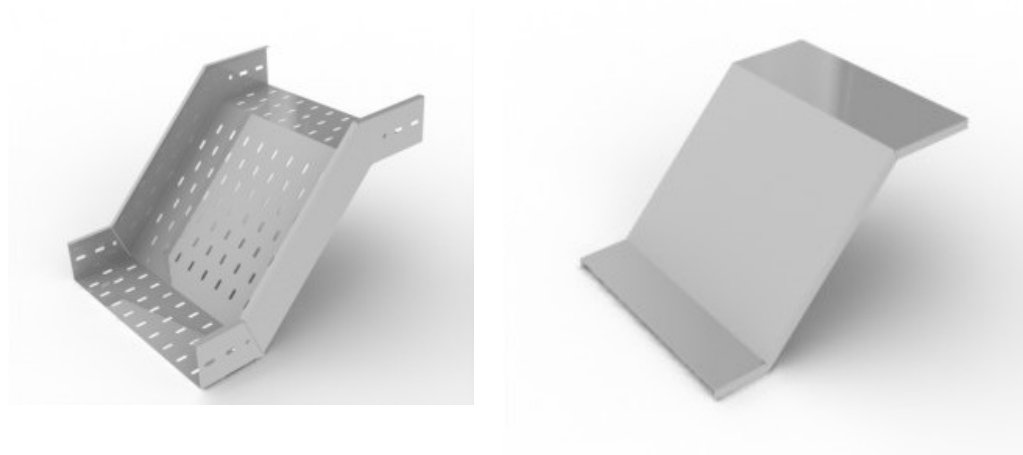


ID	CODE	Technical Specification					
		W (mm)	H (mm)	t (mm)			L (mm)
				12	15	20	
1	CT-THZ-100-100-(12/15/20)-500	100	100	1.2	1.5	2	500
2	CT-THZ-200-100-(12/15/20)-600	200	100	1.2	1.5	2	600
3	CT-THZ-300-100-(12/15/20)-600	300	100	1.2	1.5	2	600
4	CT-THZ-400-100-(12/15/20)-700	400	100	1.2	1.5	2	700
5	CT-THZ-500-100-(12/15/20)-700	500	100	1.2	1.5	2	700
6	CT-THZ-600-100-(12/15/20)-800	600	100	1.2	1.5	2	800
7	CT-THZ-700-100-(12/15/20)-900	700	100	1.2	1.5	2	900
8	CT-THZ-800-100-(12/15/20)-1000	800	100	1.2	1.5	2	1000
9	CT-THZ-900-100-(12/15/20)-1100	900	100	1.2	1.5	2	1100

Cable ladder, Cable tray & Accessories

Vertical Z

- **Material:** Black Steel , Stainless Steell, ZAM steel, GI sheet
- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2.5mm; 3mm
- **Finished:**
 - + Electric Static Powder coating: Standard: ASTM-D3359-93, ASTM-D3363-92A,ASTM-D4138-94
 - + Galvanized Hot Deep zinz Standard: ASTM-A123
- **Color:** RAL 7032 as Standard, other color depend on customer
- **Standard:** IEC-61537, QCVN16:2023/BXD, TCVN 10688:2015

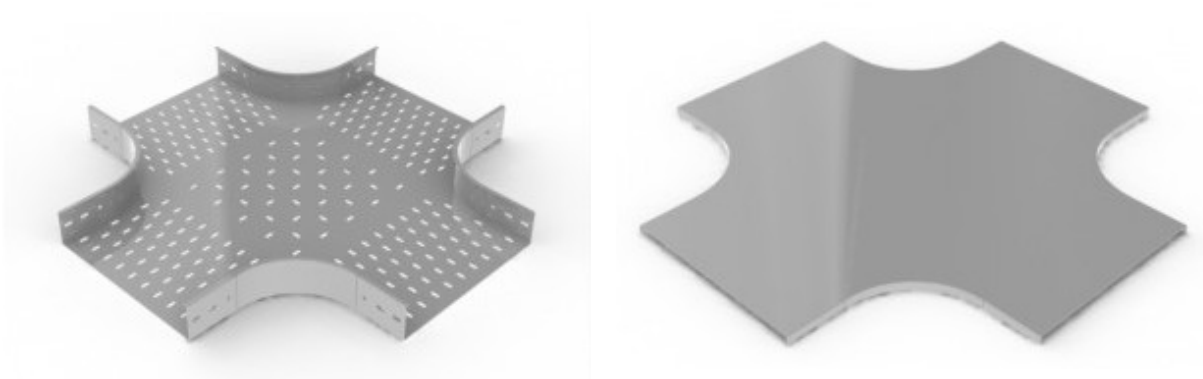


ID	CODE	Technical Specification					
		W (mm)	H (mm)	t (mm)			L (mm)
				12	15	20	
1	CT-TVZ-100-100-(12/15/20)-500	100	100	1.2	1.5	2	500
2	CT-TVZ-200-100-(12/15/20)-600	200	100	1.2	1.5	2	600
3	CT-TVZ-300-100-(12/15/20)-600	300	100	1.2	1.5	2	600
4	CT-TVZ-400-100-(12/15/20)-700	400	100	1.2	1.5	2	700
5	CT-TVZ-500-100-(12/15/20)-700	500	100	1.2	1.5	2	700
6	CT-TVZ-600-100-(12/15/20)-800	600	100	1.2	1.5	2	800
7	CT-TVZ-700-100-(12/15/20)-900	700	100	1.2	1.5	2	900
8	CT-TVZ-800-100-(12/15/20)-1000	800	100	1.2	1.5	2	1000
9	CL-TVZ-900-100-(12/15/20)-1100	900	100	1.2	1.5	2	1100

Cable ladder, Cable tray & Accessories

Cable Tray Horizontal Cross R

- **Material:** Black Steel , Stainless Steel, ZAM steel, GI sheet
- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2.5mm; 3mm
- **Finished:**
 - + Electric Static Powder coating: Standard: ASTM-D3359-93, ASTM-D3363-92A,ASTM-D4138-94
 - + Galvanized Hot Deep zinc Standard: ASTM-A123
- **Color:** RAL 7032 as Standard, other color depend on customer
- **Standard:** IEC-61537, QCVN16:2023/BXD, TCVN 10688:2015

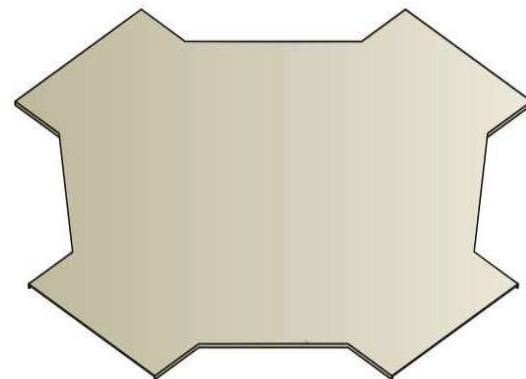
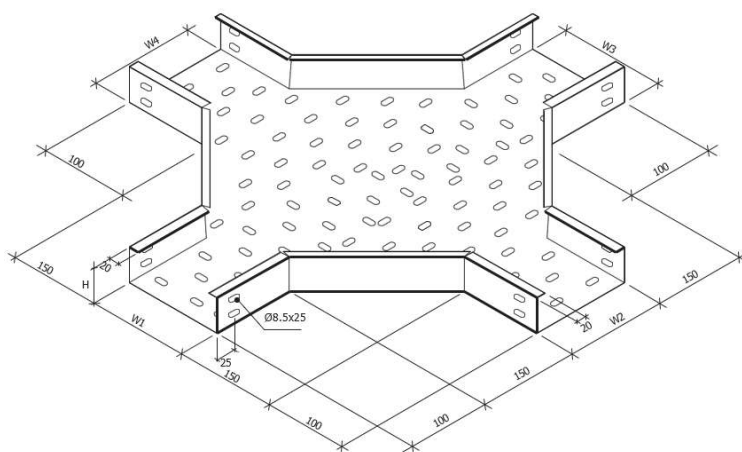


ID	CODE	Technical Specification					
		W (mm)	H (mm)	t (mm)			L (mm)
				12	15	20	
1	CT-CR-100-100-(12/15/20)-600	100	100	1.2	1.5	2	600
2	CT-THCR-200-100-(12/15/20)-700	200	100	1.2	1.5	2	700
3	CT-THCR-300-100-(12/15/20)-800	300	100	1.2	1.5	2	800
4	CT-THCR-400-100-(12/15/20)-900	400	100	1.2	1.5	2	900
5	CT-THCR-500-100-(12/15/20)-1000	500	100	1.2	1.5	2	1000
6	CT-THCR-600-100-(12/15/20)-1100	600	100	1.2	1.5	2	1100
7	CT-THCR-700-100-(12/15/20)-1200	700	100	1.2	1.5	2	1200
8	CT-THCR-800-100-(12/15/20)-1300	800	100	1.2	1.5	2	1300
9	CT-THCR-900-100-(12/15/20)-1400	900	100	1.2	1.5	2	1400
10	CT-THCR-1000-100-(12/15/20)-1500	1000	100	1.2	1.5	2	1500

Cable ladder, Cable tray & Accessories

Cable Tray Horizontal Cross

- **Material:** Black Steel , Stainless Steel, ZAM steel, GI sheet
- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2,5mm; 3mm
- **Finished:**
 - + Electric Static Powder coating: Standard: ASTM-D3359-93, ASTM-D3363-92A,ASTM-D4138-94
 - + Galvanized Hot Deep zinz Standard: ASTM-A123
- **Color:** RAL 7032 as Standard, other color depend on customer
- **Standard:** IEC-61537, QCVN16:2023/BXD, TCVN 10688:2015

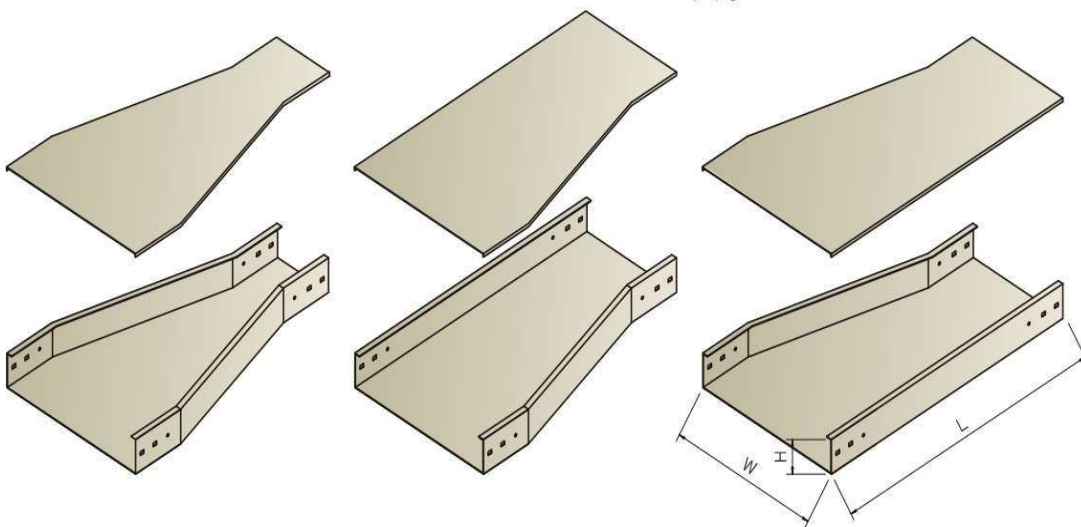


ID	CODE	Technical Specification					
		W (mm)	H (mm)	t (mm)			L (mm)
				12	15	20	
1	CT-THCS-100-100-(12/15/20)-600-NP	100	100	1.2	1.5	2	600
2	CT-THCS-200-100-(12/15/20)-700-NP	200	100	1.2	1.5	2	700
3	CT-THCS-300-100-(12/15/20)-800-NP	300	100	1.2	1.5	2	800
4	CT-THCS-400-100-(12/15/20)-900-NP	400	100	1.2	1.5	2	900
5	CT-THCS-500-100-(12/15/20)-1000-NP	500	100	1.2	1.5	2	1000
6	CT-THCS-600-100-(12/15/20)-1100-NP	600	100	1.2	1.5	2	1100
7	CT-THCS-700-100-(12/15/20)-1200-NP	700	100	1.2	1.5	2	1200
8	CT-THCS-800-100-(12/15/20)-1300-NP	800	100	1.2	1.5	2	1300
9	CT-THCS-900-100-(12/15/20)-1400-NP	900	100	1.2	1.5	2	1400
10	CT-THCS-1000-100-(12/15/20)-1500-NP	1000	100	1.2	1.5	2	1500

Cable ladder, Cable tray & Accessories

Cable Tray Reduce

- **Material:** Black Steel , Stainless Steel, ZAM steel, GI sheet
- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2.5mm; 3mm
- **Finished:**
 - + Electric Static Powder coating: Standard: ASTM-D3359-93, ASTM-D3363-92A,ASTM-D4138-94
 - + Galvanized Hot Deep zinc Standard: ASTM-A123
- **Color:** RAL 7032 as Standard, other color depend on customer
- **Standard:** IEC-61537, QCVN16:2023/BXD, TCVN 10688:2015



ID	CODE	Technical Specification						
		W1(mm)	W (mm)	H (mm)	t (mm)			L (mm)
					12	15	20	
1	CT-THR-100/(W1)-100-(12/15/20)-600-NP	Request	100	100	1.2	1.5	2	600
2	CT-THR-200/(W1)-100-(12/15/20)-600-NP	Request	200	100	1.2	1.5	2	600
3	CT-THR-300/(W1)-100-(12/15/20)-600-NP	Request	300	100	1.2	1.5	2	600
4	CT-THR-400/(W1)-100-(12/15/20)-600-NP	Request	400	100	1.2	1.5	2	600
5	CT-THR-500/(W1)-100-(12/15/20)-600-NP	Request	500	100	1.2	1.5	2	600
6	CT-THR-600/(W1)-100-(12/15/20)-600-NP	Request	600	100	1.2	1.5	2	600
7	CT-THR-700/(W1)-100-(12/15/20)-600-NP	Request	700	100	1.2	1.5	2	600
8	CT-THR-800/(W1)-100-(12/15/20)-600-NP	Request	800	100	1.2	1.5	2	600
9	CT-THR-900/(W1)-100-(12/15/20)-600-NP	Request	900	100	1.2	1.5	2	600

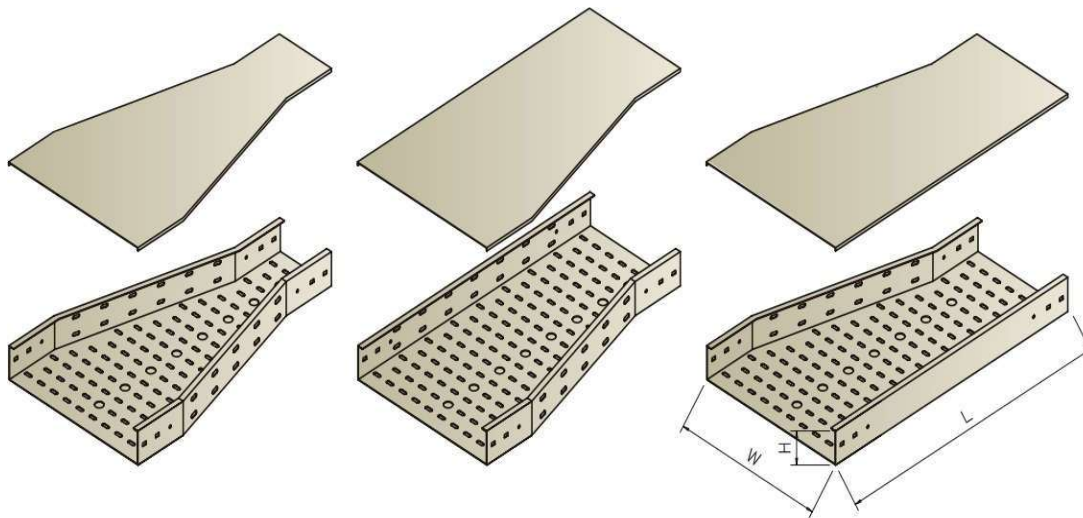
Cable ladder, Cable tray & Accessories

Cable Tray Reduce

- **Material:** Black Steel , Stainless Steel, ZAM steel, GI sheet
- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2.5mm; 3mm
- **Finished:**
 - + Electric Static Powder coating: Standard: ASTM-D3359-93, ASTM-D3363
 - 92A,ASTM-D4138-94
 - + Galvanized Hot Deep zinc Standard: ASTM-A123
- **Color:** RAL 7032 as Standard, other color depend on customer
- **Standard:** IEC-61537, QCVN16:2023/BXD, TCVN 10688:2015

COLOR CODE

- Gray - G
- Orange - O
- Blue - B
- Other - OT



ID	CODE	Technical Specification						
		W1 (mm)	W (mm)	H (mm)	t (mm)			L (mm)
					12	15	20	
1	CT-THR-100/(W1)-100-(12/15/20)-600	Request	100	100	1.2	1.5	2	600
2	CT-THR-200/(W1)-100-(12/15/20)-600	Request	200	100	1.2	1.5	2	600
3	CT-THR-300/(W1)-100-(12/15/20)-600	Request	300	100	1.2	1.5	2	600
4	CT-THR-400/(W1)-100-(12/15/20)-600	Request	400	100	1.2	1.5	2	600
5	CT-THR-500/(W1)-100-(12/15/20)-600	Request	500	100	1.2	1.5	2	600
6	CT-THR-600/(W1)-100-(12/15/20)-600	Request	600	100	1.2	1.5	2	600
7	CT-THR-700/(W1)-100-(12/15/20)-600	Request	700	100	1.2	1.5	2	600
8	CT-THR-800/(W1)-100-(12/15/20)-600	Request	800	100	1.2	1.5	2	600
9	CT-THR-900/(W1)-100-(12/15/20)-600	Request	900	100	1.2	1.5	2	600

Cable ladder, Cable tray & Accessories

Connector/ End Cap

- **Material:** Black Steel , Stainless Steel, ZAM steel, GI sheet
- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2.5mm; 3mm
- **Finished:**
 - + Electric Static Powder coating: Standard: ASTM-D3359-93, ASTM-D3363-92A,ASTM-D4138-94
 - + Galvanized Hot Deep zinc Standard: ASTM-A123
- **Color:** RAL 7032 as Standard, other color depend on customer
- **Standard:** IEC-61537, QCVN16:2023/BXD, TCVN 10688:2015

COLOR CODE

	Gray - G
	Orange - O
	Blue - B
	Other - OT



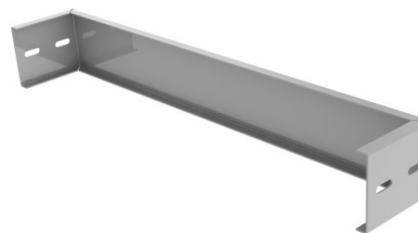
CRH

SPECIFICATION

CODE	H	L	COLOR
CRH	50	500	G,O,B,OT
CRH	100	500	G,O,B,OT
CRH	150	500	G,O,B,OT

SPECIFICATION

CODE	W	H	COLOR
EC	100	50	G,O,B,OT
EC	300	100	G,O,B,OT
EC	600	100	G,O,B,OT



EC

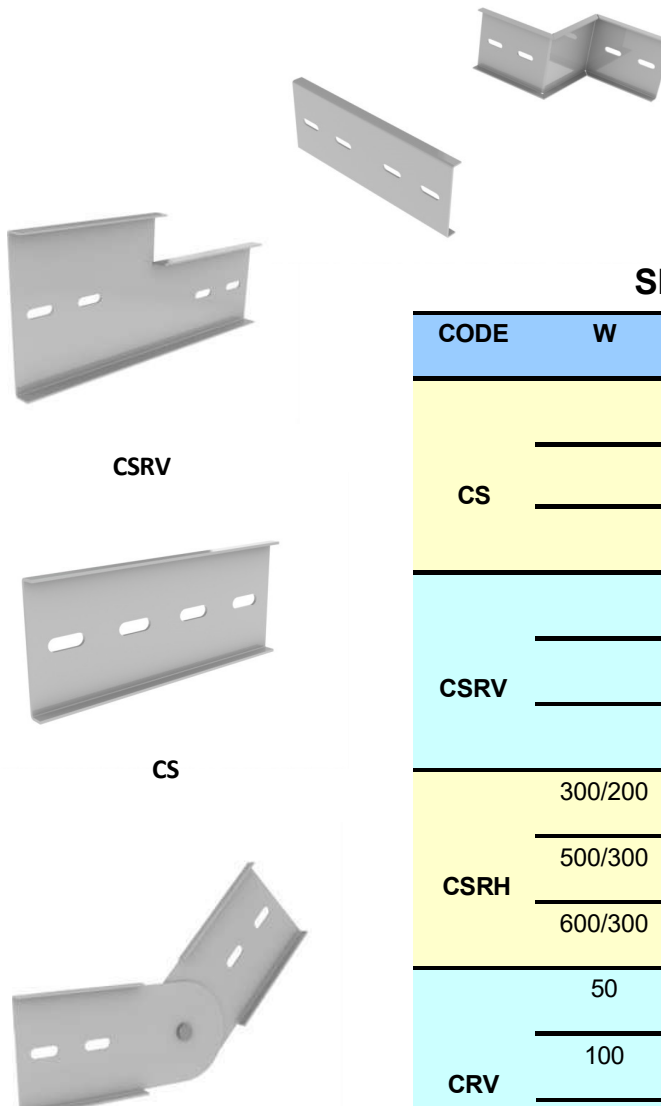
Cable ladder, Cable tray & Accessories

Connector

- **Material:** Black Steel , Stainless Steell, ZAM steel, GI sheet
- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2.5mm; 3mm
- **Finished:**
 - + Electric Static Powder coating: Standard: ASTM-D3359-93, ASTM-D3363-92A,ASTM-D4138-94
 - + Galvanized Hot Deep zinz Standard: ASTM-A123
- **Color:** RAL 7032 as Standard, other color depend on customer
- **Standard:** IEC-61537, QCVN16:2023/BXD, TCVN 10688:2015

COLOR CODE

	Gray - G
	Orange - O
	Blue - B
	Other - OT



CSRH

SPECIFICATION

CODE	W	H	L	COLOR
CS		50	200	G,O,B,OT
		100	200	G,O,B,OT
		150	200	G,O,B,OT
CSRV		100/50	200	G,O,B,OT
		150/100	200	G,O,B,OT
		200/100	200	G,O,B,OT
CSRH	300/200	100	220	G,O,B,OT
	500/300	100	220	G,O,B,OT
	600/300	100	220	G,O,B,OT
CRV	50	200	400	G,O,B,OT
	100	200	400	G,O,B,OT
	150	200	400	G,O,B,OT

CSRV

CS

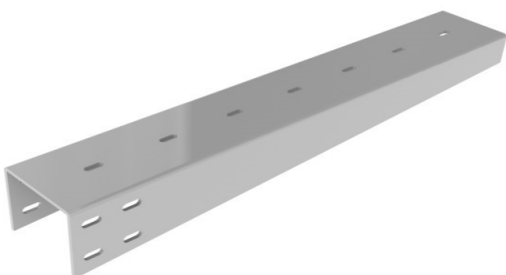
CRV

Cable ladder, Cable tray & Accessories

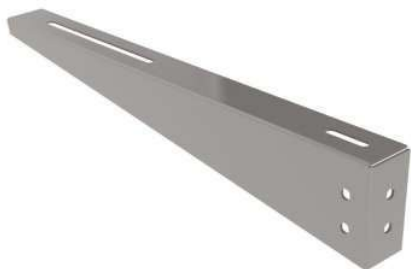
- **Material:** Black Steel , Stainless Steell, ZAM steel, GI sheet
- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2.5mm; 3mm
- **Finished:**
 - + Electric Static Powder coating: Standard: ASTM-D3359-93, ASTM-D3363-92A,ASTM-D4138-94
 - + Galvanized Hot Deep zinz Standard: ASTM-A123
- **Color:** RAL 7032 as Standard, other color depend on customer
- **Standard:** IEC-61537, QCVN16:2023/BXD, TCVN 10688:2015

COLOR CODE

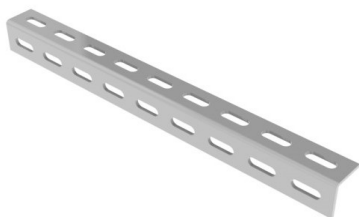
-  Gray - G
-  Orange - O
-  Blue - B
-  Other - OT



BA01



BA02



BA03

SPECIFICATION

CODE	H1	H2	L	COLOR
BA 01	100	50	300	G,O,B,OT
	150	100	500	G,O,B,OT
	150	100	700	G,O,B,OT
BA 02	100	20	300	G,O,B,OT
	200	25	500	G,O,B,OT
	250	25	700	G,O,B,OT
BA 023		30	200	G,O,B,OT
		40	300	G,O,B,OT
		50	500	G,O,B,OT

Cable ladder, Cable tray & Accessories

Clamp/Hanger

- **Material:** Black Steel , Stainless Steel, ZAM steel, GI sheet
- **Material Thickness:** 0,8mm; 1,0mm; 1,2mm; 1,5mm; 2,0mm; 2,5mm; 3mm
- **Finished:**
 - + Electric Static Powder coating: Standard: ASTM-D3359-93, ASTM-D3363-92A,ASTM-D4138-94
 - + Galvanized Hot Deep zinz Standard: ASTM-A123
- **Color:** RAL 7032 as Standard, other color depend on customer
- **Standard:** IEC-61537

COLOR CODE

-  Gray - G
-  Orange - O
-  Blue - B
-  Other - OT



CLP



CCL



HG

SPECIFICATION

CODE	W	H	COLOR
CLP	100	50	G,O,B,OT
	300	100	G,O,B,OT
	600	100	G,O,B,OT
CCL	100	50	G,O,B,OT
	300	100	G,O,B,OT
	600	100	G,O,B,OT

SPECIFICATION

CODE	W	H	COLOR
HG	50	50	G,O,B,OT
	100	100	G,O,B,OT
	200	100	G,O,B,OT

INDUSTRIAL CONTROL PANEL



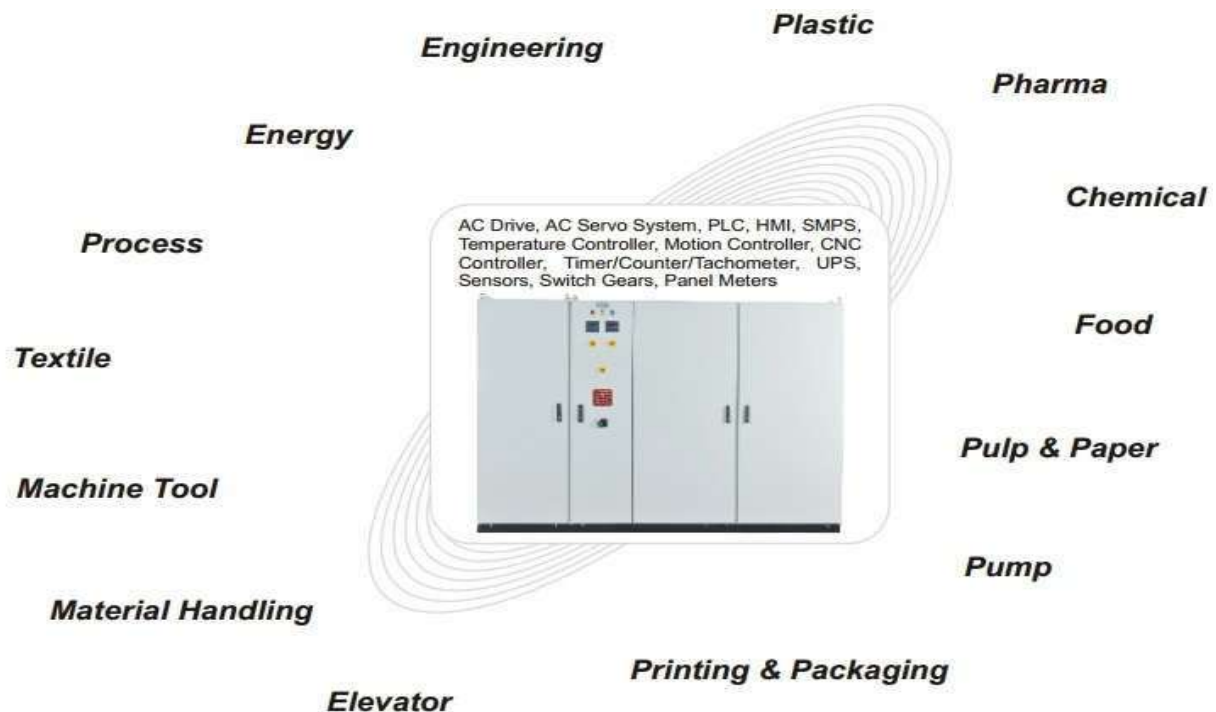
Overview

Prodetech is committed to Design & Manufacture quality control panels integrated with electrical, electronics & automation components and engineering excellence to cater complete industrial solution

Prodetech has an experienced design team with latest design software & tools, In-house testing facilities for checking quality & functionality of Control Panels. Our



- Design & Built as per customer requirement
- Automation control panel with system integration of PLC, HMI, VFD, AC Servo
- Instrumentation panel
- Starter panels DOL/ST AR-DEL T A/A TS
- Automation Panel for Pressure Boosting Application
- Power distribution panel, PCC, MCC, APFC
- Bus Duct panel
- Feeder panel



Industrial control panel

PRODUCTION PROCESS FLOW



STORES



FITTING ASSEMBLY



M/C CUT OUT



CABLE ASSEMBLY



FINISH GOODS



TESTING



WIRING ASSEMBLY



FERRULING

PRODUCT RANGE

- HT & LT Switchboard
- Power Control Center
- Motor Control Center
- Distribution Board
- Automatic Control Panel
- Generator Panel
- Electronic Panel
- PLC Panel
- Relay & Control Panel
- Control Desk
- Capacitor Panel
- AC & DC Driver

HVAC systems



C1



C2



C3



C4



C5



C6



C7



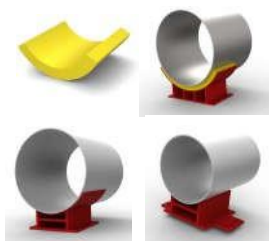
C8



C9



C10



C11



C12

C1 RECTANGULAR DUCT

C2 SPIRAL DUCTS SYSTEM

C3 AIR DAMPERS

C4 SILENCER

C5 COPPER TUBES

C6 AIR DISTRIBUTION DEVICES

C7 VENT CAP

C8 FILTER

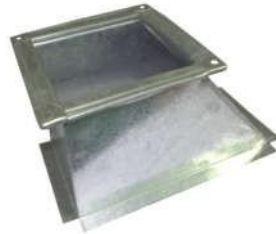
C9 FLEXIBLE DUCT & CANVAS

C10 FABRIC DUCT

C11 STEEL SHOE & URETHAN & PIR

C12 VIBRATION

RECTANGULAR DUCT



Straight duct

Application:

- Use for ventilation system

Material:

- Galvanized steel
- Stainless Steel - SUS

Thickness:

- 0.48 mm - 1.15 mm



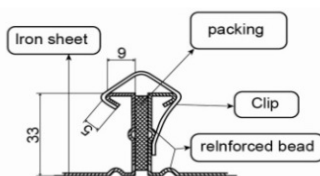
SD

Thickness of Steel sheet follow duct's dimension

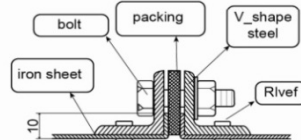
(Follow smacna standard 3rd Edition-2005, Fig 2-1 and TCVV 232:1999)

Thickness	0.48	0.58	0.75	0.95	1.15,
V < 15m/s	≤ 450	451-750	751-1500	1501-2200	> 2200
V > 15m/s			751-1200	1201-2200	> 2200

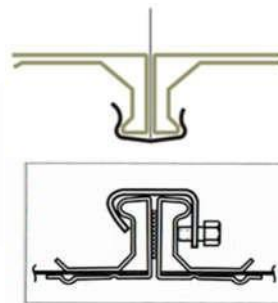
Type of connection for rectangular duct



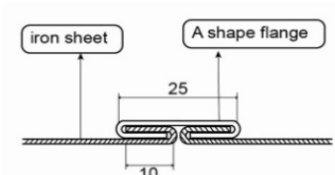
TDC FLANGE



ANGLE FLANGE



TDF FLANGE



DRIVER SLIP

Type of connection	Application	
	Pressure (Pa)	Max Dimension (mm)
Driver slip	≤ 1000	≤ 600
TDC	≤ 2000	+ ≤ 1600 (low pressure)
		+ ≤ 1250 (medium pressure)
Angle flange + TDF	≤ 2500	+ > 1500 (low pressure)
		+ > 1000 (medium pressure)

Rectangular duct

Standard duct length of Prodotech

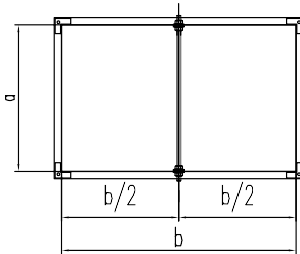
The standard duct length is the full length of the corresponding sheet metal for each type of cross joint.

No	Cross stitch	Length duct [mm]	Tolerance [mm]	Remark
1	TDC connection	1,110	+(-)5	For the 1200mm wide steel sheet
2	C connection	1,180	+(-)5	For the 1200mm wide steel sheet
3	TDF connection	1,200	+(-)5	For the 1200mm wide steel sheet
4	V connection	1,180	+(-)5	For the 1200mm wide steel sheet

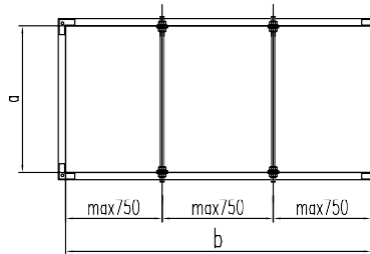
REINFORCEMENT FOR DUCT (AC, VENT, SMOKE EXHAUST)

1. Detail section reinforcement requirement of duct

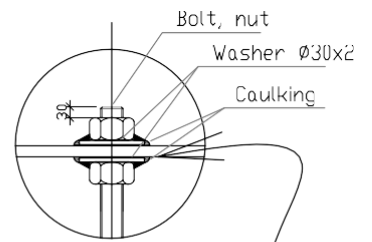
Type 1: $750 < a < 900$
 $750 < b < 1500$



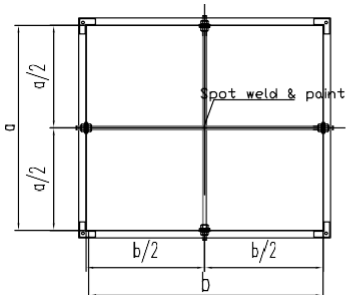
Type 2: $750 < a < 900$
 $1500 \leq b \leq 2250$



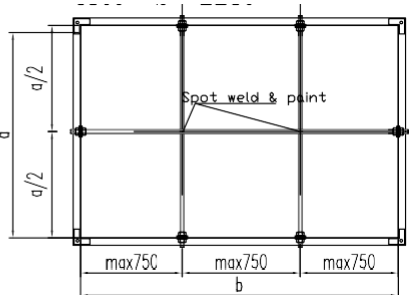
Type 5: $1500 \leq a$
 $b \leq 2250$



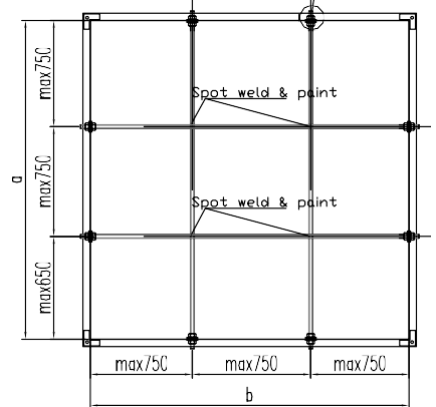
Type 3: $750 < a$ and
 $b < 1500$



Type 4: $750 < a < 1500$
 $1500 \leq b \leq 2250$



$1500 \leq a$ and $b \leq 2250$

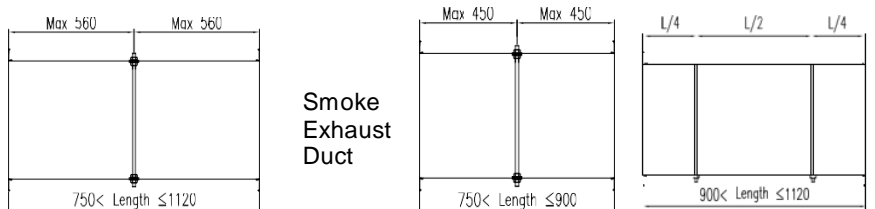


Duct size (a x b)	Number of reinforcement point	
	Vertical (a)	Horizontal (b)
$750 < a \& b < 1500$	1	1
$750 < a < 1500$ $1500 \leq b \leq 2250$	2	1
$1500 \leq a \& b \leq 2250$	2	2
$a \& b > 2250$	3	3

3. Size of tie rod requirement

Length of tie rod (mm)	Diameter (mm)
2200 and below	M10
2201 and above	M12

2. Length view reinforcement requirement



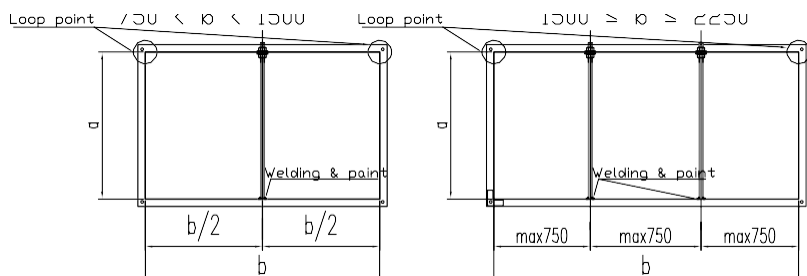
AC Duct
Ventilation Duct

Smoke
Exhaust
Duct

REINFORCEMENT FOR DUCT (KITCHEN EXHAUST)

Type 1: $750 < a < 900$
 $750 < b < 1500$

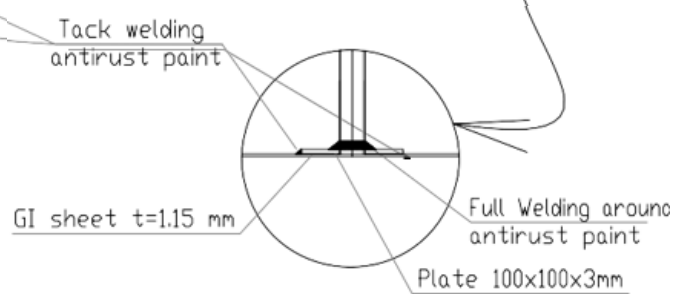
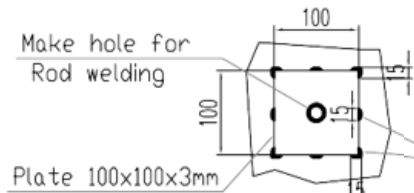
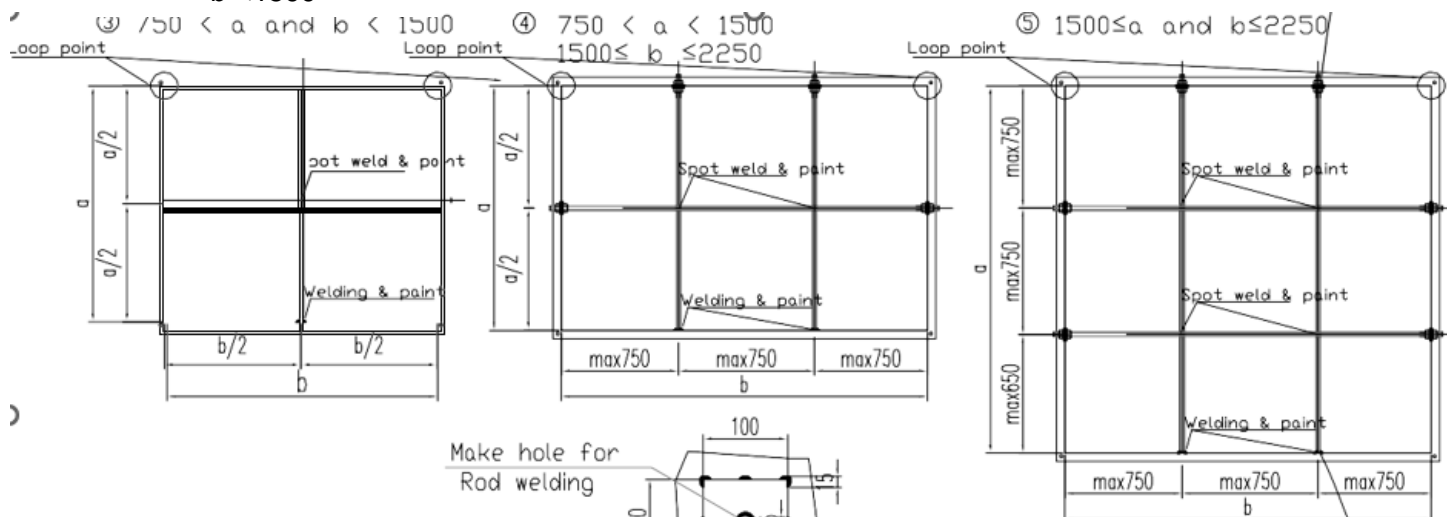
Type 2: $750 < a < 900$
 $1500 \leq b \leq 2250$



Type 3: $750 < a$ and
 $b < 1500$

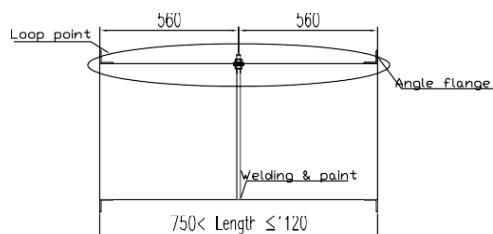
Type 4: $750 < a < 1500$
 $1500 \leq b \leq 2250$

Type 5: $1500 \leq a$
 $b \leq 2250$



Duct size (axb)	Number of reinforcement point	
	Vertical (a)	Horizontal(b)
$750 < a \& b < 1500$	1	1
$750 < a < 1500$ $1500 \leq b \leq 2250$	2	1
$1500 \leq a \& b \leq 2250$	2	2
$a \& b > 2250$	3	3

2. Length view reinforcement requirement



3. Size of tie rod requirement

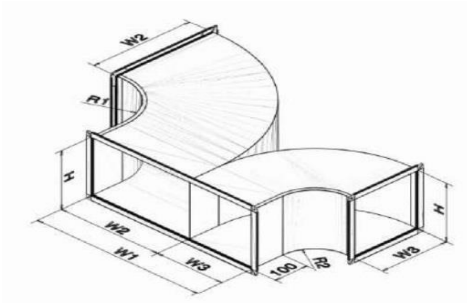
Length of tie rod (mm)	Diameter(mm)
2200 and below	M10
2201 and above	M12

Rectangular duct

Y_ shape duct

Application:

It's used when we want to divide the main duct to two smaller branches with different

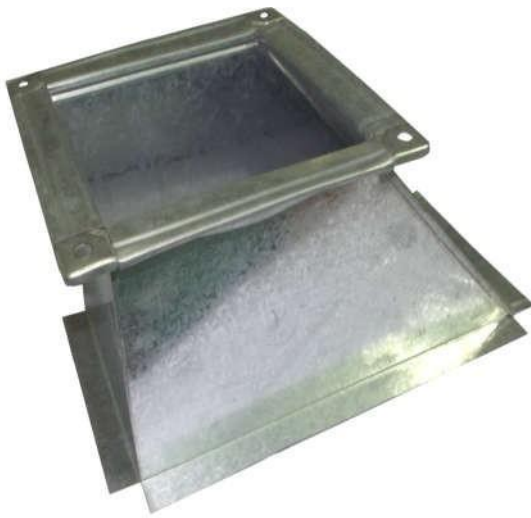


DT

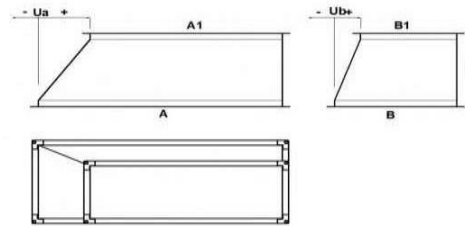
Parallel flow branch

Application:

It's used when we want to make a left or right branch of main duct



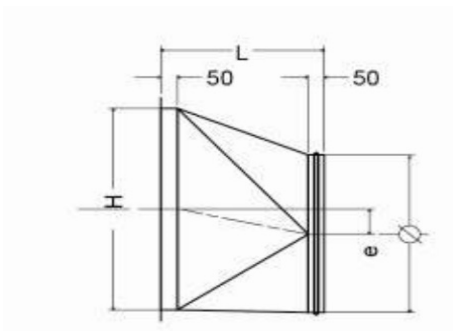
DFB



Converse

Application:

It's used when we want to change the shape of the duct from rectangular to round and opposite. Especially, when we want to connect

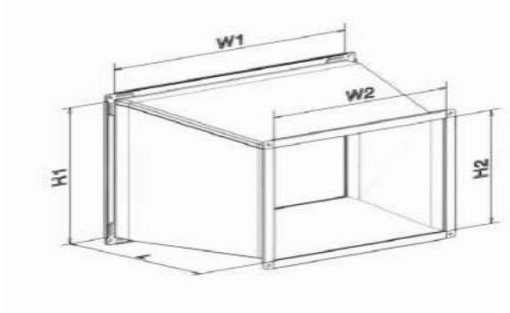


DC

Rectangular reducer

Application:

It's used at places where we have to adjust the dimension of duct without



DR

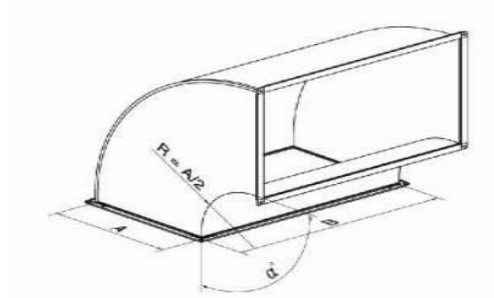
90° Rectangular elbow

Application:

It's used to change the direction of duct with a suitable angle



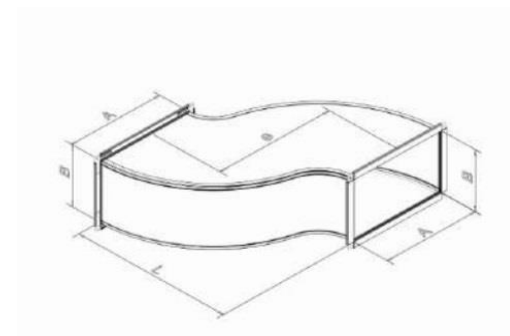
DE90



Offset (z shape duct)

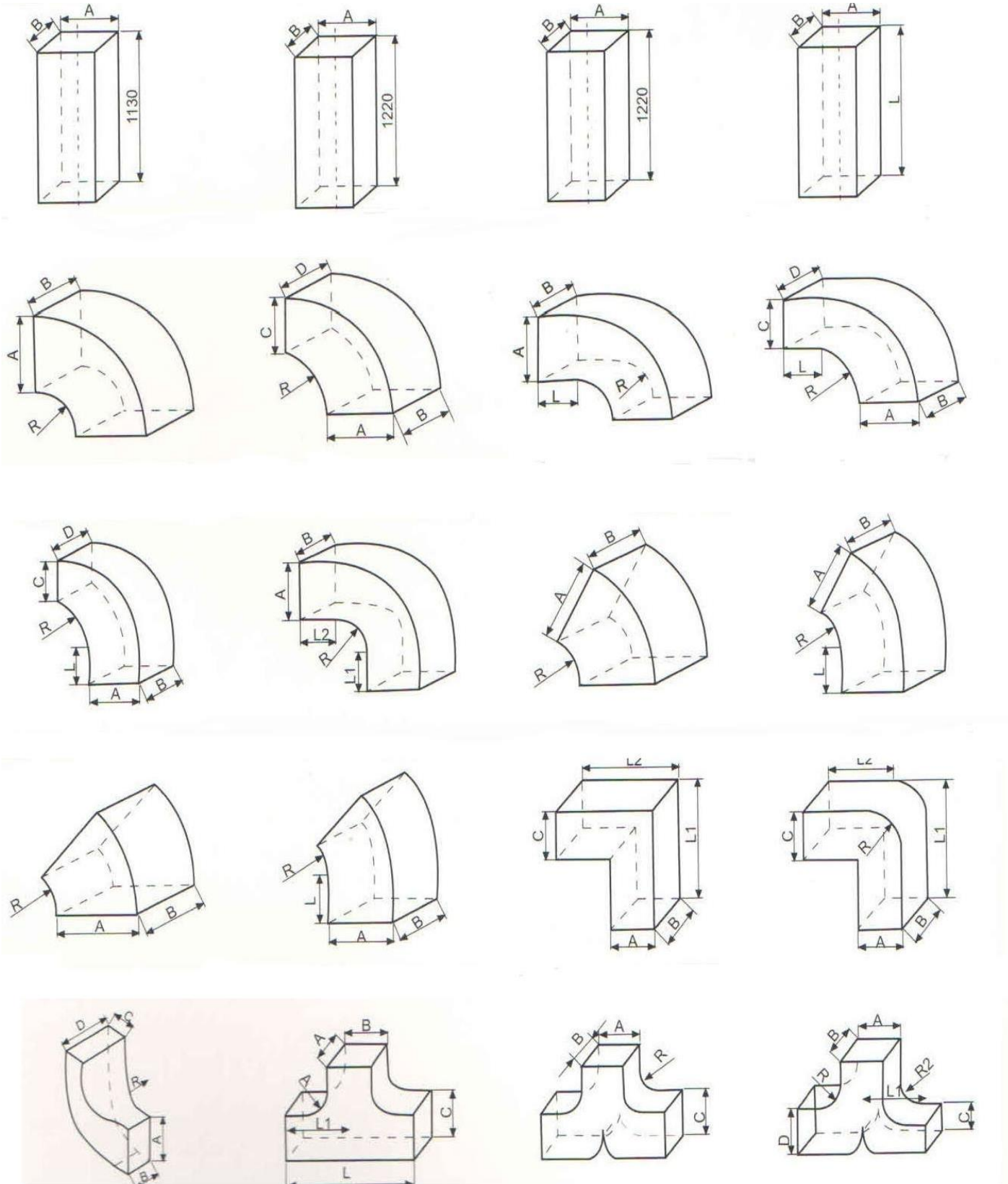
Application:

It's used to avoid barriers on the way of duct

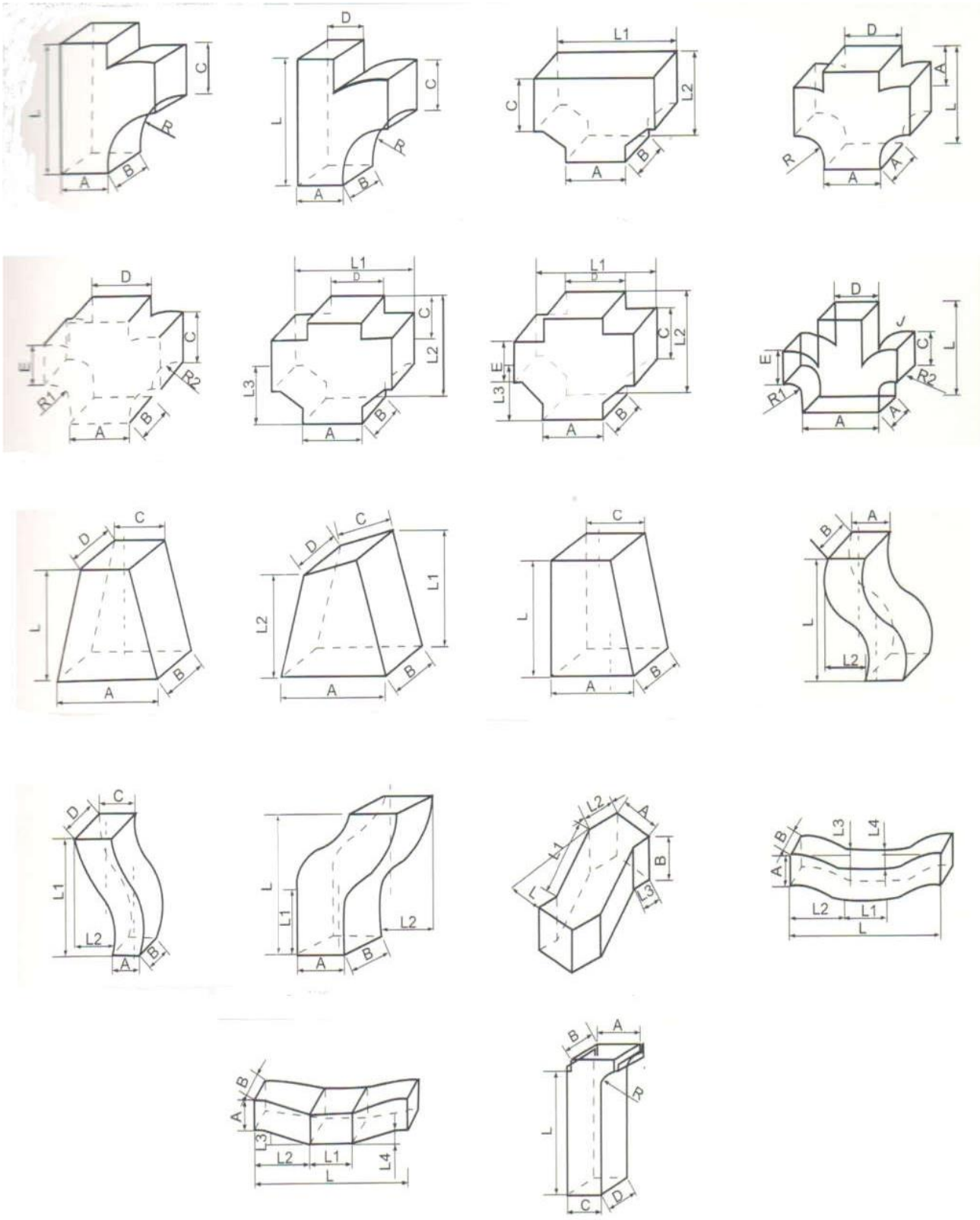


DZ

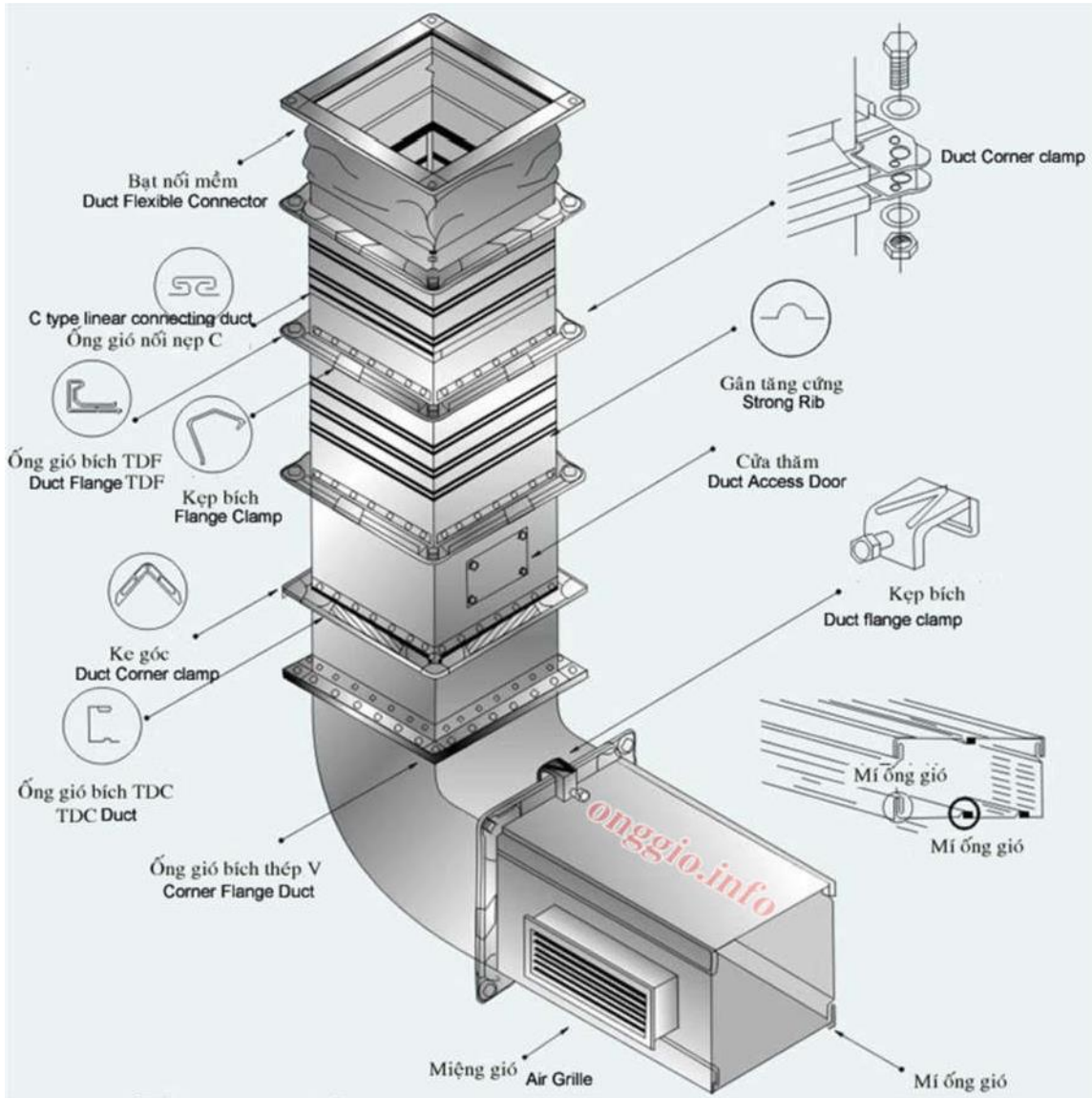
Products



Products

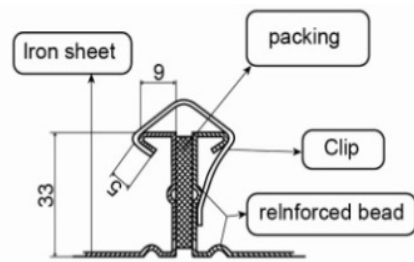
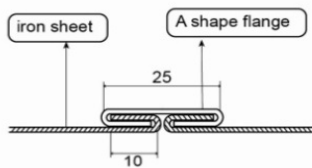


Rectangular duct



With rectangle duct has got small dimension
 $W, H \leq 450\text{mm}$ then when install duct normally
 using joint C driver clip :

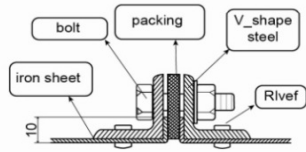
- TDC flanges is the most common flange using



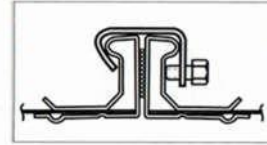
Rectangular duct

- The wind pipe connected by V flange, TDF flange is created separately and fired into the wind pipe by means of nails, or soldered to the wind pipe and using bolts and flanged clamps to connect the pipe together.

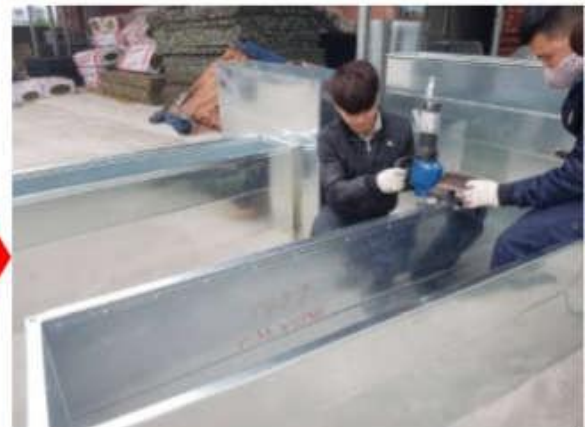
Connecting with flange V angle bar:



Connect with TDF Flanges (the new method is faster and more cheaper than the V flange angle bar)



Picture install TDF flange duct





SPIRAL DUCT SYSTEM

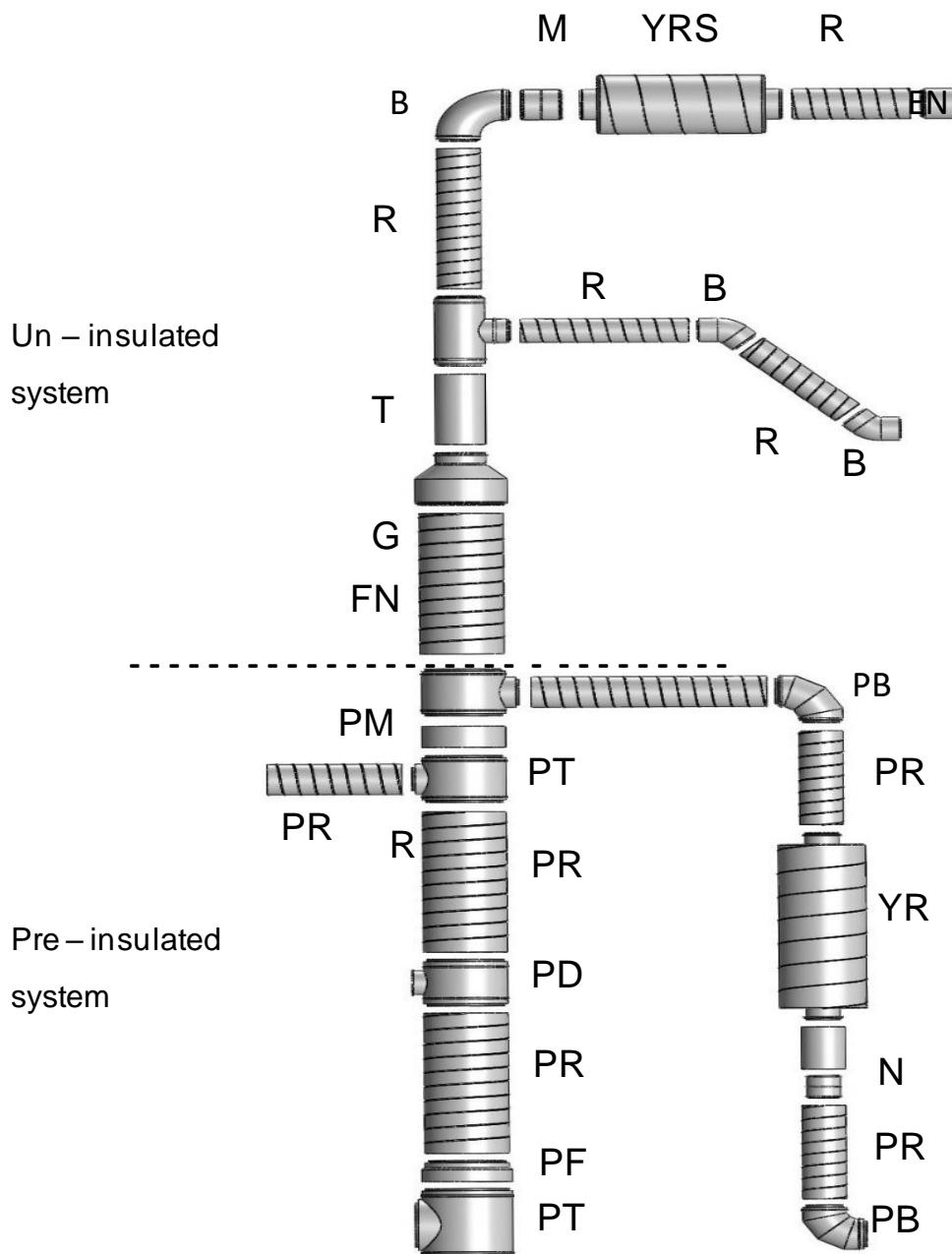


General Information

Spiral Duct Information

Prodetech Spiral Duct System includes spiral ducts & fittings which are connected by plug – in or flange system. The fittings are produced by stamping, seam – welding or manual process.

Sample system



Spiral Duct System

Insulation material

32 kg/m³ density & non – combustibile glass wool is use in our ducts & fittings. Regularly, 15mm thickness insulation for diameter 80 ~ 300mm, 17.5mm thickness insulation for diameter 315mm, 25mm thickness insulation for diameter 400 ~ 950mm, 50mm thickness insulation for diameter above 1000mm. And other thickness can be customized.

The fiberglass wool is certificated by GL, and has DNV & ABS certification

Rock wool is available on request.

Certificate of glass wool



Oval duct & fittings

Oval duct system it a quick assembled system with elliptical cross section

Feature of oval duct is that it occupies small space. And especially, it is suitable for occasions where installation height is strictly limited.

Gasket is available

Pressure Drop Charts

Basic calculation data of spiral ducts & fittings based on European Standard. The rated nominal air flow resistance (P_{nom}) should be corrected with regard to leakage and fans connection:

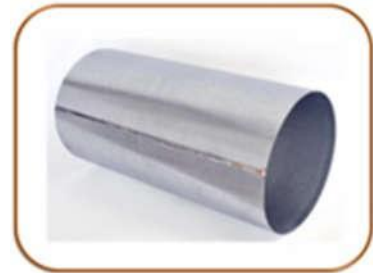
$$\sum \Delta p_{pt} = \Delta p_{nom} + \Delta p_{leakage} + \Delta p_{fan}.$$

The air flow resistances are charted directly in Pa.

The data refers to the Total Pressure Drop Data, and the energy loss caused by air flow resistances can be measured directly. (Pa = 1J/m)

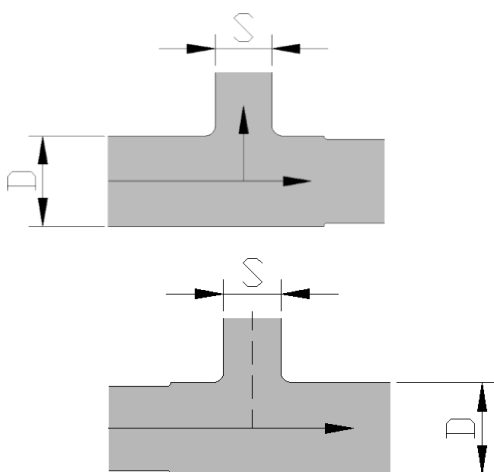
The change of Pressure Drop can be read from below chart.

The different pressure drop data from 1st to Nth branches can be read from chart.



Pressure Drop Charts

Take-offs/T- pieces

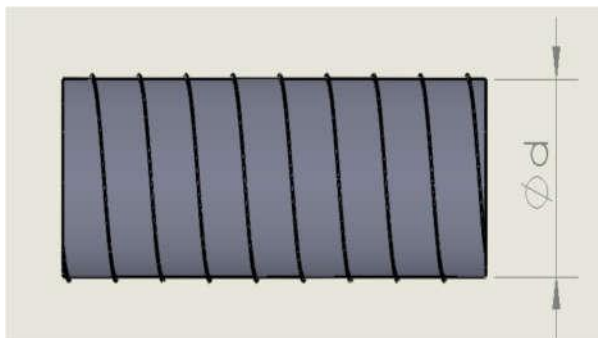


Flowing charts indicate the Air Flow Resistance in Cross—section when $S < 3 \times D$

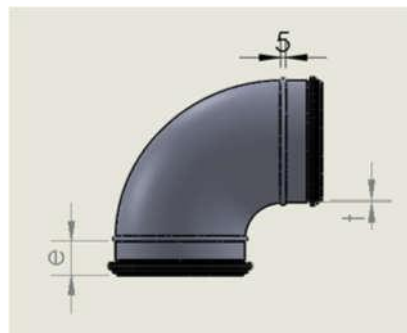
Spiral Duct System

Tolerances and Specifications

For Ducts



For Fittings



All size in mm

Angles in degree

Weights (W) in kg

D, d..... mm

α angle

L..... installation length

R..... center distance

e..... insertion length

t..... thickness

I.D..... inside diameter

O.D..... outside diameter

Spiral Duct System

d	Min - Max	t
100	100.0 – 100.5	0.48
125	125.0 – 125.5	0.48
150	150.0 – 150.6	0.48
200	200.0 – 200.7	0.48
250	250.0 -250.8	0.48
300	300.0 – 300.9	0.48
350	350.0 – 350.9	0.58
400	400.0 – 400.9	0.58
450	450.0 – 451.1	0.58
500	500.0 – 501.1	0.75
550	550.0 – 551.2	0.75
600	600.0 -601.2	0.75
650	650.0 – 651.4	0.75
700	700.0 – 701.6	0.75
800	800.0 – 801.6	0.95
900	900.0 – 902.0	0.95
1000	1000.0 - 1002.0	0.95
1100	1100.0 – 1102.5	0.95
1200	1200.0 – 1202.5	0.95
1300	1300.0 -1302.6	0.95
1400	1400.0 -1402.8	0.95
1500	1500.0 – 1502.9	0.95

d	Min - Max	t
100	98.8 – 99.3	0.48
125	123.8 – 124.3	0.48
150	148.7 - 149.3	0.48
200	198.6 – 199.3	0.48
250	248.5 – 249.3	0.48
300	298.4 – 299.3	0.48
350	348.3 – 349.3	0.58
400	398.3 – 399.3	0.58
450	448.2 – 449.3	0.58
500	498.2 – 499.3	0.75
550	548.1 – 549.3	0.75
600	598.1 – 599.3	0.75
650	648.1 – 649.3	0.75
700	698.0 – 699.3	0.75
800	798.0 – 798.3	0.95
900	897.9 – 899.3	0.95
1000	997.9 – 999.3	0.95
1100	1097.8 – 1099.3	0.95
1200	1197.8 – 1199.8	0.95
1300	1297.7 – 1299.2	0.95
1400	1397.3 – 1398.8	0.95
1500	1496.9 – 1498.5	0.95

Installation Instruction

Preparatory Work

Warning !

Spiral ducts are made of thin sheet metal, which sometimes have razor – sharp edges.

Please be careful of the cut edges of spiral ducts & fittings

Before installation, please make sure all the

Table 1

Diameter	Dimension of screws	Quantity
80 – 100	4.2	3
125 – 200	4.2	4
225 – 400	4.2	6

Shortening Ducts

Ducts must be cut at right angles to get a proper installation length and carefully deburred.

Assembly of Fittings

- Ensure the ducts & fittings are undamaged , especially for the rubber gaskets
- Push and, turn the fittings into the ducts, rotate the ducts slowly to make the insertion easier

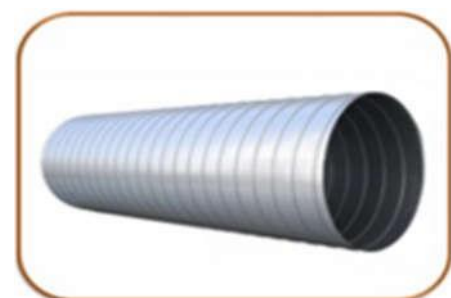
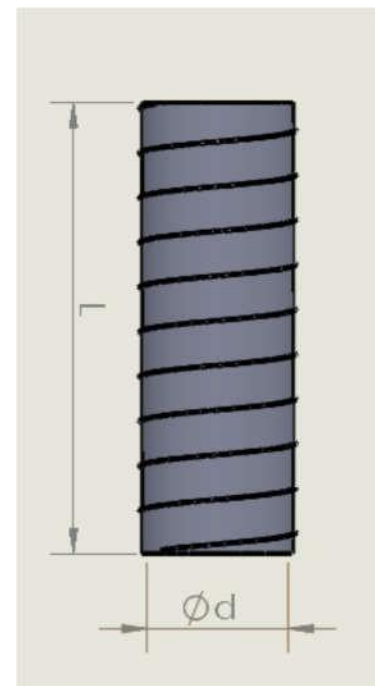
Assembly Instruction of Pre – insulation Series

Put the inner pipe of pre – insulated duct on the centre of connection nipple or slide it on external part of fitting innerpipe. This is easy, as the innerpipe is about 20mm longer than the outer jackets. Then join and fasten the outer jackets with steel screws or rivets. In outdoor assembly the joints in outer jacket must be completely sealed by silicone or others.

Ducts should be shortened at right angles and deburred before assembly. Then the

Un – insulated

d	W (kg/m)					
	t= 0.40	0.48	0.58	0.75	0.98	1.20
100	1.1	1.4	1.7	2.1	2.8	3.4
125	1.4	1.8	2.1	2.6	3.5	4.2
150	1.7	2.1	2.6	3.2	4.2	5.1
200		2.8	3.4	4.3	5.6	6.8
250		3.5	4.3	5.4	7.0	8.4
300		4.3	5.1	6.5	8.5	10.1
350		4.9	6.0	7.6	9.9	11.8
400		5.6	6.9	8.7	11.3	13.5
450		6.3	7.7	9.7	12.8	15.2
500			8.6	10.8	14.2	17.0
550			8.4	11.9	15.6	18.7
600			10.3	13.0	17.0	20.4
650			11.2	14.1	18.4	22.1
800			12.0	15.1	19.8	23.8
900				17.3	22.7	27.2
1000				21.6	28.3	34.0
1100				23.8	31.2	37.4
1200				26.0	34.0	40.8
1300					36.9	44.2
1400					39.7	47.6
1500					42.5	51.0

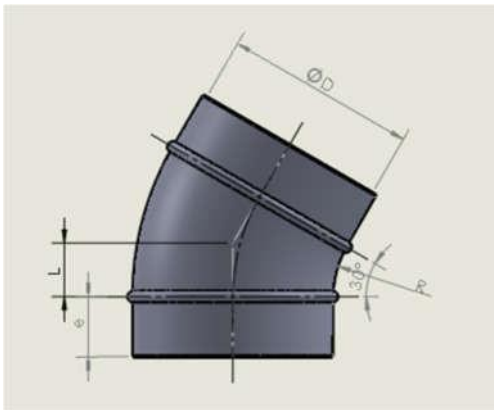
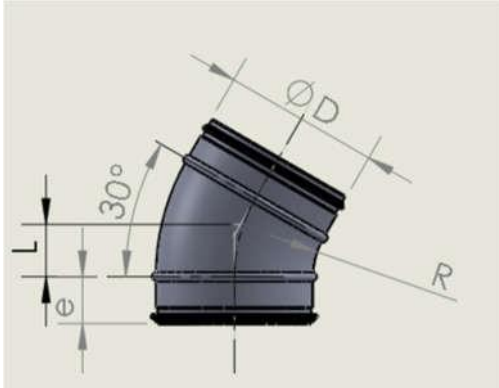


Spiral Duct

Un - insulated duct

Pressed bend

B30, BX30



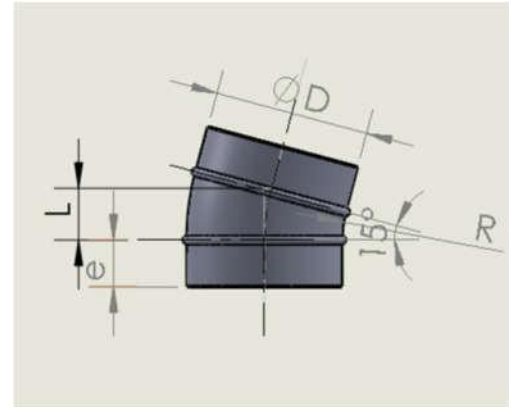
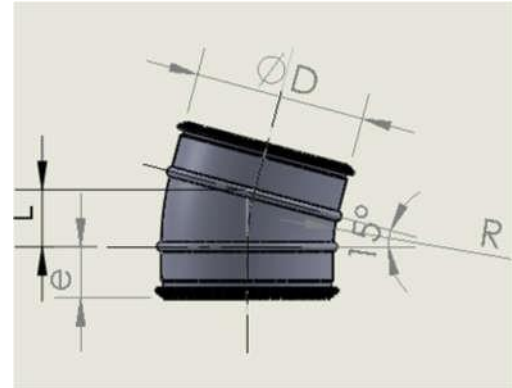
D	R	L	e	W
100	100	41	33.5	0.2
125	125	52	33.5	0.3
150	150	82	33.5	0.4
200	200	83	37.5	0.9

The dimension "e" in the table is for B30, while for BX30, please add 6.5mm hemming length.

Description

- Presses Bends are pressed, seam – welded and then calibrated.
- B30 refers to 30 degree pressed bend with rubber gaskets, while BX90 refers to pressed bend without rubber gaskets.
- Standard C.L.D: $R = D$

B15, BX15



D	R	L	e	W
100	100	41	33.5	0.2
125	125	52	33.5	0.3
150	150	82	33.5	0.4
200	200	83	37.5	0.9

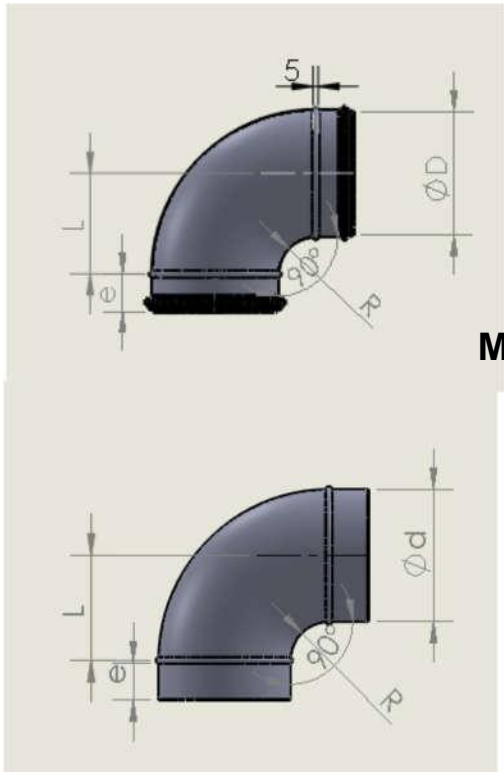
The dimension "e" in the table is for B15, while for BX15, please add 6.5mm hemming length.

Description

- Presses Bends are pressed, seam – welded and then calibrated.
- B30 refers to 15 degree pressed bend with rubber gaskets, while BX15 refers to pressed bend without rubber gaskets.
- Standard C.L.D: $R = D$

Pressed bend

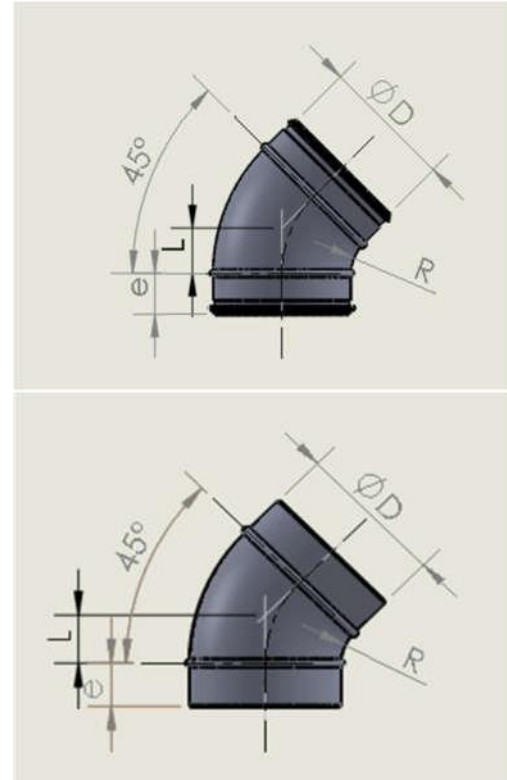
B90, BX90



D	R	L	e	W
100	100	100	33.5	0.4
125	125	125	33.5	0.6
150	150	170	33.5	0.9
200	200	200	37.5	1.5

The dimension "e" in the table is for B90, while for BX90, please add 6.5mm hemming length.

B45, BX45



D	R	L	e	W
100	100	41	33.5	0.2
125	125	52	33.5	0.3
150	150	82	33.5	0.4
200	200	83	37.5	0.9

The dimension "e" in the table is for B45, while for BX45, please add 6.5mm hemming length.

Description

- Presses Bends are pressed, seam – welded and then calibrated.
- B90 refers to 90 degree pressed bend with rubber gaskets, while BX90 refers to pressed bend without rubber gaskets.
- Standard C.L.D: $R = D$

Description

- Presses Bends are pressed, seam – welded and then calibrated.
- B90 refers to 45 degree pressed bend with rubber gaskets, while BX45 refers to pressed bend without rubber gaskets.
- Standard C.L.D: $R = D$

Un - insulated duct

Segmented Bend

BH

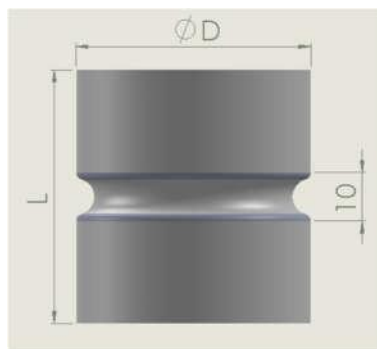
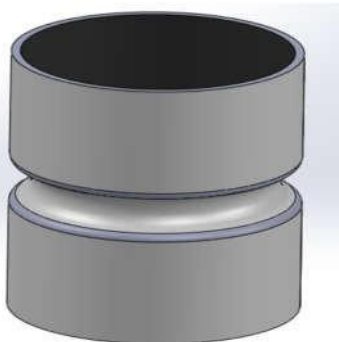


Description

- Segmented bends available angle includes: 15°, 30°, 45°, 60°, 90°
- Standard C.L.D: R = D
- The bends whose diameters are above 400mm (D > 400mm) will use “L” profile EPDM rubber gasket
- If gasket is not needed, please spease specify “X” after item, i.e. BHX90
- The diameter for segmented bend can be as much as 2500mm, and customized size is available on request

D	e	W				
		90°	60°	45°	30°	15°
225	37.5	1.8	1.3	1.1	0.8	0.5
250	37.5	2.0	1.5	1.3	1.0	0.7
300	47.5	2.9	2.1	1.8	1.4	0.9
315	47.5	3.2	2.2	1.9	1.4	0.9
350	47.5	4.6	2.8	2.4	1.8	1.3
355	47.5	4.7	2.9	2.5	1.8	1.3
400	47.5	5.8	3.5	3.0	2.3	1.7
...

Coupling



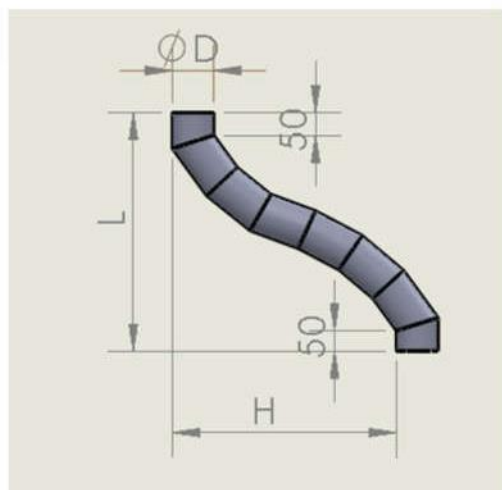
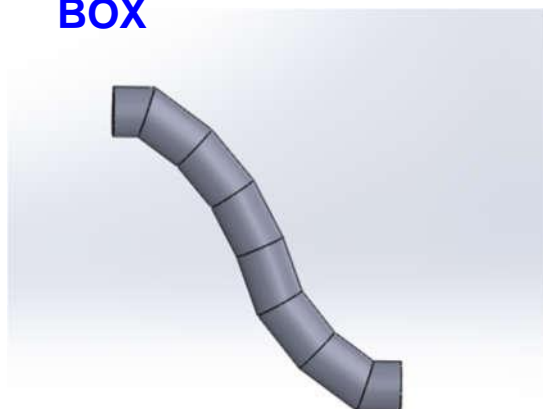
D	L	W
80	90	0.09
100	90	0.11
125	90	0.14
150	90	0.17
160	90	0.18
175	90	0.19
180	90	0.20
200	90	0.22
225	90	0.25
150	135	0.42
280	135	0.47
300	135	0.60
315	135	0.63
350	135	0.70

Description

- Couplings are used for joining duct
- Customized size is available on request

Stype Segmented Bend

BOX

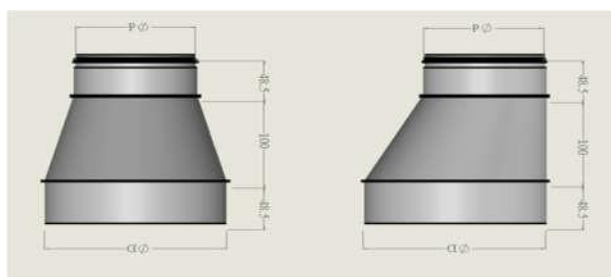


Description

Contrast should not be
oversize, i.e. the ratio $< H/L$
 $L >$ should not be too
much.

Seamed Female Reducer

FS, FSD



Description

- Seamed Female Reducers (item: FS) are centric, while Seamed Female Reducers (item: FSD) are eccentric
- If gasket is not needed, please specify "X" after item, i.e. FSX/ FSDX
- Customized size is available on request

D	d	W
250	100	0.62
	150	0.68
	180	0.72
300	100	0.75
	125	0.78
	150	0.80
	200	0.85
	250	0.91
350	125	1.07
	150	1.09
	200	1.13
	250	1.18
	300	1.23
400	125	1.26
	150	1.28
	250	1.32
	300	1.37
	315	1.38

Un - insulated duct

T - Piece

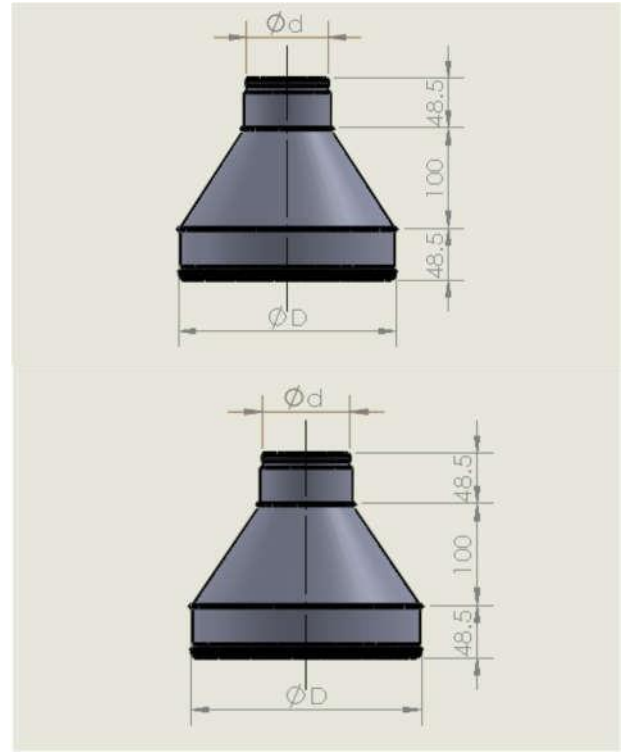
T



FSN



FSDN



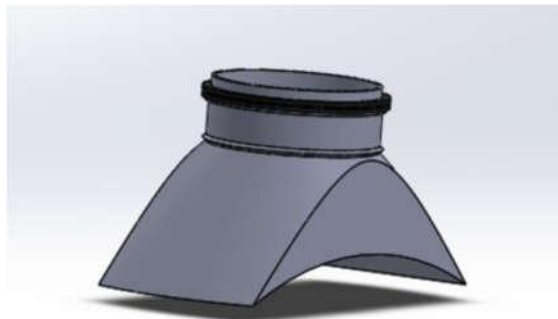
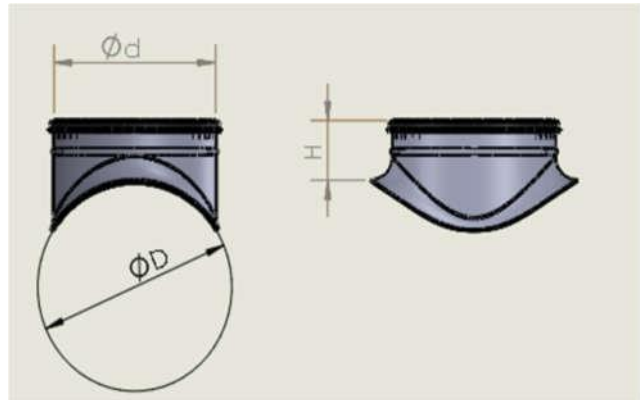
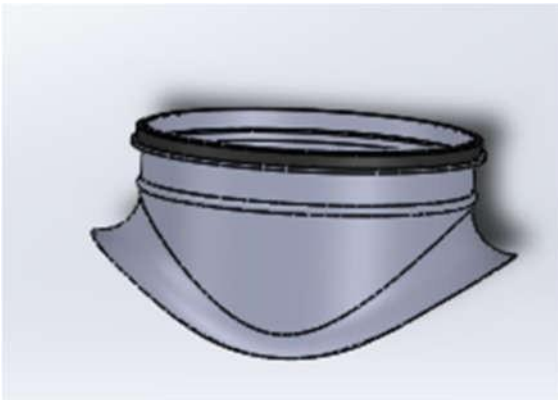
Description

- Seamed Male Reducers (item: FSN) are centric, while Seamed male Reducers (item: FSDN) are eccentric
- If gasket is not needed, please specify "X" after item, i.e. FSNX/ FSDNX
- Customized size is available on

F aaa bbb

D	d	W
150	80	0.38
200	80	0.48
250	100	0.63
	150	0.68
	200	0.85
300	250	0.91
	100	0.77
	150	0.80
	200	0.85
350	250	0.91
	300	1.23
	150	1.09
	200	1.13
400	250	1.18
	300	1.23
	150	1.28
	250	1.32
	300	1.37

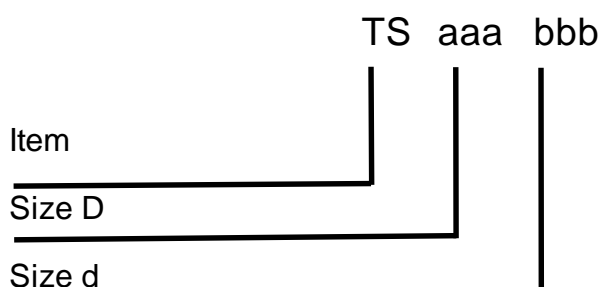
T - Piece



Description

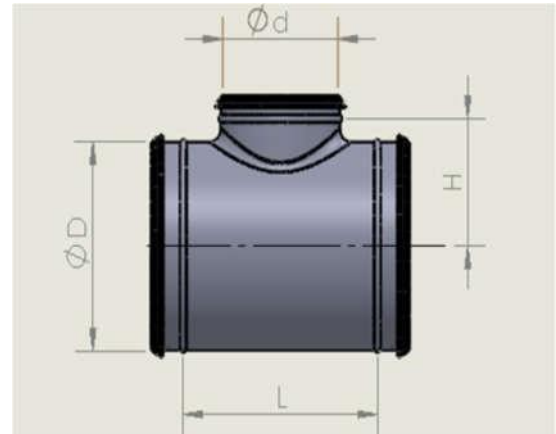
- Collar saddles (item: TS) are stamped with aerodynamic flow radius, while Collar saddles (item: TC) are seamed
- If gasket is not needed, please specify "X" after item, i.e. TSX/

Ordering Example



D	d	H	W
100	100	55.5	0.2
125	100	55.3	0.2
	125	57.0	0.3
160	100	55.5	0.2
	125	57.0	0.2
	160	53.5	0.4
200	100	55.5	0.2
	125	55.5	0.3
	160	57.5	0.3

Un - insulated duct



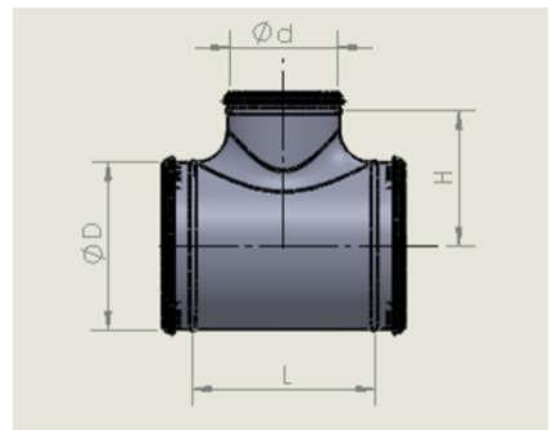
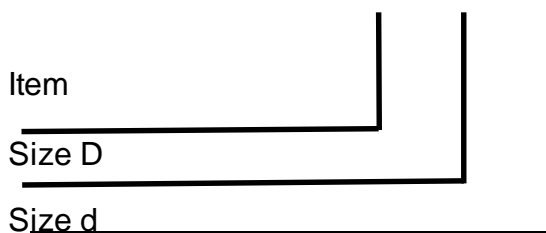
Description

- Pressed T-pieces (item: T) are made up of pressed collar saddles and main, while Pressed T-pieces (item: TP) are made from two pressed parts.
- If gasket is not needed, please specify "X" after item, i.e. TX

D	d	L	H	W
100	100	160	72	0.4
125	100	160	84.5	0.5
	125	185	86.5	0.6
200	100	160	124	0.7
	125	185	122	0.8
	160	220	124	0.9

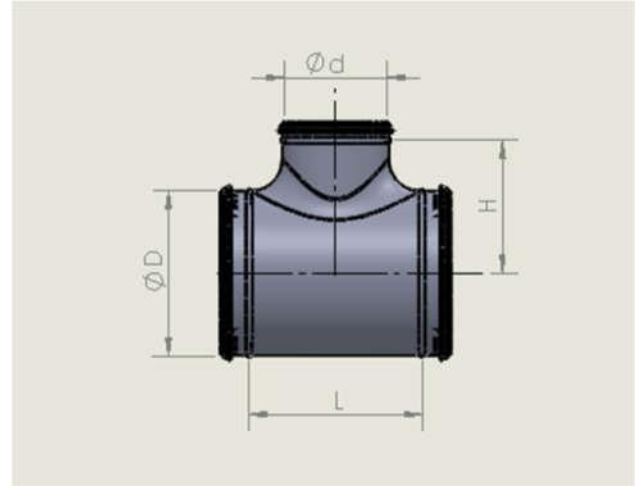
Ordering Example

T aaa bbb



D	d	L	H	W
100	100	168	84	0.4
125	125	193	97	0.6
160	160	228	114	0.8
200	200	268	134	0.9

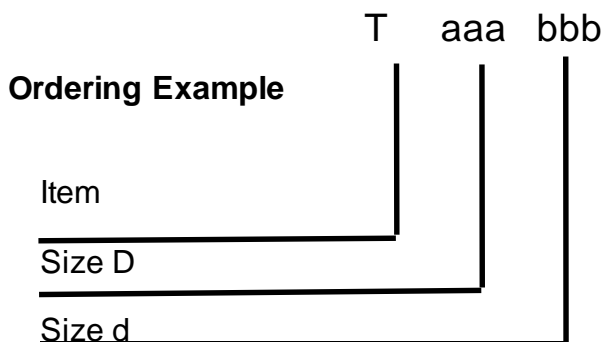
Spiral Duct System



Description

- T-pieces are made up of pressed collar saddles and main
- If gasket is not needed, please specify "X" after item, i.e. TX

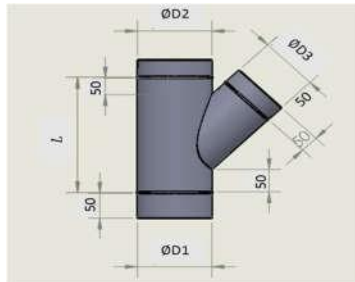
D	d	H	L	W
100	100	65	140	0.4
125	100	78	140	0.4
150	80	90	140	0.5
	100	90	160	0.5
	125	90	185	0.6
	150	90	210	0.6
200	80	115	140	0.6
	(100)	115	210	0.8
	150	115	235	0.9
	175	115	240	1.0
	180	115	260	0.9
	200	115	260	0.9
250	100	140	160	0.9
	125	140	185	1.0
	150	140	210	1.0
	175	140	220	1.1
	175	140	235	1.1
	180	140	240	1.1
	200	140	260	1.2
	225	140	285	1.3
350	200	190	260	1.7
	250	190	310	2.4
	315	190	375	2.6
	400	190	460	3.6



Un - insulated duct

T— Piece

TVX

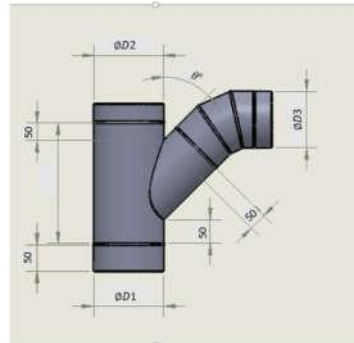


Description

- T-pieces are tilted for item T
- If gasket is not needed, please specify "X" after item, i.e. TV
- Standard degree for is 45° .if any other angles are needed, please specify in advance

T— Piece

TVBX

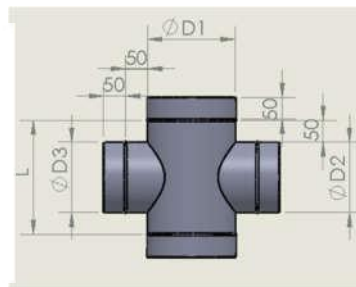


Description

- T-pieces are made up of TVX T- piece and bend
- Standard TVBX is without gasket. If gasket is needed, please delete "X" after item, i.e. TVB

X— cross

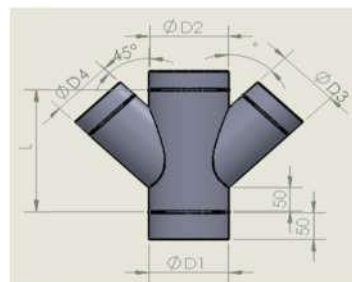
XAX



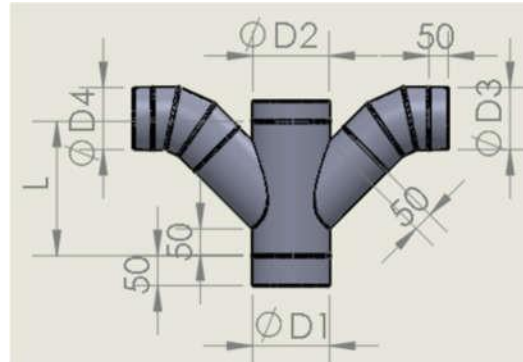
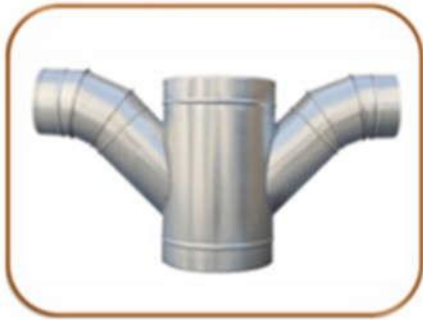
Description

- Standard X – Crosses (item: XAX and item: XVX) are without gaskets. If gasket is needed, please delete "X" after item ,i.e. XA
- Standard degree for is 45° .if any other angles are needed, please specify in advance

XVX



XVBX

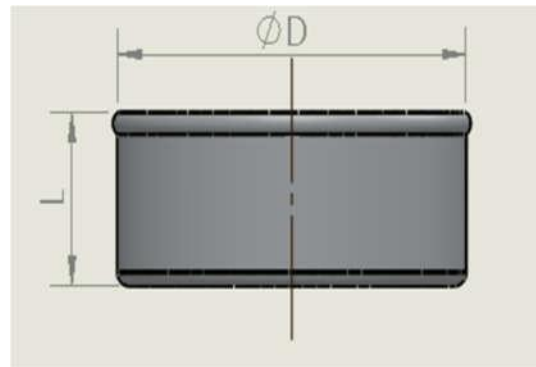


Description

- X – Crosses are made up of XVX X- Cross and bend
- Standard XVBX are without gaskets. If gasket is needed, please delete “X” after item, i.e. XVB

Standard degree for θ° is 45° . If any other angles are needed, please specify in advance

End Cap



End Cap - E

Description

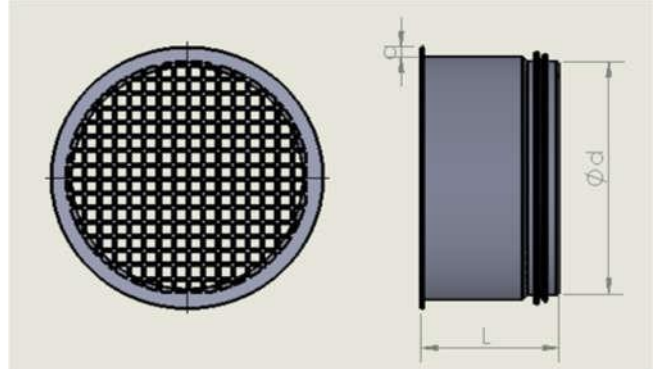
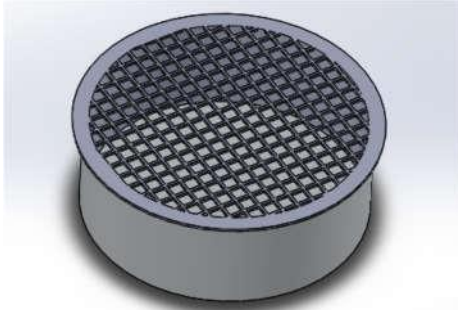
- End Cap are usually used to connect with duct fittings
- Customized size is available on request

D	L	W
100	40	0.08
125	40	0.11
150	40	0.14
200	40	0.20
250	40	0.31
...

Un - insulated duct

End Cap With Net

EM



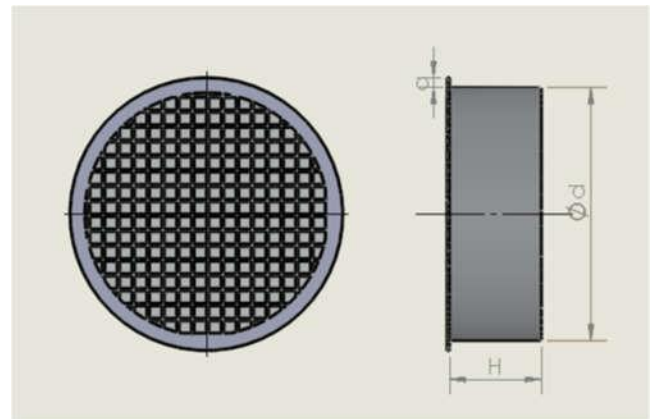
EMN



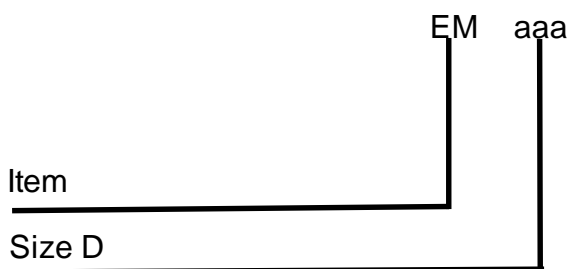
D	d	H	a	W
100	98	55	5	0.10
125	123	55	5	0.28
150	148	55	5	0.34
200	198	55	7	0.56
250	248	55	7	0.90
300	298	55	10	1.12

Description

- End Cap With Net (item: EM) are female, while End Cap with Nets (item: EMN) are male
- The standard size of mesh is 6*6mm, other sizes can be customized

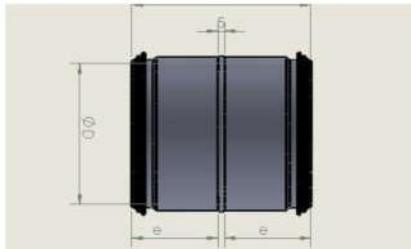


Ordering Example



D	d	H	a	W
100	98	38	5	0.07
125	123	38	5	0.09
150	148	38	5	0.11
200	198	40	7	0.16
250	248	40	7	0.2
300	298	50	10	0.28

Nipple



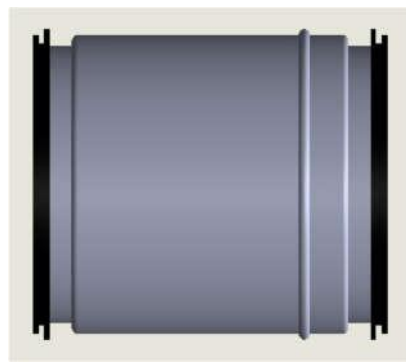
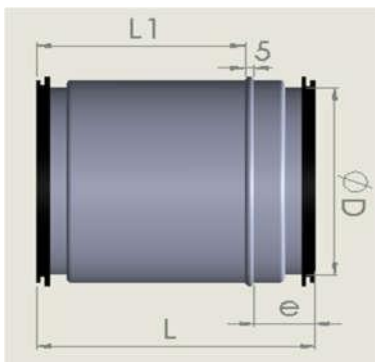
D	L	W
100	72	0.12
125	72	0.15
150	72	0.18
200	80	0.26
250	80	0.32
300	100	0.41
350	100	0.52
400	100	0.61
...

Description

- Nipples are used for joining ducts
- It gasket is not needed, please specify "X" after item, i.e. NX
- Customized size is available on request

Slide-in Nipple

NS



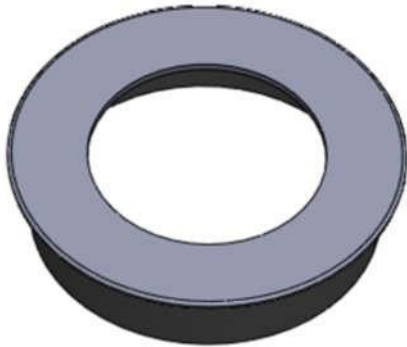
D	L	L ₁	W
100	158	120	0.22
125	158	120	0.28
150	158	120	0.33
200	178	140	0.49
250	178	140	0.62
300	227	175	0.74
400	227	175	2.10

Description

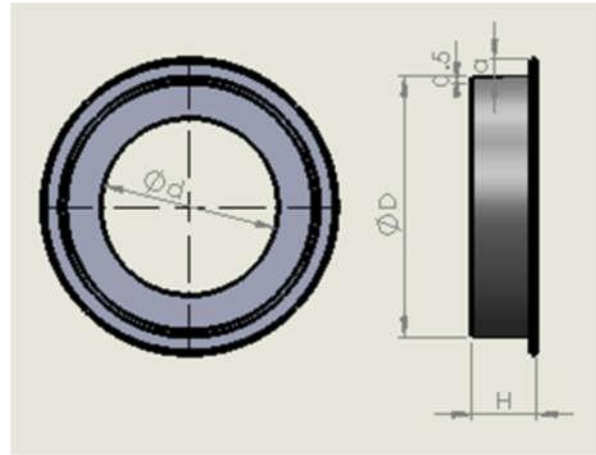
- Nipples are used for joining ducts with adjustable length
- If gasket is not needed, please specify "X" after item, i.e. NSX.
- Customized size is available on request

Pre—insulated duct

End Cap



PRCW



Description

- Pre - insulated End Caps ARE used for interrupting pre-insulated spiral ducts while the ducts need to be connected to un-insulated fittings
- Customized size is available on request

d	D	D	H	a
	15m m	25mm insulation		
100	130	148	25	5
125	155	173	25	5
150	180	198	25	5
200	230	248	25	7
250	280	298	25	7

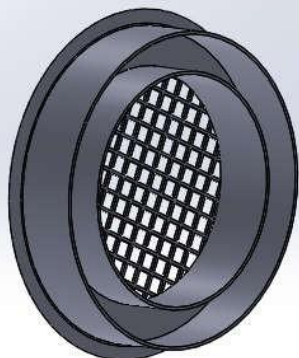
Ordering Example

PRCW aaa

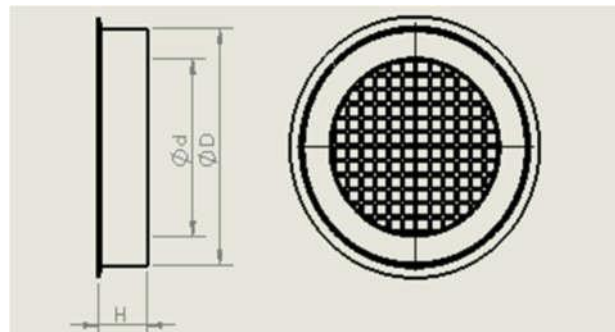
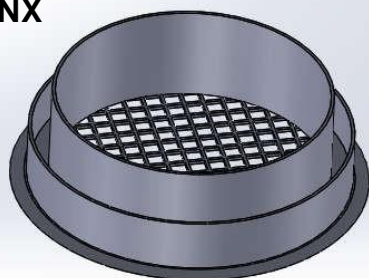
Item _____

End Cover with Net

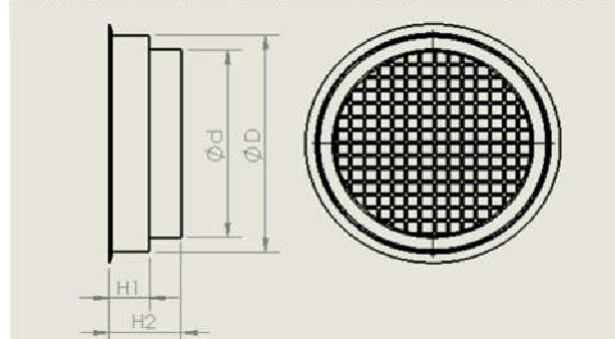
PEMX



PEMNX



d	D 15mm	D 25mm insulation	H
100	132	150	33.5
125	157	175	33.5
150	182	200	33.5
200	232	250	37.5
250	282	300	37.5

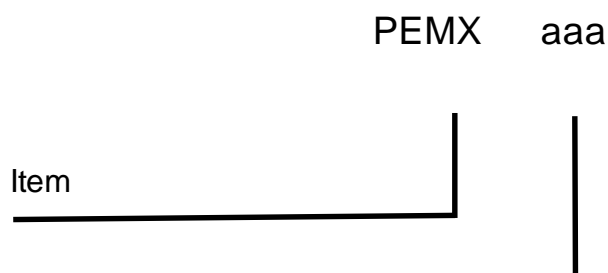


d	D 15mm	D 25mm insulation	H1	H2
100	130	148	25	33
125	155	173	25	33
150	180	198	25	33
200	230	248	25	33
250	280	298	25	33
300	330	348	25	33
350	378	398	25	33
400	438	448	25	33

Description

- Pre-insulated End Covers with Nets (item: PEMX) are fitted into fittings, while pre-insulated End Cover with Nets (item: PWMNX) are fitted into ducts with insertion
- Standard size of mesh is: 6mm x 6mm

Ordering Example





VOLUME CONTROL DAMPER



Volume control damper, fire & smoke damper

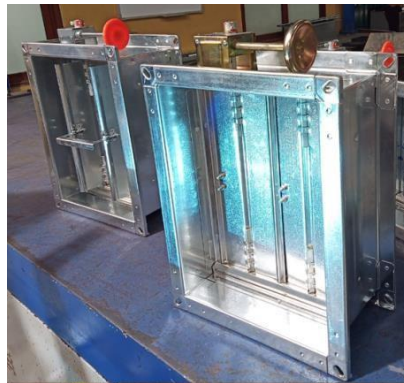
Rectangular Volume Control Damper

Applications

- Used to control the air supply and air return of air-conditioner or ventilation system.
- Manual control devices.

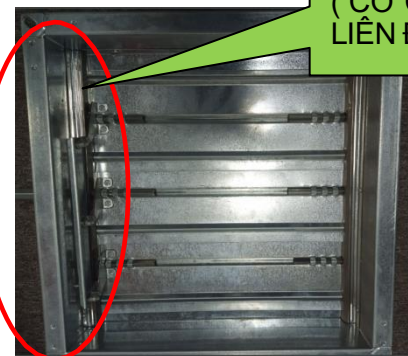
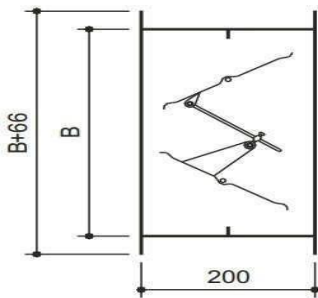
Color materials

- Made by zinc plated corrugate iron or stainless steel
- Used either plastic valve or screw sheel



VDSTG (VAN TAY GẠT)

VDSBV (VAN BÁNH VÍT)



INTERACTIVE STRUCTURE (CƠ CẤU LIÊN ĐỘNG)

Basic size for rectangular volume control damper

Duct size	A x B	Length	No. Propeller	Thickness
200x200	200x200	200	1	0.75; 0.95;1.15
400x400	400x400	200	2	0.75; 0.95;1.15
600x400	600x400	200	2	0.75; 0.95;1.15
1300x500	1300x500	200	3	0.95;1.15
1750x500	1000x600	200	3	0.95;1.15

1 Volume control damper, fire & smoke damper

Rectangular Volume Control Damper

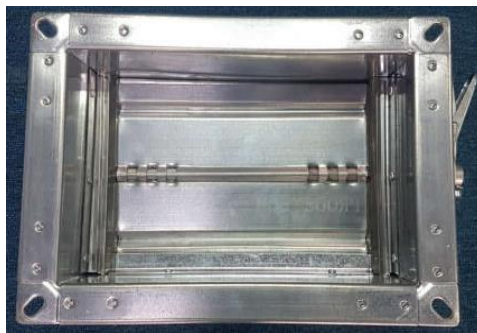
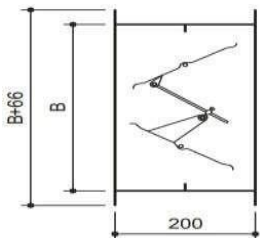
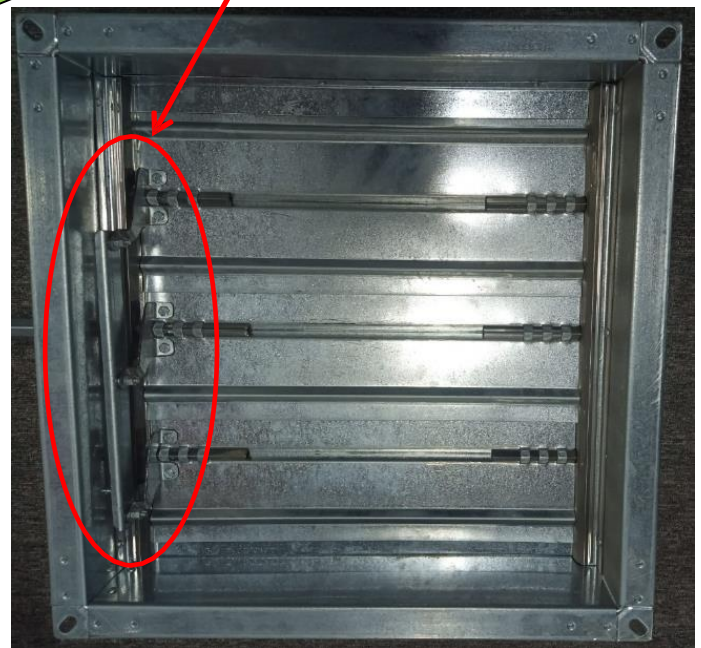
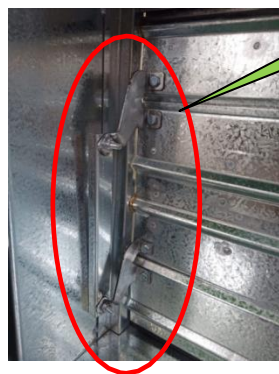
Applications

- Used to control the air supply and air return of air-conditioner or ventilation system.
- Manual control devices.
- Hang locking quadrant with open and close marking and frame is marked to show exact position of damper

Color materials

- Made by zinc plated corrugate iron or stainless steel
- Used either handle valve.
- Easy to control the air supply and return

INTERACTIVE
STRUCTURE
(CƠ CẤU
LIÊN ĐỘNG)



VDSTG (VAN TAY GẠT)

Basic size for rectangular volume control damper

Duct size	A x B	Length	No. Propeller	Thickness
150x200	150x200	200	1	0.75; 0.95;1.15
200x250	200x250	200	2	0.75; 0.95;1.15
300x400	300x400	200	2	0.75; 0.95;1.15
1300x500	1300x500	200	3	0.75; 0.95;1.15
1800x400	1800x400	200	3	0.95;1.15

Volume control damper, fire & smoke damper

Rectangular Fire Volume Control Damper

Applications

- Damper will be closed automatically, when fusible films is fused at 72°C/ 280°C
- Manual close is available
- Manual reset the damper is needed after acting

Color materials

- Made by galvanized steel sheet , stainless steel, ZAM steel
- Used handle valve
- Easy to control the air supply and return



FVDSBV



Handle vau
FVD : Corner
rotate 0->90°



Fuse : 72 or
280 degree C

No	Name of criteria (Using for fuse	Result teting by Quatest 3
	The melting temperature of the fuse ELSIE-B (to load 6kg)	
1	Raise the temperature to 70 degrees C: stability sample in 5 minutes	Sample test not broken
2	Raise the temperature to 72 degrees C: stability sample in 5 minutes	Sample test not broken
3	Raise the temperature to 74 degrees C: stability sample in 5 minutes	Test samples ruptured in 4 minutes

Basic size for rectangular Fireproof & Volume control damper (FVD)

Duct size	A x B	Length	No. Propeller	Thickn
300x200	300x200	200	1	0.75;0.95;1.15
300x250	300x250	200	1	0.75;0.95;1.15
400x350	700x300	200	2	0.75;0.95;1.15
800x500	800x500	200	3	0.75;0.95;1.15

1 Volume control damper, fire & smoke damper

Round Volume Control Damper (Using handle value)

Applications

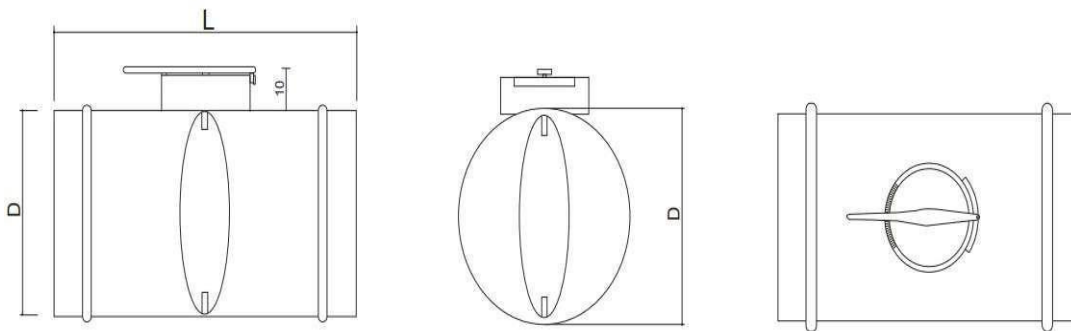
- Damper blade which is fixed to the bearing pin, can be rotated in vertical plane from full open to full close
- Bearing pin is coupled with hand locking quadrant with open and close marking. Hand lock quadrant frame is marked to show exact position of damper.
- Manual/ motorized style is available
- Normally directly attached to the ventilation pipe on the back of the air supporting box.

Color materials

- Made by galvanize, stainless steel, ZAM steel
- Used handle value
- Easy to control the air supply and return



VDRTG



Basic size for round volume control damper

Duct size	Diameter	Length	Thickness
Ø 100	Ø 95	140	0.58
Ø 150	Ø 145	200	0.75
Ø 200	Ø 195	240	0.75
Ø 250	Ø 245	300	0.75
Ø 300	Ø 295	350	0.95

Volume control damper, fire & smoke damper

BLAST GATE DAMPERS

(Van lưu lượng dạng lưới chặn)

- Style : TDC or Slip Flange Connection
- Material : Made by galvanize steel sheet , stainless steel or ZAM steel
- This damper is widely used for controlling airflow within fume, dust and solid powder extraction systems.
- The dampers shown are for manual operation but pneumatically operated versions can also be supplied
- The manually operated damper is easy to operate with the freely moving blade being locked into the open or closed position by means of a simple thumb screw
- This design provides for ease of installation in both new or existing systems and disassembly where cleaning is necessary



BGD

Basic size for Blast Gate Dampers

Duct size	A x B	Length	No. Propeller	Thickn ess
300x200	300x200	200	1	0.75
300x250	300x250	200	1	0.75
400x350	400x350	200	2	0.75
800x500	800x500	200	3	0.95

1 Volume control damper, fire & smoke damper

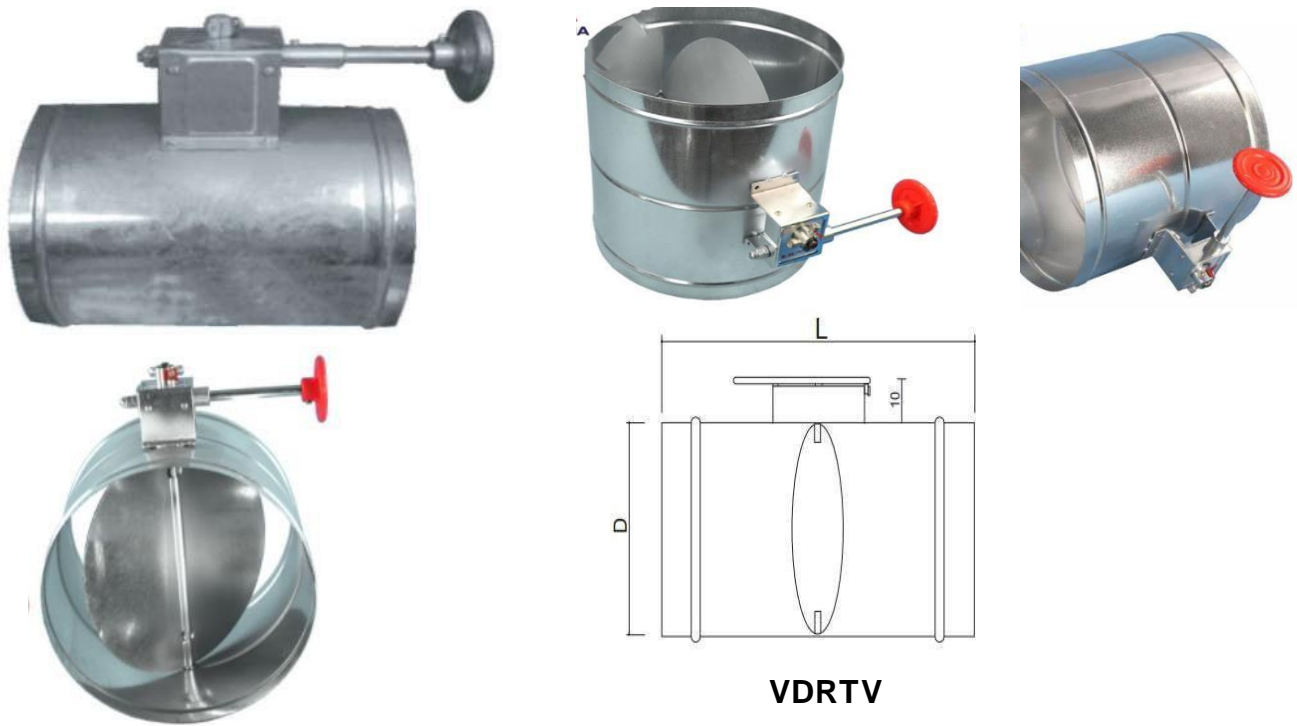
Round Volume Control Damper (Using worm wheel switch)

Applications

- Damper blade which is fixed to the bearing pin, can be rotated in vertical plane from full open to full close
- Unit is fixed with worm wheel switch for manual operation
- Worm wheel switch can lock the blade naturally at any angle
- Manual/ motorized style is available
- Normally directly attached to the ventilation pipe on the back of the air supporting box.

Color materials

- Made by galvanize, stainless steel, ZAM steel
- Used handle value
- Easy to control the air supply and return



Basic size for round volume control damper

Duct size	Diameter	Length	Thickness
Ø 100	Ø 95	140	0.75; 0.95; 1.15
Ø 150	Ø 145	200	0.75; 0.95; 1.15
Ø 200	Ø 195	240	0.75; 0.95; 1.15
Ø 250	Ø 245	300	0.75; 0.95; 1.15
Ø 300	Ø 295	350	0.75; 0.95; 1.15

Volume control damper, fire & smoke damper

Motorize Damper

- For operation of air control dampers in HVAC system
- Torque : 2Nm -> 40 Nm
- Nominal voltage : AC/DC 24V—220V

We are commercial representative, the distribution agent for famous manufacture of motor control valve using in ducting as

- 1) Johnson Control –American
- 2) Belimo – Switzerland
- 3) Nenutec -Switzerland
- 4) Neptronic –Canada



Motorized Actuator : NENUTEC



Motorized Actuator : BELIMO



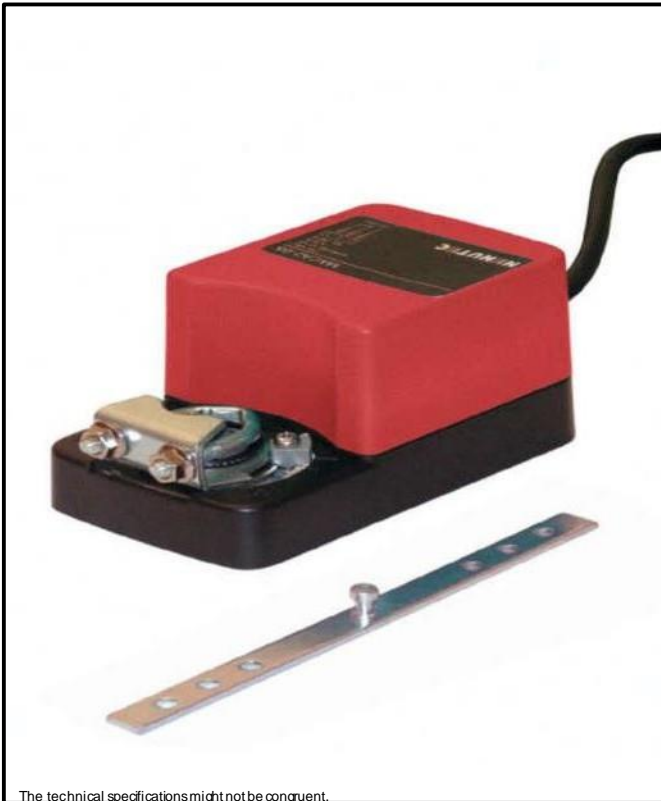
Motorized Actuator : Honeywell



Motorized Actuator : JOHNSON CONTROLS



Motorized Actuator : NEPTRONIC

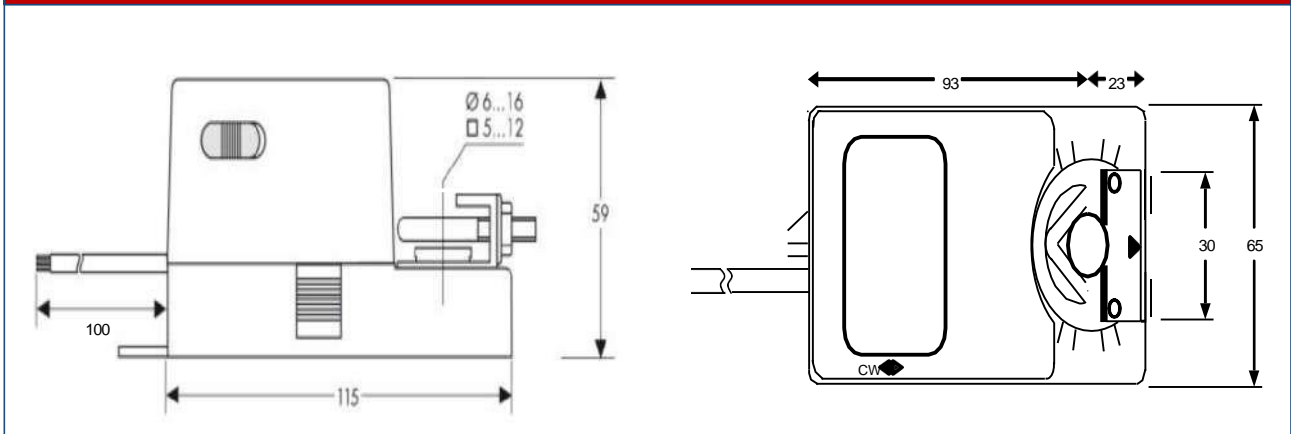


The technical specifications might not be congruent.

Product Features

- Torque 2 Nm / 5 Nm
- Damper size 0.4 m² / 1.0 m²
- Power Supply AC/DC 24 V and AC 230 V
- Control 2 Point and 3 Point
- 1 adjustable auxiliary switch (SPDT)
- Shaft dimensions
- Ø6 to 16 mm round / £ 5 to 12 mm square
- Minimum shaft length 40 mm
- Selectable direction of rotation
- Adjustable angle of rotation
- Actuator with 1000 mm cable connection
- Customer version on request

Actuator Dimension (mm)



Model Selection Table				
Torque	Running Time	Power Supply	Auxiliary Switch	Model / Type
2 Nm	60...90 sec	AC/DC 24 V ± 10%	No	NACA 1-02
2 Nm	60...90 sec	AC/DC 24 V ± 10%	1 x SPDT	NACA 1-02 S1
2 Nm	60...90 sec	AC 230 V ± 10%	No	NACA 2-02
2 Nm	60...90 sec	AC 230 V ± 10%	1 x SPDT	NACA 2-02 S1
5 Nm	70...100 sec	AC/DC 24 V ± 10%	No	NACA 1-05
5 Nm	70...100 sec	AC/DC 24 V ± 10%	1 x SPDT	NACA 1-05 S1
5 Nm	70...100 sec	AC 230 V ± 10%	No	NACA 2-05
5 Nm	70...100sec	AC 230 V ± 10%	No	NACA 2-05 s1

Volume Control Damper for Air Grille (OBD)



SMQ24

Damper actuator for adjusting air control dampers in ventilation and air-conditioning systems for building services installations

Torque 16Nm, 8Nm , 4 Nm

Nominal voltage AC/DC 24V

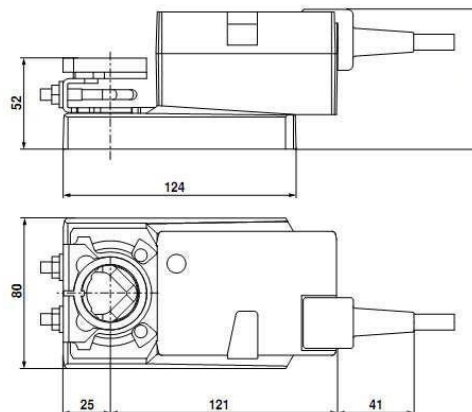
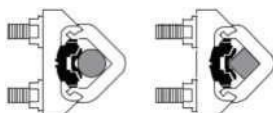
Control: Open-close



Electrical data	Nominal voltage	AC 24V, 50/60Hz / DC 24V
	Nominal voltage range	AC 19.2...28.8V / DC 21.6.....V
	Power	15W @ nominal torque
	consumption	At rest 2W For wire sizing 26VA (I max. 20 A @ 5 ms)
Functional data	Connection	Cable 1m, 3 x 0.75mm ²
	Torque (nominal torque)	Min. 16Nm (8Nm or 4Nm) @ nominal voltage
	Direction of rotation	Reversible with switch 0 resp. 1
	Manual override	Gearing latch disengaged with pushbutton, can be locked
	Angle of rotation	Max. 95°, can be limited at both ends with adjustable mechanical end stops
	Angle of rotation limiting	min. 30°
	Running time	7s / 90°
	Automatic adjustment of operating range to match the mechanical angle of rotation	Manual triggering of the adaption by pressing the «Adaption» button
	Sound power level	63dB(A)
	Position indication	Mechanical, pluggable
Safety	Negative torque	! ≤50% from nominal torque (with restrictions)*
	Protection class	III Safety extra-low voltage, UL Class 2 Supply
	Degree of protection	IP54 in any mounting position, NEMA 2, UL Enclosure Type 2
	EMC	CE according to 2004/108/EC
	Certification	Certified to IEC/EN 60730-1 and IEC/EN 60730-2-14 cULus according to UL 60730-1A and UL 60730-2-14 and CAN/CSA E60730-1:02
	Mode of operation	Type 1
	Rated impulse voltage	0.8kV
	Control pollution degree	3
	Ambient temperature	-30...+40°C (no restrictions) ! +40...+50°C (with restrictions)*
	Non-operating temperature	-40...+80°C
Ambient humidity	95% r.H., non-condensating	
Maintenance	Maintenance-free	
Dimensions / Weight	Dimensions	See «Dimensions»
	Weight	Approx. 1.9kg

Damper spindle	Length	● I	■ I	◆ I
	≥40	8...26.7	≥8	≤26.7
	≥20	8...20	≥8	≤20

* Option (accessory K-NA)
When using an auxiliary switch or feedback potentiometer.



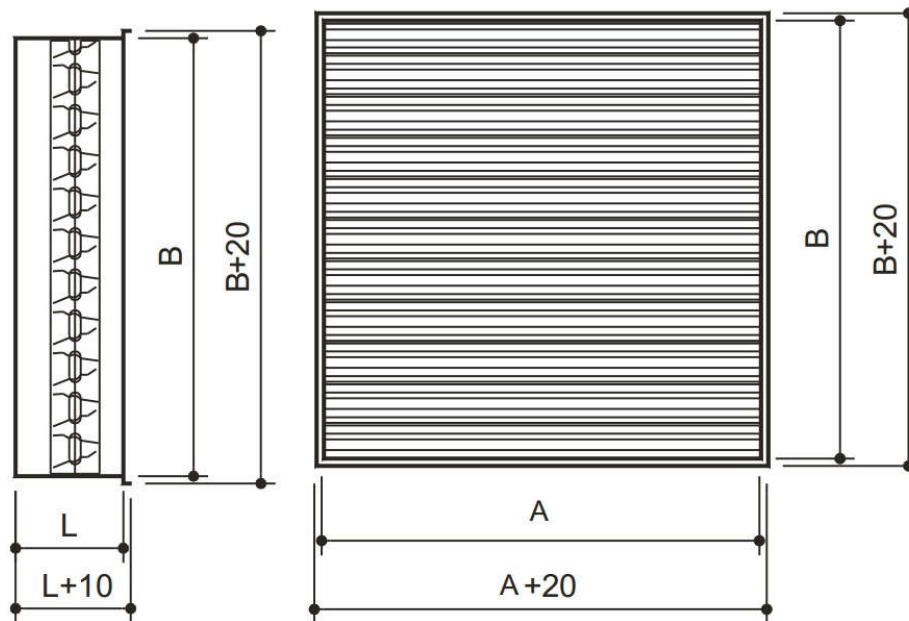
Volume Control Damper for Air

Applications

- Used to control the air supply and return of the air-conditioner or ventilation system.

Materials

- Made by zinc plated corrugate iron or stainless steel
- Used either plastic valve or screw sheel
- Easy to control the air supply and return



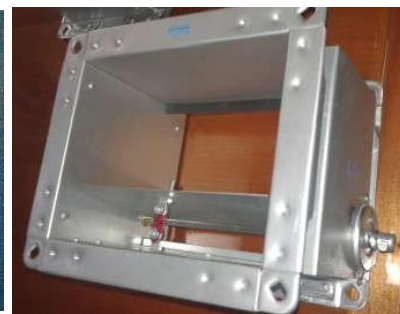
Basic size for volume control damper for air grille

Supply air diffuser	A-92, B-92	Length	Thickness
300 x 300	208 x 208	60	1.0
400x400	308 x 308	60	1.0
450 x 450	358 x 358	60	1.0
600x600	508 x 508	60	1.0

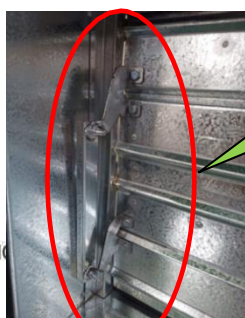
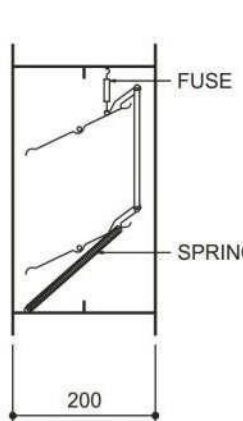
Fire Damper

Applications:

- Attached to the ventilation pipe.
- Function as a fire extinguisher of the ventilation system.
- Damper will be closed automatically, when fusible films is fused at 74°, 100°, 141°, 188°, 286°, ..vv
- Made of 0.8 – 2.0 mm thick zinc plated corrugated iron or stainless steel.



Fire damper using fuse 74 degree and spring



INTERACTIVE
STRUCTURE
(CƠ CẤU
LIÊN ĐỘNG)



Basic size for fire damper

Fire damper only using fuse 74 degree



The Fuse is
fixed with bolts



Duct size	A x B	Length	No. Propeller	Temperature close	Thickness
200x200	200x200	200	1	$\geq 74^{\circ}\text{C}$	0.75;0.95;1.15
300x250	300x250	200	1	$\geq 74^{\circ}\text{C}$	0.75;0.95;1.15
800x300	800x300	200	2	$\geq 74^{\circ}\text{C}$	0.75;0.95;1.15
1000x400	1000x400	200	3	$\geq 74^{\circ}\text{C}$	0.75;0.95;1.15
1800x800	1800x800	200	5	$\geq 74^{\circ}\text{C}$	0.75;0.95;1.15

Volume control damper, fire & smoke damper

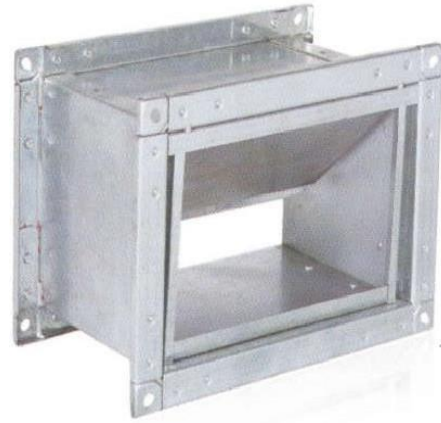
Non Return Damper

Feature:

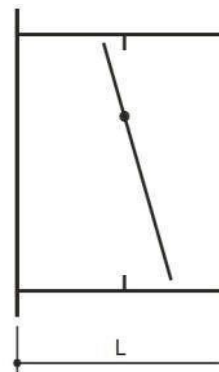
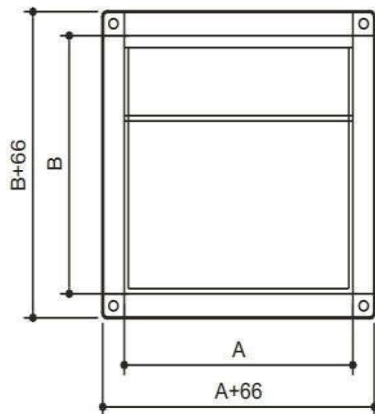
- The damper is installed in ventilating or air conditioning pipeline, so as to prevent gas backflow during stalling of fan equipment.
- The damper can automatically open and closed according to the air pressure in the air duct.

Materials

- Made by zinc plated corrugate iron or stainless steel
- Used either plastic valve or screw sheel
- Easy to control the air supply and return



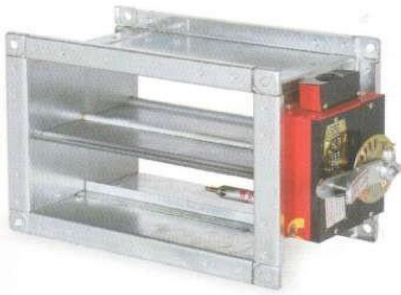
Additional welding of fixed regulating value



Basic size for Non return valve

Duct size	A x B	Length	Minimum Velocity	Thickness
400x200	400x200	200	2.36	0.6
450x300	450x300	200	2.36	0.8
800x500	800x500	200	2.36	0.8
850x600	850x600	200	2.73	1.0
1000x600	1000x600	200	2.73	1.0
1200x800	1200x800	200	2.73	1.2

Smoke & Fireproof Damper



PDT-SFD

- Damper will be closed automatically, when fusible film is fused at 70/280°C
- Damper can be closed by manual or by actuator after receiving electric signal
- Outputs Electric Signal after closing
- Manual reset the damper is needed after acting
- Interlocked with other equipments is available as per request.



PDT-ASFD

- Damper will be closed automatically, when fusible film is fused at 70/280°C
- Damper can be closed by manual or by actuator after receiving electric signal
- Outputs Electric Signal after closing
- Direct current electromotor drives to reset the damper after acting
- Interlocked with other equipments is available as per request

Smoke Exhaust Damper



PDT-SED

- Damper can be opened by actuator after receiving signal, outputs the open electric signal after acting
- Damper can be manually opened
- Manual reset the damper is needed after acting



PDT-ASED

- Damper can be opened by actuator after receiving signal, outputs the open electric signal after acting
- Damper can be manually opened
- Manual reset the damper is needed after acting
- Damper will be close automatically, when temperature getting up to 280°C

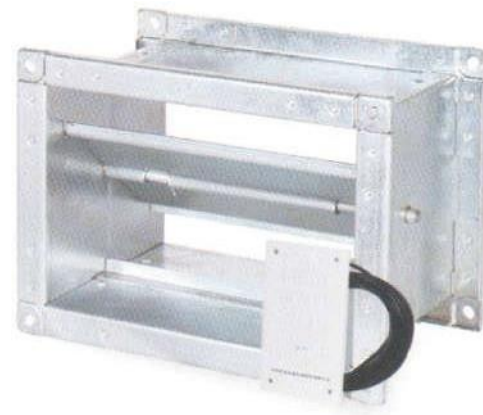
Remote control Smoke Exhaust Damper

- Damper can be opened by actuator after receiving signal, outputs the open electric signal after acting.
- Damper can be opened by remote electric type manual way (6m).



PDT-RCSED01

- Damper can be opened by actuator after receiving signal, outputs the open electric signal after acting.
- Damper can be opened by remote electric type manual way (6m).
- Manual reset the damper is needed after acting.
- Damper will be closed automatically, when



Smoke Exhaust Damper & Air vent



- Damper can be opened by actuator after receiving signal, outputs the open electric signal after acting

- Damper can be opened by actuator after receiving signal, outputs the open electric signal after acting

- Damper can be manually opened

- Damper can be opened by remote electric type manual way (6m)

- Manual reset the damper is needed after acting

- Manual reset the damper is needed after acting

Volume control damper, fire & smoke damper

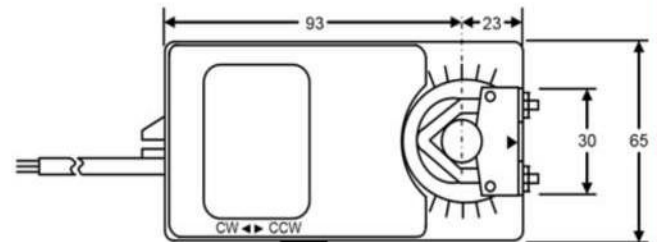
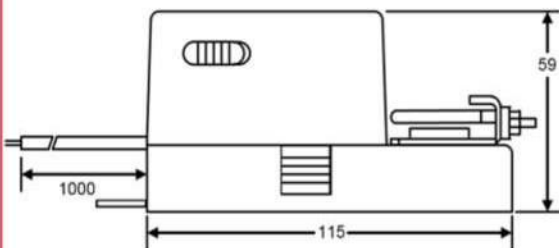


Product Features

- Torque 2 Nm / 5 Nm
- Damper size 0.4 m² / 1.0 m²
- Power Supply AC/DC 24 V and AC 230 V
- Control 2 Point and 3 Point
- 1 adjustable auxiliary switch (SPDT)
- Shaft dimensions
- Ø 6 to 15 mm round / £ 5 to 10.5 mm square
- Minimum shaft length 40 mm
- Selectable direction of rotation
- Adjustable angle of rotation

Actuator Dimensions (mm)

Actuator Dimension (mm)



Model Selection Table				
Torque	Running Time	Power Supply	Auxiliary Switch	Model / Type
2 Nm	60...90 sec	AC/DC 24 V ± 10%	No	NACA 1-02
2 Nm	60...90 sec	AC/DC 24 V ± 10%	1 x SPDT	NACA 1-02 S1
2 Nm	60...90 sec	AC 230 V ± 10%	No	NACA 2-02
2 Nm	60...90 sec	AC 230 V ± 10%	1 x SPDT	NACA 2-02 S1
5 Nm	70...100 sec	AC/DC 24 V ± 10%	No	NACA 1-05
5 Nm	70...100 sec	AC/DC 24 V ± 10%	1 x SPDT	NACA 1-05 S1
5 Nm	70...100 sec	AC 230 V ± 10%	No	NACA 2-05
5 Nm	70...100sec	AC 230 V ± 10%	No	NACA 2-05 s1

LMQ24

Damper actuator for adjusting air control dampers in ventilation and air-conditioning systems for building services installations

Torque 8Nm , 4 Nm

Nominal voltage AC/DC 24V

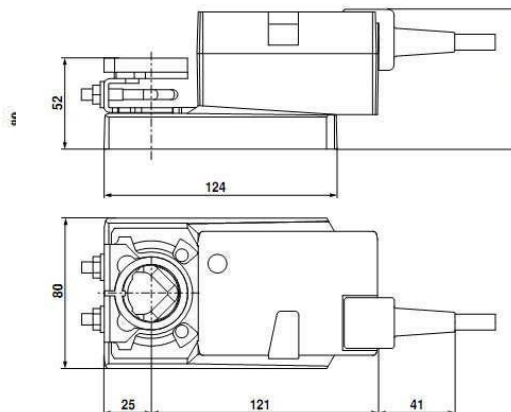
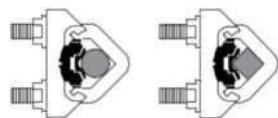
Control: Open-close



Electrical data	Nominal voltage	AC 24V, 50/60Hz / DC 24V
	Nominal voltage range	AC 19.2...28.8V / DC 21.6.....V
	Power consumption	In operation 15W @ nominal torque
		At rest 2W
	For wire sizing	26VA (I max. 20 A @ 5 ms)
Functional data	Connection	Cable 1m, 3 x 0.75mm ²
	Torque (nominal torque)	Min. 8Nm or 4Nm @ nominal voltage
	Direction of rotation	Reversible with switch 0 resp. 1
	Manual override	Gearing latch disengaged with pushbutton, can be locked
	Angle of rotation	Max. 95° , can be limited at both ends with adjustable mechanical end stops
	Angle of rotation limiting	min. 30°
	Running time	7s / 90°
	Automatic adjustment of operating range to match the mechanical angle of rotation	Manual triggering of the adaption by pressing the «Adaption» button
	Sound power level	63dB(A)
	Position indication	Mechanical, pluggable
Safety	Negative torque	! ≤50% from nominal torque (with restrictions)*
	Protection class	III Safety extra-low voltage, UL Class 2 Supply
	Degree of protection	IP54 in any mounting position, NEMA 2, UL Enclosure Type 2
	EMC Certification	CE according to 2004/108/EC Certified to IEC/EN 60730-1 and IEC/EN 60730-2-14 cULus according to UL 60730-1A and UL 60730-2-14 and CAN/CSA E60730-1:02
	Mode of operation	Type 1
	Rated impulse voltage	0.8kV
	Control pollution degree	3
	Ambient temperature	-30...+40°C (no restrictions)
		! +40...+50°C (with restrictions)*
	Non-operating temperature	-40...+80°C
	Ambient humidity	95% r.H., non-condensating
	Maintenance	Maintenance-free
Dimensions / Weight	Dimensions	See «Dimensions»
	Weight	Approx. 1.9kg

Damper spindle	Length	⊙ I	⊞ I	⬠ I
	≥40	8...26.7	≥8	≤26.7
*	≥20	8...20	≥8	≤20

* Option (accessory K-NA)
When using an auxiliary switch or feedback potentiometer.





SILENCER



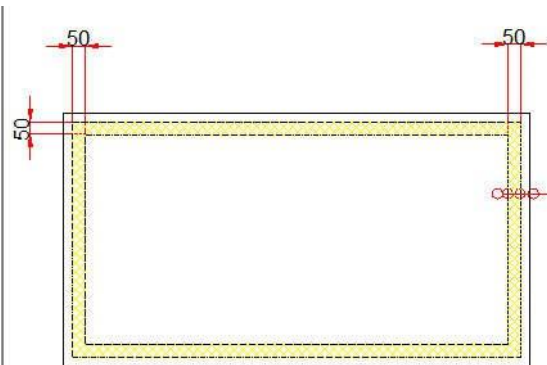
Silencer

INSIDE INSULATION RETANGULAR SILENCER DUCT

Introduction :

* The inside insulation rectangular ducts are specifically designed to reduce duct borne noise generated by axial fans or centrifugal fans in ventilation systems, air intakes of high speed compressors

- ◆ Sound absorb: 1-2 dB/cm insulation thickness
- ◆ Dimension: A,B make as customer order
- ◆ Normal insulation thickness : 50mm (or make



HÌNH CHIẾU ĐỨNG

- Galvanize Punching plate 0.4mmt (Tôn đột lỗ trắng kẽm dày 0.4mm) (01)
- Glass fiber cloth (Lốp vải thủy tinh dày) (02)
- Mineral wool density 80 kg/m³ thickness 50mm (Bông khoáng 80kg/m³ dày 50mm) (03)
- Glavanize steel plate (Tôn trắng kẽm) (04)

- ◆ Standard manufacture rectangle duct silencer :

STT	Dimension max WxH	Thick ness of	Flange	Standard silencer	Remark
1	0<W, H < 750	0.58	TDC, C, V30x3 steel	Rockwool thickness 50mmT, thickness 80 kg/	
2	751 <= W,H < 1500	0.75	TDC, V30x3 steel, V40x4 steel, V40x3 steel	Rockwool thickness 50mmT, thickness 80 kg/ m3	
3	1501 <=W, H<2200	0.95, 1.15	TDC, V30x3 steel, V40x4 steel, V40x3 steel	Rockwool thickness 50mmT, thickness 80 kg/ m3	
4	<=2200	1.15	TDC, V40x4 steel, V50x5 steel	Rockwool thickness 50mmT, thickness 80 kg/ m3	

* Note : Prodetech can made follow standard of customer, spec of project.

Rectangular Straight Silencer

Description

RSS has a conventional design with dimensions that does not exceed the corresponding connection dimensions. The Silencer can be manufactured in all standard duct sizes. The silencer is provided with cleaning hatch and removable baffles.



Design

RSS has an outer sheet metal casing for stability and reduced risk of natural oscillation. RSS is designed for low air resistance with baffle combinations that attenuate particularly low-frequency noise well. The type of insulation material has been developed to provide good noise properties, low weight and to be cleanable.

Pressure drop

Present pressure drop = Read pressure drop × below factor

D = The largest connection side (a or b) of the silencer.

The table contains of a selection of the most common disturbance cases.

Before the silencer				Silencer	After the silencer				Factor
Distance before the silencer					Distance after the silencer				
3×D	2×D	1×D	0×D		0×D	1×D	2×D	3×D	
				Duct				Duct	1,0
⊗ Bend				Silencer				Duct	1,1
	⊗ Bend			Silencer				Duct	1,2
		⊗ Bend		Silencer				Duct	1,4
			⊗ Bend	Silencer				Duct	1,5
				Duct				⊗ Bend	1,2
				Duct				⊗ Bend	1,3
⊗ Bend				Silencer				⊗ Bend	1,3
⊗ Bend				Silencer				⊗ Bend	1,4
	⊗ Bend			Silencer				⊗ Bend	1,5
	⊗ Bend			Silencer				⊗ Bend	1,6
		⊗ Bend		Silencer				⊗ Bend	1,7
		⊗ Bend		Silencer				⊗ Bend	1,8
			⊗ Bend	Silencer				⊗ Bend	1,9
			⊗ Bend	Silencer				⊗ Bend	2,0
				Chamber	Silencer			Duct branch	2,0
				Duct	Silencer			Chamber	3,0
				Chamber	Silencer			Chamber	3,5

Circular Straight Silencer

Description

Fire classes without protective distance:

EI 15, E 60

Fire classes with protective distance to:

evacuation person:

3 kW/m²

EI 60 at distance 50 mm (Ø 80–315)

EI 30 at distance 50 mm (Ø 400–800)

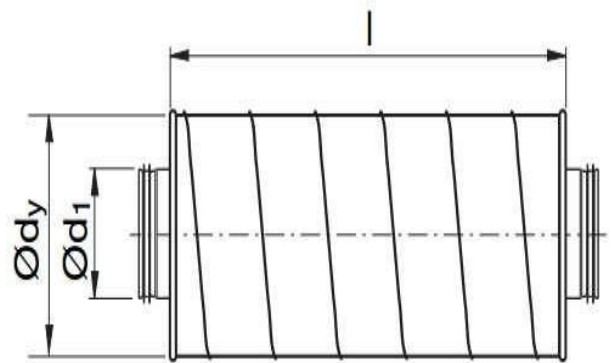
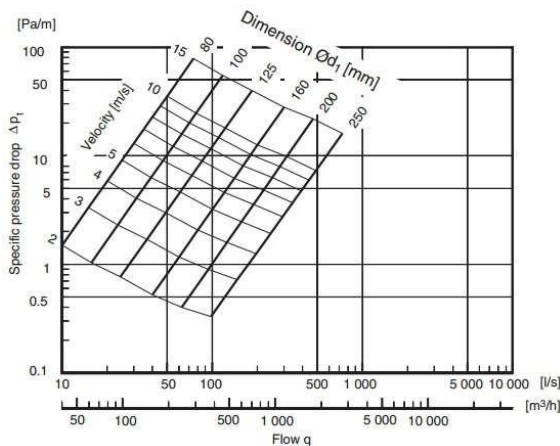
EI 60 at distance 500 mm (Ø 400–800)

combustible materials:

10 kW/m² EI 60 at distance 5 mm

30 kW/m² EI 60 at distance 5 mm

Insulation thickness 100 mm.



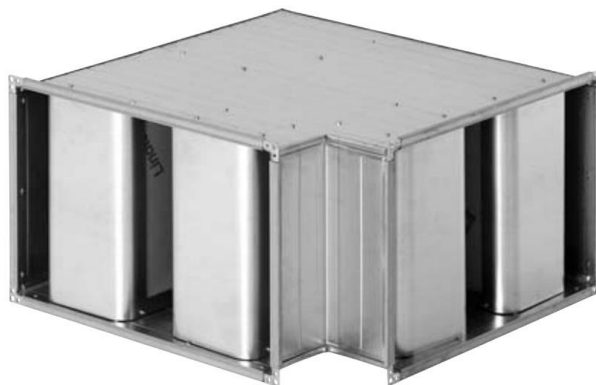
Attenuation [dB] centre frequency [Hz]

$\text{Ø}d_1$	Length	Attenuation [dB] centre frequency [Hz]								$\text{Ø}d_y$	l	m
nom	nom	63	125	250	500	1k	2k	4k	8k	mm	mm	kg
80	300	1	5	8	15	25	25	21	15	180	300	2
80	600	2	8	14	28	49	50	47	24	180	600	3
80	900	3	10	21	40	50	50	50	34	180	900	5
80	1200	4	13	27	50	50	50	50	43	180	1200	7
100	300	1	5	7	15	25	25	21	13	200	360	2
100	600	1	7	12	25	43	48	35	20	200	660	3
100	900	2	10	17	34	50	50	49	28	200	960	5
100	1200	3	12	22	44	50	50	50	35	200	1260	7
125	300	0	4	5	13	23	20	16	11	224	365	3
125	600	1	5	10	22	39	37	26	16	224	665	4

Rectangular Curved Silencer

Description

RCS has a conventional design with dimensions that does not exceed the corresponding connection dimensions. The Silencer can be manufactured in all standard duct sizes. The silencer is provided with



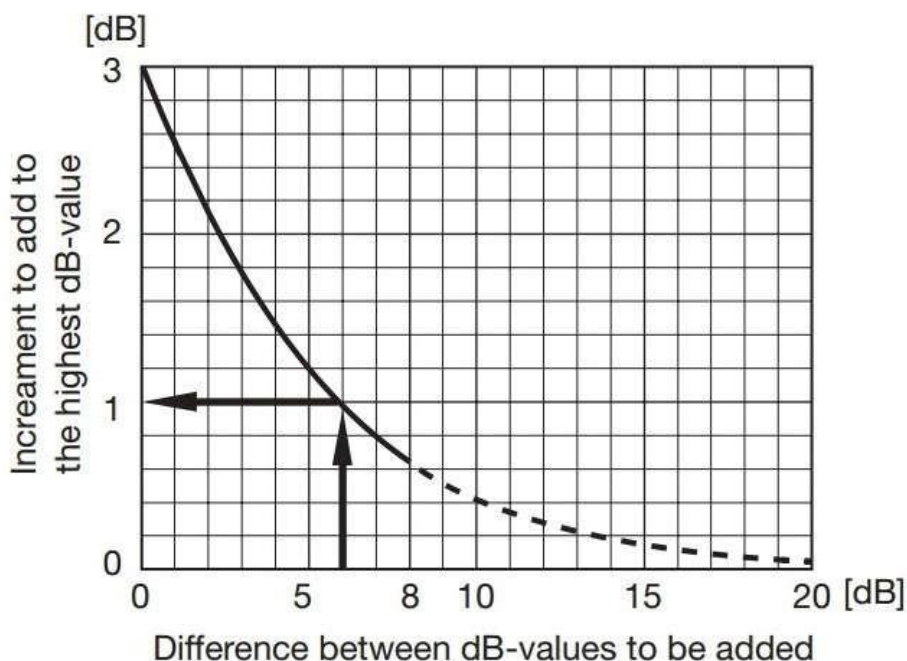
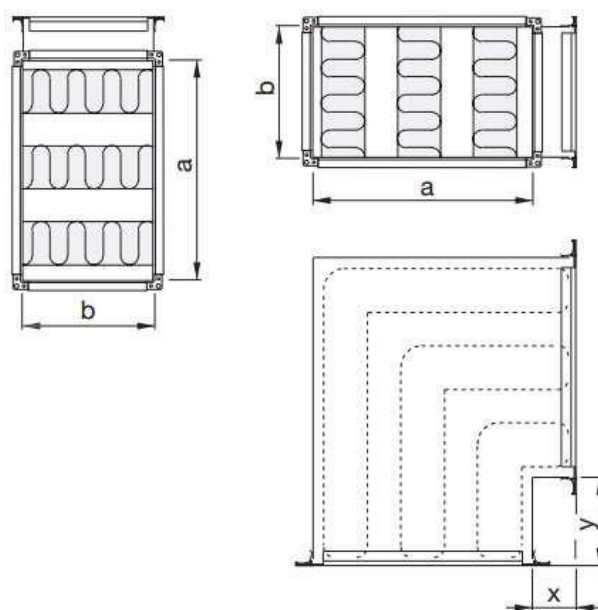
Design

RCS has an external shell of trapezoidal corrugated sheet metal for stability and reduced risk of oscillation. RCS is designed for low pressure drop with baffle combinations that attenuate especially low frequencies well. The type of insulation material is developed to provide good sound properties, low weight and to be cleanable. RCS meets the requirements of air tightness class C and

pressure class 2 according to EN 1507:2006.

Logarithmic addition

Dimensions



Silencer

Circular Straight Silencer

Description

Insulation thickness 100 mm.

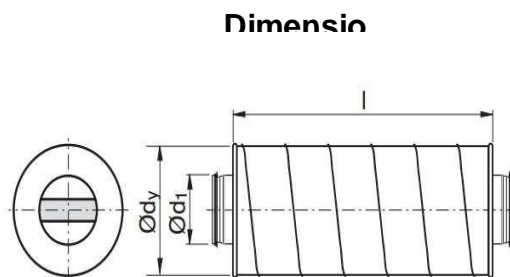
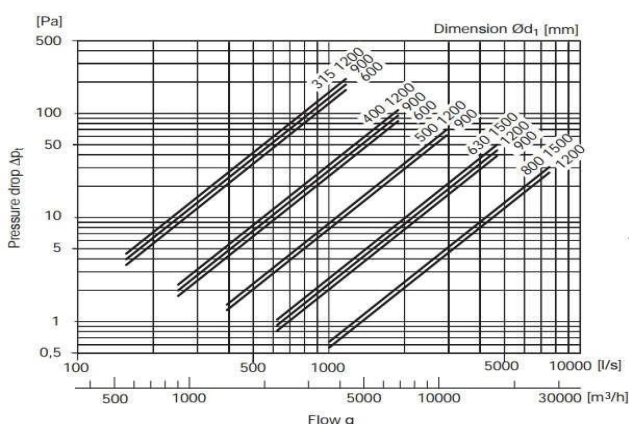
Provided with a 100 mm thick baffle. This gives very good

attenuation across the entire range.

Used where very good attenuation is needed and SLU is not enough. Specially suitable for large dimensions.



Technical data



Attenuation [dB] centre frequency [Hz]

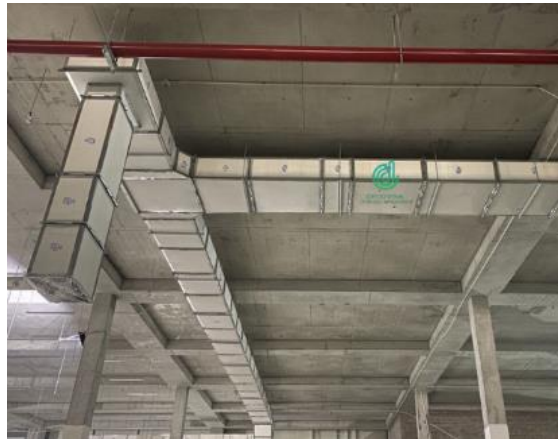
Ød1	Length	Attenuation [dB] centre frequency [Hz]								Ødy	m
nom	nom	63	125	250	500	1k	2k	4k	8k	mm	kg
315	600	3	6	12	20	25	22	17	14	500	15
315	900	4	8	17	26	39	37	24	19	500	22
315	1200	5	10	21	33	50	50	32	23	500	29
400	600	4	5	10	15	18	14	11	12	600	20
400	900	5	7	13	22	30	22	16	15	600	30
400	1200	6	8	16	30	42	31	21	18	600	40
500	900	4	5	12	20	23	15	11	12	710	40
500	1200	4	6	14	27	34	21	14	15	710	53



PDT : EL.-TCD
EI DUCT USING RED GYPSUM BOARD
ỐNG GIÓ CHỐNG CHÁY DÙNG THẠCH
CAO ĐỎ



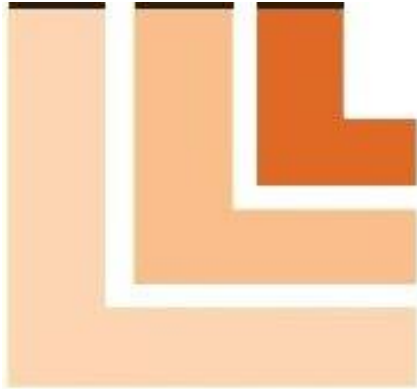
PDT : EL.-MGO
EI DUCT USING MGO SHEET
ỐNG GIÓ CHỐNG CHÁY DÙNG TẤM
MGO



PDT : EI..-KHS
FIREPROOF AIR DUCT USING KHS SHEET
ỐNG GIÓ CHỐNG CHÁY DÙNG TẤM KHS

Giải thích mã hiệu sản phẩm

PDT - MDF :EI...



Giới hạn chịu lửa của sản phẩm: EI30,45,60,90,120,180

Loại sản phẩm hoặc tên sản phẩm

Chữ viết tắt tên thương hiệu: PRODETECH

PDT-MFD: EI45 : Van ngăn lửa chống cháy điều khiển bằng động cơ có giới hạn chịu lửa đến EI45

PDT- FD: E90 : Van ngăn lửa chống cháy dùng cầu chì nhiệt có giới hạn chịu lửa đến E90

PDT-VCD: EI120 : Van điều chỉnh lưu lượng chống cháy bằng tay có giới hạn chịu lửa đến EI60

GIỚI HẠN CHỊU LỬA EI TRONG ỐNG GIÓ CHỐNG CHÁY LÀ GÌ?

Hệ thống ống gió chịu lửa thường cần đi qua tường ngăn sẽ có thời gian chịu lửa quy định về khả năng chịu tải, tính toàn vẹn và tiêu chí cách nhiệt, trong thời gian từ 30 đến 180 phút.

Về giới hạn chịu lửa của ống gió chống cháy được quy định theo Phụ lục A và phụ lục D của QCVN 06:2021/BXD. Giới hạn chống cháy này được xác định bằng đơn vị thời gian. Khoảng thời gian chống cháy của chất liệu chống cháy được xác định bằng một thử nghiệm chịu lửa theo chế độ gia nhiệt tiêu chuẩn. Khoảng thời gian này tính từ khi bắt đầu thử nghiệm, nhiệt độ được tăng dần từ 0°C ÷ 1100°C, cho đến khi xuất hiện một hoặc nhiều đồng thời các dấu hiệu với các giới hạn được quy định

1. Giới hạn về tính toàn vẹn của vật liệu: E

E (Integrity) : là mức giới hạn mà tại đó kết cấu chất liệu vẫn được duy trì hoàn hảo mà không bị đứt gãy, đổ ngã, nứt hoặc phá huỷ vật liệu mà không xét đến khả năng truyền nhiệt của vật liệu.

2. Giới hạn về khả năng)là cách nhiệt: I

I (Thermal Insulation) : là giới hạn mà vật liệu giữ được khả năng cách nhiệt ổn định, kết cấu chính của chất liệu không bị phá hoại bởi tác dụng nhiệt. Xác định giới hạn này để ứng dụng cho những giải pháp chống cháy lan như ống gió chống cháy, tường chống cháy, vách ngăn giới hạn chống cháy để đảm bảo khi có đám cháy xảy ra, các vật liệu được giữ nguyên vẹn, đám cháy không thể lan rộng, nhiệt độ ở các bề mặt của vật liệu được đảm bảo.

Theo QCVN 06:2021/BXD Quy Chuẩn Kỹ Thuật Quốc Gia Về An Toàn Cháy Cho Nhà và Công Trình. Ống gió chống cháy được thử nghiệm theo ISO 6944-1: 2008; Van ngăn cháy được thử nghiệm theo ISO và 1,2,3,4

- Tiêu chuẩn chia hệ thống ống gió chịu lửa khác nhau thành 2 nhóm: 1 Loại ống dẫn loại

A -Đám cháy nằm ngoài ống dẫn

- B . Loại ống dẫn loại có đám cháy bên trong



VỊ TRÍ LẮP ĐẶT ỐNG GIÓ CHỐNG CHÁY EI THEO QCVN 06:2021/BXD

<p>EI30</p>	<p>Ống hút khói đi ngang: Các đường ống và thiết bị của hệ thống hút khói đối với các trường hợp khác nằm trong phạm vi khoang cháy được phục vụ. Van hệ thống hút xả khói ra ngoài đối với các hành lang, sảnh, hành lang bên (không được dùng van cầu chì nhiệt). Ống tăng áp đi ngang của: Hệ thống cấp không khí vào để bảo vệ chống khói (tăng áp) đối với các ống dẫn khí của hệ thống cấp khí vào bảo vệ cho các buồng thang bộ và giếng thang máy, cũng như cho các khoang đệm ngăn cháy ở các cao trình trên mặt đất.</p>
<p>EI45</p>	<p>Ống hút khói: Các đường ống và thiết bị của hệ thống hút khói đối với đường ống và kênh dẫn khói nằm trong phạm vi của khoang cháy được phục vụ, khi hút sản phẩm cháy trực tiếp tại khu vực phục vụ đó. Van Hệ thống hút xả khói ra ngoài đối với các phòng có mật độ đồng thời 50 người trở lên, tính theo Bảng G.9 (Phụ lục G), trong một khoảng thời gian nhất định và đối với các sảnh thông tầng (không được dùng van cầu chì nhiệt).</p>
<p>EI60</p>	<p>Ống hút khói đi ngang Tầng hầm, nhà để xe: Các đường ống và thiết bị của hệ thống hút khói đối với các đường ống và kênh dẫn khói nằm trong phạm vi của khoang cháy được phục vụ, khi sử dụng để thải khói từ các gara để xe dạng kín. Van chặn lửa: Không cho phép dùng van ngăn cháy dùng phần tử nhiệt; Không thấp hơn EI 60, khi bộ phận ngăn cháy tương ứng có giới hạn chịu lửa REI 60. Van Hệ thống hút xả khói ra ngoài đối với các gian để xe ô tô và các hành lang cách ly của gara kín (không được dùng van cầu chì nhiệt). Ống tăng áp trực đi ngang tầng hầm, Gara và trực đứng tăng áp trên mặt đất: Ống của hệ thống cấp không khí vào để bảo vệ chống khói (tăng áp) đối với các ống dẫn khí theo tầng của hệ thống cấp khí vào cho các khoang đệm ngăn cháy, các hành lang cách ly của gara kín.</p>
<p>EI90</p>	<p>Van chặn lửa: Không cho phép dùng van ngăn cháy dùng phần tử nhiệt; Không thấp hơn EI 90, khi bộ phận ngăn cháy tương ứng có giới hạn chịu lửa REI 120 hoặc lớn hơn.</p>
<p>EI120</p>	<p>Ống hút khói đi ngang ngoài khoang cháy: Các đường ống và thiết bị của hệ thống hút khói đối với các đường ống và kênh dẫn khói nằm bên ngoài phạm vi của khoang cháy mà hệ thống đó phục vụ; khi đó tại các vị trí đường ống và kênh khói đi xuyên qua tường, sàn ngăn cháy của khoang cháy không được lắp các van ngăn cháy loại thường mở. Van chặn lửa: Không thấp hơn EI 90, khi bộ phận ngăn cháy tương ứng có giới hạn chịu lửa REI 120 hoặc lớn hơn. Ống tăng áp trực đứng tầng hầm, Gara: Đối với các ống dẫn khí thẳng đứng và các kênh dẫn nằm trong phạm vi khoang cháy mà chúng phục vụ.</p>
<p>EI180</p>	<p>Ống hút khói trực đứng tầng hầm, Gara: Đối với các ống dẫn khí thẳng đứng và các kênh dẫn nằm trong phạm vi khoang cháy mà chúng phục vụ</p>

Vật liệu

- Được làm bằng tôn tráng kẽm (loại cuộn, loại tấm) độ dày tối thiểu 0,75mm Lớp cách nhiệt tùy vào từng loại ống gió chống cháy có giới hạn chịu lửa EI, ống được sử dụng tấm chống cháy có chiều dày khác nhau (Xem bảng 1).

- Trong hệ thống thông gió sự cố (tăng áp, hút khói) thì áp dụng theo tiêu chuẩn PCCC nước sở tại (QCVN06:2021/BXD độ dày tôn tối thiểu là 0,75mm) được thể hiện qua các báo cáo thử nghiệm ống gió chống cháy. Với sản phẩm của PRODETECH cho ống gió chống cháy EI chỉ cần dùng độ dày tôn 0,75mm là đạt tiêu chuẩn. Các độ dày khác lớn hơn độ dày 0,75mm sẽ làm tăng chi phí và trọng lượng của sản phẩm lãng phí ko cần thiết .

- Vật liệu sử dụng để sản xuất ống gió chống cháy đạt EI là các vật liệu không cháy, chịu nhiệt, chịu nước và cách nhiệt tốt thỏa mãn các tiêu chí E:Tính toàn vẹn và I:Tính cách nhiệt.

- Lớp vật liệu cách nhiệt PRODETECH đang sử dụng có đặc tính: Chống ẩm, chịu được nước phun trực tiếp lên bề mặt nhiều giờ, không phát sinh khói độc khi có cháy và không có các chất độc hại với con người và môi trường.

Tiêu chuẩn chế tạo và thử nghiệm:

- Phù hợp theo QCVN 06:2021/BXD và tiêu chuẩn thử nghiệm ISO 6944-1:2008 (hoặc BS 476-24 hoặc BS EN 01366-1).

- Tiêu chuẩn cơ sở: TCCS 05:2020/PRODETECH.

- Nhiệt độ trong thử nghiệm lên tới mức Max 1070°C; Áp suất làm việc của ống gió chống cháy lên đến 1500 Pa.

- Sản phẩm đã được Trung tâm Tư vấn và Chuyển giao công nghệ PCCC và CNCH trực thuộc Cục cảnh sát PCCC và CNCH cấp: Biên bản kiểm định ống gió chống cháy đạt giới hạn chịu lửa EI và chứng nhận đủ điều kiện về sản xuất, lắp ráp phương tiện và thiết bị PCCC: Ống gió chống cháy và Van ngăn cháy phù hợp Quy chuẩn quốc gia QCVN06: 2021/BXD dựa trên các báo cáo thử nghiệm của Viện chuyên ngành kết cấu công trình xây dựng - Thuộc Viện khoa học công nghệ xây dựng (IBST) thực hiện.

Tiêu chuẩn lắp đặt:

- Giá đỡ ống gió và chống cháy lan tại các vị trí qua tường, sàn hoặc cho ống gió đi từ khoang cháy này sang khoang cháy khác lên tuân thủ theo yêu cầu kỹ thuật đã được mô tả trong các Báo cáo thử nghiệm ống gió do các phòng thử nghiệm phát hành.

- Tại các vị trí kết nối giữa hai đoạn ống gió (mặt bích) lên sử dụng theo loại keo chống cháy hoặc gioăng chống cháy đã được mô tả trong các Báo cáo thử nghiệm ống gió do các phòng thử nghiệm phát hành.

Kiểm định của cơ quan nhà nước

- Ống gió chống cháy không thuộc danh mục phải kiểm định PCCC theo phụ lục VII của Nghị định số 136/2020/NĐ-CP. Tuy nhiên theo các công văn hướng dẫn hiện hành thì sản phẩm sau khi đưa vào nghiệm thu PCCC phải xuất trình hồ sơ sau:

- Giấy chứng nhận xuất xưởng của nhà sản xuất

- Biên bản kiểm định khả năng chịu lửa của ống gió chống cháy: Cấp cho công trình dự án cụ thể có nội dung: Bảng thống kê danh mục vật tư, thiết bị được lắp đặt tại công trình, thể hiện được một số thông tin cơ bản như: tên, ký mã hiệu, số lượng, nơi sản xuất, năm sản xuất, đơn vị cung cấp, số giấy chứng nhận hợp chuẩn, hợp quy, tiêu chuẩn, quy chuẩn được công bố hợp chuẩn, hợp quy;

-Bản sao Giấy xác nhận đủ điều kiện kinh doanh về dịch vụ phòng cháy và chữa cháy của đơn vị sản xuất: Sản xuất, lắp ráp phương tiện, thiết bị phòng cháy và chữa cháy (Sản xuất, lắp ráp ống gió chống cháy, van ngăn cháy);

Kết nối: Kết nối cơ bản bích TDC trong một số trường hợp đặc biệt sử dụng bích V theo yêu cầu dự án



A. ỐNG GIÓ CHỐNG CHÁY

Lớp ống gió khả năng chịu lửa I (Xem bảng 1)

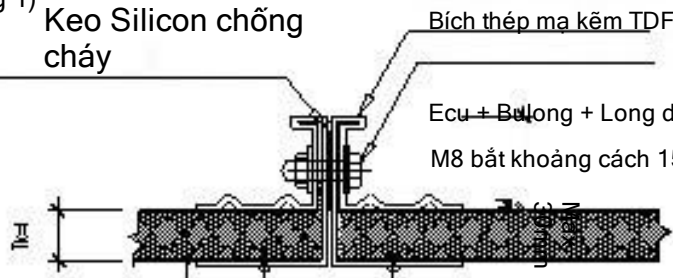
Lớp ống gió khả năng chịu lửa E (Xem bảng 1)

Keo Silicon chống cháy

Bích thép mạ kẽm TDF dày từ 1,5mm

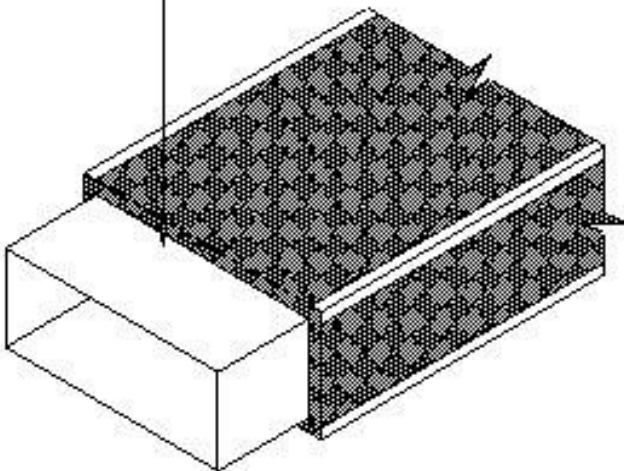
Ecu + Bulong + Long đen

M8 bắt khoảng cách 150 - 200 mm



Lớp ống gió khả năng chịu lửa I (Xem bảng 1)

Lớp ống gió khả năng chịu lửa E (Xem bảng 1)

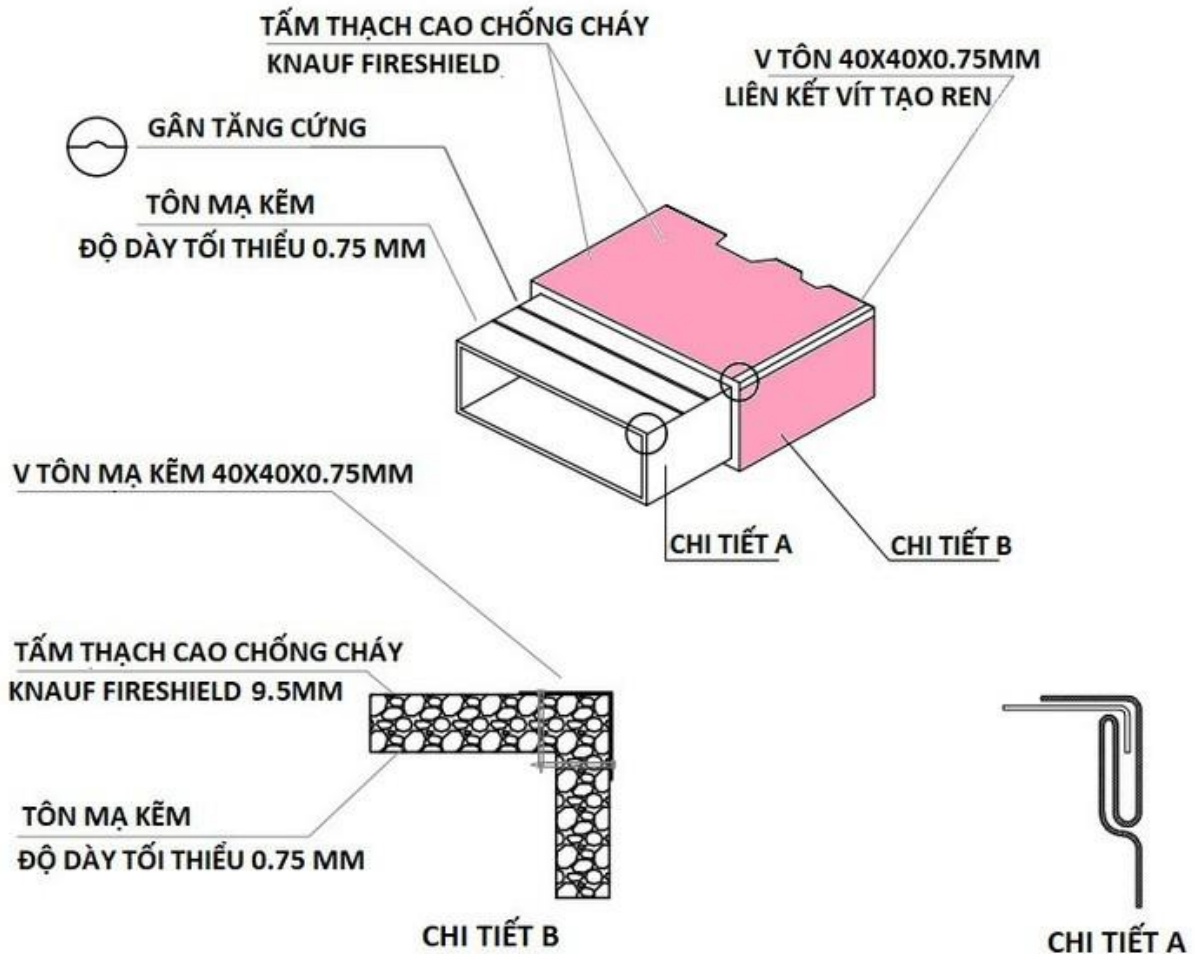


1. ỐNG GIÓ CHỐNG CHÁY THẠCH CAO EI 30/45/60

Khái niệm

Cấu tạo của tấm chống cháy dạng thạch cao bao gồm hỗn hợp thạch cao thiên nhiên, sợi thủy tinh và phụ gia micro silica và ngoài cùng là lớp giấy màu hồng. Vì vậy mà ống gió chống cháy EI kết cấu thạch cao khi nhìn từ bên ngoài sẽ có màu hồng cánh sen rất bắt mắt. Loại ống gió chống cháy EI này được ứng dụng phổ biến trong chống cháy cho toà nhà, nhà xưởng theo dạng hệ thống ống gió chống cháy, vách ngăn và hộp quạt...

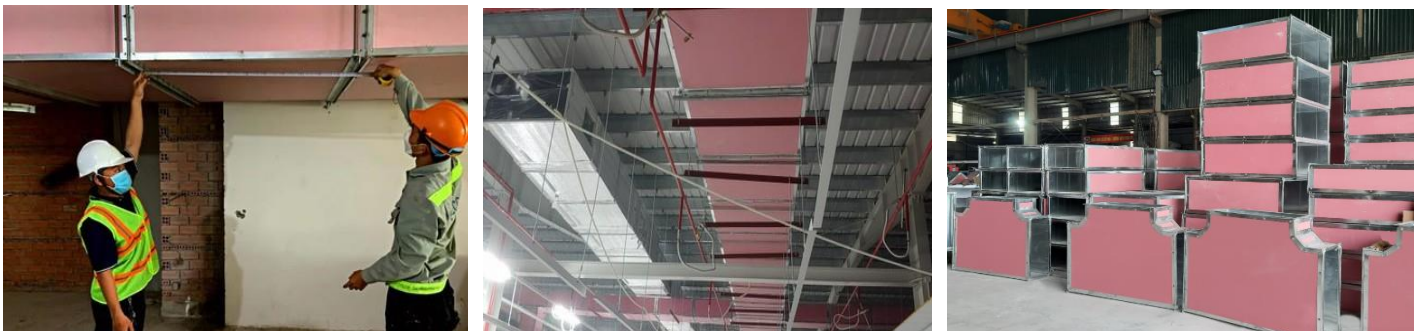
Sơ đồ cấu tạo



**BẢNG 1:
TIÊU CHUẨN CHẾ TẠO ỐNG GIÓ CHỐNG CHÁY
ĐẠT GIỚI HẠN CHỊU LỬA EI**

STT	1	2	3
GIỚI HẠN CHỊU LỬA	EI30	EI45	EI60
MÃ SẢN PHẨM	TA-T:EI30	TA-T:EI45	TA-T:EI60
ĐỂ ĐẠT TÍNH E ĐỘ DÀY TÔN (mm)	Tôn mạ kẽm dày 0.75mm	Tôn mạ kẽm dày 0.75mm	Tôn mạ kẽm dày 0.75mm
CHI TIẾT TẤM CHỐNG CHÁY	Tấm thạch cao dày 9.5mm	Tấm thạch cao dày 9.5mm	Tấm thạch cao dày 15.9mm
Cấu tạo Bích	TDC/ Bích V	TDC/ Bích V	TDC/ Bích V
Chiều dài đoạn ống tiêu chuẩn (mm)	L= 1,110	L= 1,110	L= 1,110

Hình ảnh ống gió EI bằng thạch cao đồ



2. ỐNG GIÓ CHỐNG CHÁY EI DÙNG TẤM MGO

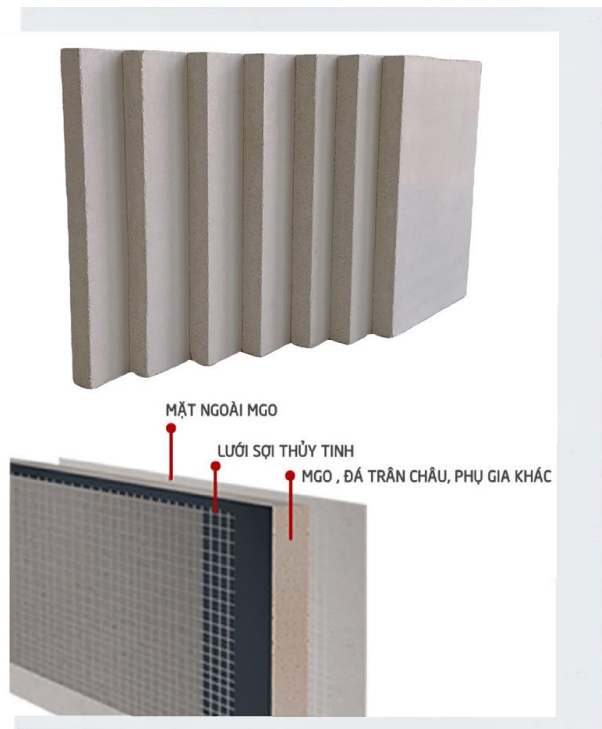
Khái niệm tấm MGO FIREPROOF PANEL

Tấm MGO chống cháy là viết tắt của Magnesium Oxide (Magie Oxide), đây là một loại vật liệu chống cháy. Được sử dụng rộng rãi trong các ứng dụng xây dựng và công nghiệp.

Đặc điểm tấm MGO FIREPROOF PANEL

1. Tấm chống cháy MGO FIREPROOF PANEL với bề mặt tấm được bao phủ bên ngoài hai lớp vải không dệt và lưới thủy tinh chống cháy có tác dụng chịu nhiệt, chịu lực và cách âm tốt.
2. Khả năng chịu lửa, chịu nhiệt cực tốt, và đặc tính quang trọng là độ giãn nở nhiệt thấp khi gặp môi trường nhiệt độ cao.
3. Sản phẩm được ứng dụng vào: các vách ngăn cháy, hệ thống ống gió chống cháy, trần nhà chống cháy, tường cách nhiệt, chống cháy, cửa chống cháy

Thông số kỹ thuật Tấm MGO FIREPROOF PANEL



Cấu tạo: MgO: 45%, MgCl₂: 15% Đá Perlite (đá trần châu): 5% sợi tổng hợp nhân tạo: 30% Chất phụ gia khác: 5%

BA-60mm	Thông số	Đơn vị tính
Tỉ trọng	1100 ± 5%	kg/m ³
Độ dày	3; 5; 20	mm
Dài	2440 ± 3	mm
Rộng	1090 ± 3	mm

Tiêu chuẩn chế tạo ống gió đạt tới hạn chịu lửa EI sử dụng tấm chống cháy MGO

ST T	GIỚI HẠN CHỊU LỬA	MÃ SẢN PHẨM	ĐỘ DÀY TÔN (M M) ĐỂ ĐẠT TÍNH E	VẬT LIỆU CHỐNG CHÁY MGO		VẬT LIỆU BÔNG THỦY TINH		CẤU TẠO BÍCH	ĐỘ DÀY THÀNH PHẨM (mm) (ĐỘ DÀY MGO + ĐỘ DÀY TÔN)
				ĐỘ DÀY TẤM (mm)	TỈ TRỌNG (Kg/m ²)	ĐỘ DÀY (mm)	TỈ TRỌNG (Kg/m ²)		
1	EI 30	OG-K:EI 30	Tôn mạ kẽm dày 0,75mm	3mm	12,30	25mm	24	TDC	3,75
2	EI 45	OG-K:EI45	Tôn mạ kẽm dày 0,75mm	3mm	12,30	25mm	32	TDC	3,75
3	EI 60	OG-K:EI60	Tôn mạ kẽm dày 0,75mm	5mm	19,90	-	-	TDC	5,75
4	EI 120	OG-K:EI120	Tôn mạ kẽm dày 0,75mm	20mm	-	-	-	TDC	20,75

BẢNG 1: TIÊU CHUẨN CHẾ TẠO ỐNG GIÓ CHỐNG CHÁY ĐẠT GIỚI HẠN CHỊU LỬA EI

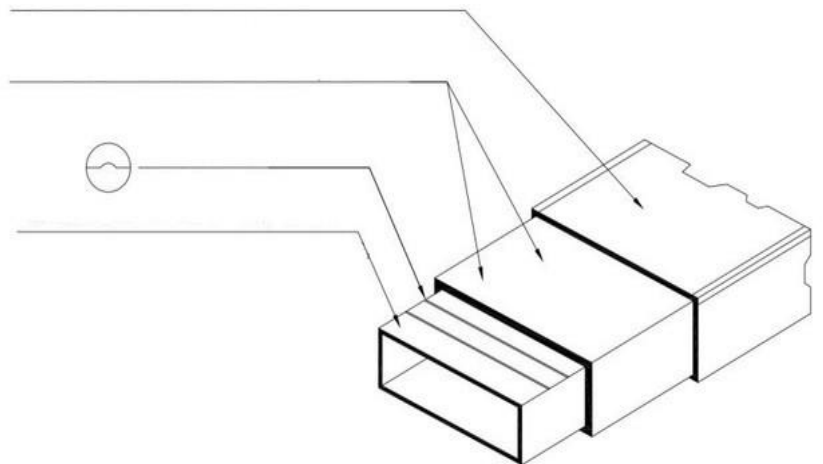
STT		1	2	3
	GIỚI HẠN CHỊU LỬA	EI30	EI45	EI60
	MÃ SẢN PHẨM	TA-T:EI30	TA-T:EI45	TA-T:EI60
CẤU TẠO ỐNG GIÓ CHỐNG CHÁY	I1	Bông thủy tinh dày 25mm	Bông thủy tinh dày 25mm	Bông thủy tinh dày 25mm
	I2	Tấm MGO dày 3mm	Tấm MGO dày 3mm	Tấm MGO dày 5mm
	I3	Tôn trắng kẽm Độ dày 0.75mm	Tôn trắng kẽm Độ dày 0.75mm	Tôn trắng kẽm Độ dày 0.75mm
	Cấu tạo Bích	TDC/TDF	TDC/TDF	TDC/TDF
	Chiều dài đoạn ống tiêu chuẩn (mm)	L= 1,110	L= 1,110	L= 1,110

TẤM MGO DÀY MIN 3MM
MGO BOARD NHỎ NHẤT 3MM THICKNESS

- BÔNG THỦY TINH DÀY 25MM TỶ TRỌNG 32KG/M3
GLASS WOOL 25MM THICKNESS
- DENSITY 32KG/M3

- GÂN TĂNG CỨNG STIFFENING BAR

- TÔN MẠ KẼM ĐỘ DÀY TỐI THIỂU 0,75MM GALVANISEC
STEEL MINIMUM THICKNESS 0,75MM



Ghi chú:

Có thể được áp dụng theo các tiêu chuẩn trên hoặc theo yêu cầu kỹ thuật hoặc thiết kế của từng dự án/yêu cầu của khách hàng nhưng không được nhỏ hơn yêu cầu kỹ thuật bằng tiêu chuẩn thử nghiệm ISO 6944-1:2008



Ưu điểm của ống gió EI kết hợp tấm MGO

01

Giới hạn chịu lửa đa dạng, đáp ứng mọi yêu cầu của các công trình EI30, EI60, EI120

02

Chiều dày tấm bọc mỏng nhất chỉ 3mm với khối lượng chỉ 3kg/m² giúp công tác bọc và thi công lắp đặt ống gió thuận lợi nhất, tiết giảm chi phí nhất.

03

Loại ống gió chống cháy EI này có khả năng chống cháy và cách nhiệt tốt, ngoài ra còn chống được ăn mòn, ngăn chặn tình trạng bị oxi hoá.

04

Ống gió chống cháy EI kết cấu MGO còn có khả năng nén tương đối.

05

Ống gió bọc tấm MGO có khả năng chịu nước, đáp ứng lắp đặt tại các vị trí có độ ẩm cao mà các sản phẩm bọc khác không đáp ứng được.

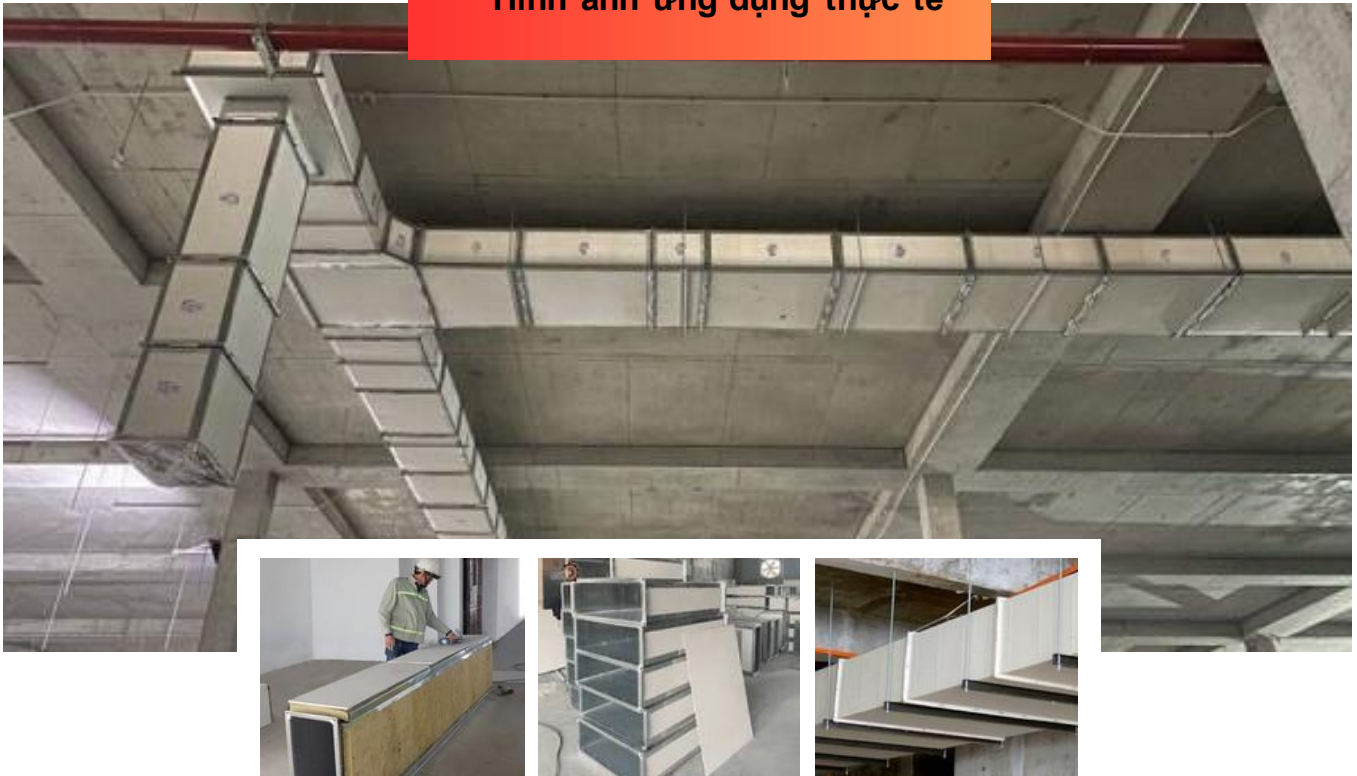
06

Hệ thống vật liệu dễ sản xuất rất dễ tìm và sẵn có trên thị trường từ đó góp phần hỗ trợ quá trình sản xuất trở nên đơn giản và nhanh chóng hơn.

08

Quá trình sản xuất và sử dụng loại ống gió này không hề gây độc hại và rất an toàn với môi trường

Hình ảnh ứng dụng thực tế



3. ỚNG GIÓ CHỐNG CHÁY EI DÙNG TẤM KHS

Khái niệm

– Tấm chống cháy cách nhiệt KHS FA hay còn gọi là KH Shield. Tấm cho khả năng chống cháy lan cực kỳ tuyệt vời, cụ thể từ 45 đến 120 phút. Thêm vào đó, nhiệt lượng tỏa ra khi xảy ra đám cháy sẽ bị chặn gần như hoàn toàn. Bạn sẽ không cảm thấy nóng ở một bên ngay cả khi bên kia nhiệt độ lên cao tới 200 độ C.

Ưu điểm của tấm chống cháy KHS.FA

- Không bắt cháy, không khói đen, không độc tố
- Ngăn cháy trong 4 giờ
- Chống âm hiệu quả
- Chứng nhận vật liệu không nung thân thiện với môi trường
- Đạt mọi tiêu chuẩn kiểm định PCCC mới nhất
- Thi công thuận tiện: có thể cắt, khoan, bắt vít, ép keo bề mặt vật liệu hoàn thiện đa dạng



TẤM CHỐNG CHÁY

Với tính năng chính là ngăn cháy lan



TẤM CÁCH NHIỆT

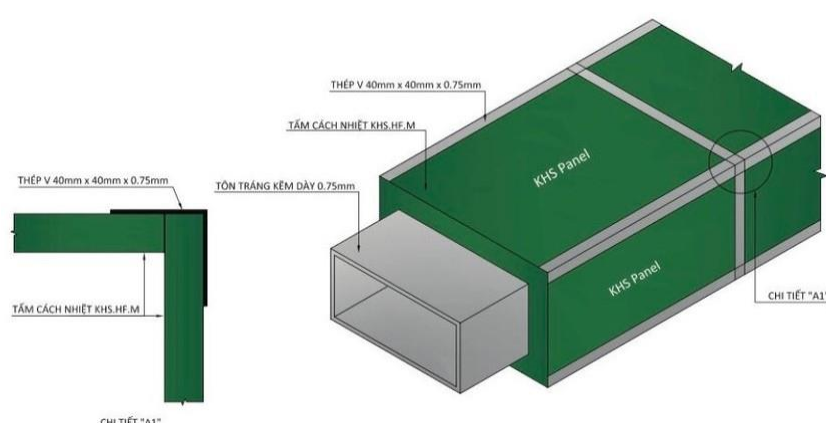
Với tính năng làm chậm khả năng dẫn nhiệt, phù hợp dùng để làm lõi của sản phẩm ngăn cháy và cách nhiệt

Loại sản phẩm	Mã	Quy Cách (mm)	Độ dày
Tấm chống cháy	KHS.FA	1.220 X 2.440	Dày từ 3-20mm
Tấm cách nhiệt	KHS.HF.W	1.220 X 2.441	Dày từ 20-32mm
Tấm cách nhiệt	KHS.HF.M	1.220 X 2.442	Dày từ 20-32mm

THÔNG SỐ KỸ THUẬT KHS PANEL

Sản phẩm	Thuộc tính	Phương pháp Test	ĐVT	Kích thước tổng thể tấm KHS Panel: 1,220 x 2,440 x Độ dày tấm (3mm - 32mm)					
				3mm	6mm	10mm	20mm	24mm	32mm
Tấm chống cháy KHS.FA	Thử cháy - tính bất lửa	ISO 11925 - 2 : 2010		A1	A1	A1			
	Cường độ uốn	ASTM C 1185 - 08 (2016)	Mpa	7.5	12.5	11			
	Thành phần độc hại	JIS A 1460 : 2015	mg/l	0.85	0.36	0.4			
	Độ ẩm	TCVN 10788 : 2015	%	12	12	12			
	Giãn nở ẩm	ASTM C 1185 - 08 (2016)	%	0	0	0			
	Trọng lượng/m ²		kg	3.5	7	12			
	Độ dẫn nhiệt T= 200 °C , 400°C , 600 °C , 800 °	CASTM C 177	W/mK			0.13; 0.169; 0.175; 0.212			
Tấm cách nhiệt KHS.HF.W	Thử cháy - tính bất lửa	ISO 11925 - 2 : 2010					A1	A1	A1
	Cường độ uốn	ASTM C 1185 - 08 (2016)	Mpa				2.6	2.7	2.4
	Thành phần độc hại	JIS A 1460 : 2015	mg/l				1.23	0.16	0.43
	Độ ẩm	TCVN 10788 : 2015	%				13	13	13
	Giãn nở ẩm	ASTM C 1185 - 08 (2016)	%				0	0.01	0
	Trọng lượng/m ²		kg				11	12	13
Tấm cách nhiệt KHS.HF.M	Thử cháy - tính bất lửa	ISO 11925 - 2 : 2010					A1	A1	
	Cường độ uốn	ASTM C 1185 - 08 (2016)	Mpa				5	4.9	
	Thành phần độc hại	JIS A 1460 : 2015	mg/l				0.43	0.42	
	Độ ẩm	TCVN 10788 : 2015	%				14	14	
	Giãn nở ẩm	ASTM C 1185 - 08 (2016)	%				0.01	0.01	
	Trọng lượng/m ²		kg				11	12.5	
	Độ dẫn nhiệt T= 200 °C , 400°C , 600 °C , 800 °C	ASTM C 177	W/mK					0.122; 0.161; 0.168 ; 0.197	

Kết cấu ống gió chống cháy



Ống gió chống cháy KHS

EI 30 phút	KHS.HF.M14+ TÔN 0.75mm
EI 45 phút	KHS.HF.M16+ TÔN 0.75mm
EI 60 phút	KHS.HF.M20+ TÔN 0.75mm
EI 90 phút	KHS.HF.M24+ TÔN 0.75mm
EI 120 phút	KHS.HF.M26+ TÔN 0.75mm

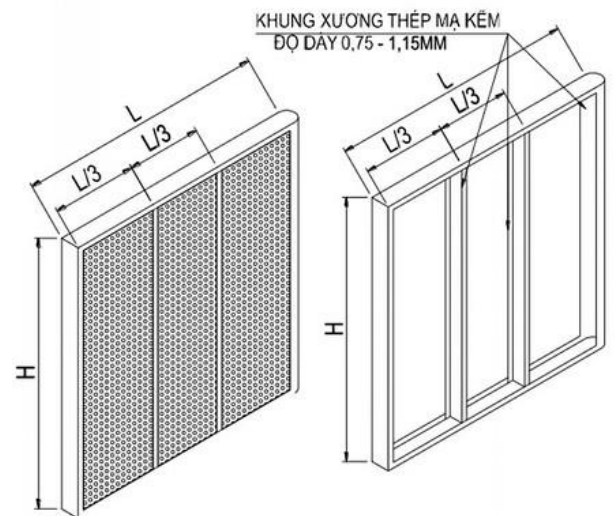
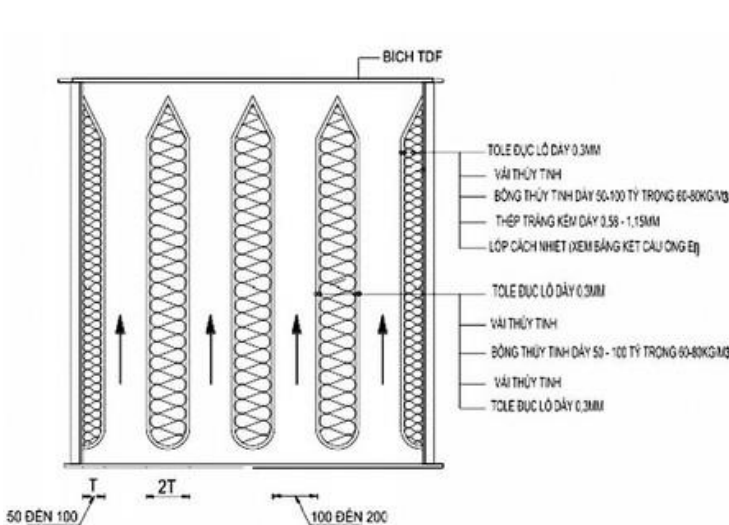
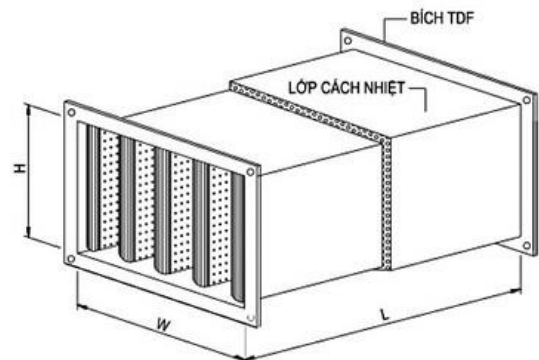
4. ỐNG TIÊU ÂM CHỐNG CHÁY P-ADS: EI...

Đặc điểm sử dụng

- Được sử dụng tiêu âm trên đường ống gió Hút khói hoặc trong hệ thống Tăng áp... Nhưng lại yêu cầu chống cháy EI cùng giới hạn chịu lửa của đường ống gió liền kề
- Thường được lắp ở các đầu vào đầu ra của các nguồn gây ồn như quạt,... để hấp thụ để giảm lan truyền tiếng ồn. Lớp vỏ được chế tạo từ tôn mạ kẽm với góc nối làm bằng phương pháp ghép mí dọc. Hai đầu tiêu âm thường được làm thành bích để dễ dàng kết nối với hệ thống truyền tải, khoảng tiếp giáp giữa bích và lớp lõi thường được che phủ bằng tôn mạ kẽm, kết nối bằng đinh rút và gắn keo. Vật liệu tiêu âm thường là bông thủy tinh hoặc bông khoáng, được bọc trong lớp vải bố công nghiệp và bao phủ bên ngoài cùng là lớp tôn soi lỗ mạ kẽm, tạo thành các tấm vách tiêu âm hoàn chỉnh. Các vách này được lắp song song với nhau, được tạo hình sao cho đầu vào không khí có hình dạng bán nguyệt và đầu ra hình chuốt nhọn để đảm bảo giảm thiểu tổn thất áp suất.

Vật liệu và màu sắc

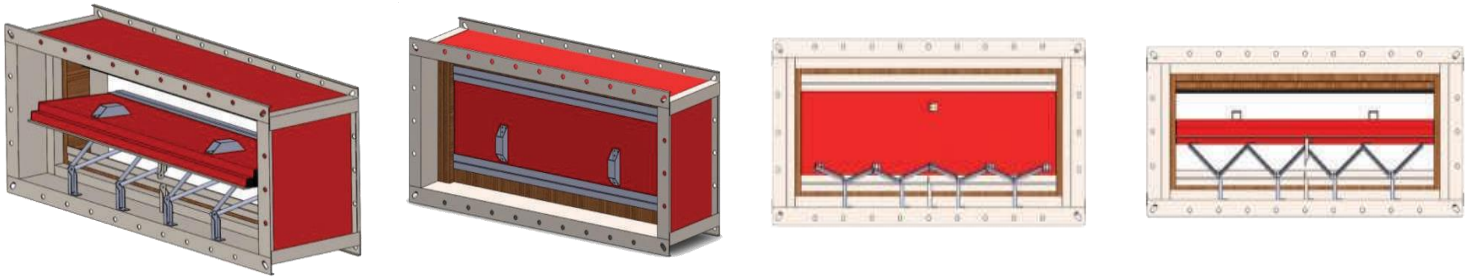
- Lớp vỏ chống cháy EI :Được chế tạo từ vật liệu tôn mạ kẽm 0.75mm + Lớp cách nhiệt chiều dày tùy theo EI (xem bảng 1)
- Lớp tiêu âm bên trong: Tôn lỗ soi lỗ D6 dày 0.28mm, bông khoáng dày 50mm, vải thủy tinh hoặc các vật liệu cách âm khác
- Bích TDF / TDC
- Độ dày vật liệu tùy theo yêu cầu của khách hàng (lớp cách nhiệt theo quy cách của nhà sản xuất)



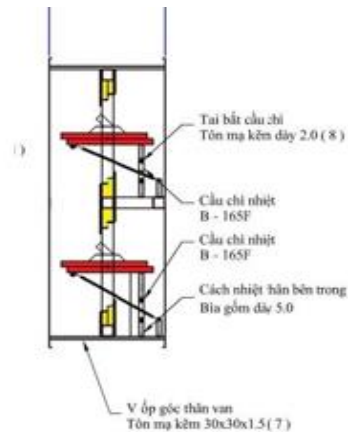
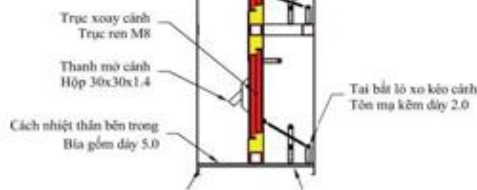
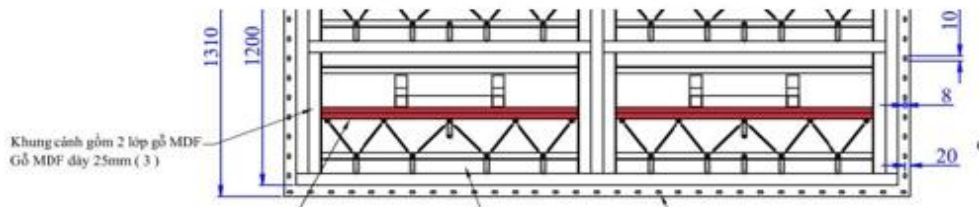


B.VAN GIÓ CHỐNG CHÁY

VAN CHẶN LỬA CẦU CHÌ



Gioăng chống cháy tương tự
Kích thước 25x2.0 (5)



Van chặn lửa FD là loại van cách nhiệt dạng cơ cấu đóng mở bằng cần gạt cơ và cầu chì.

Đặc điểm sử dụng:

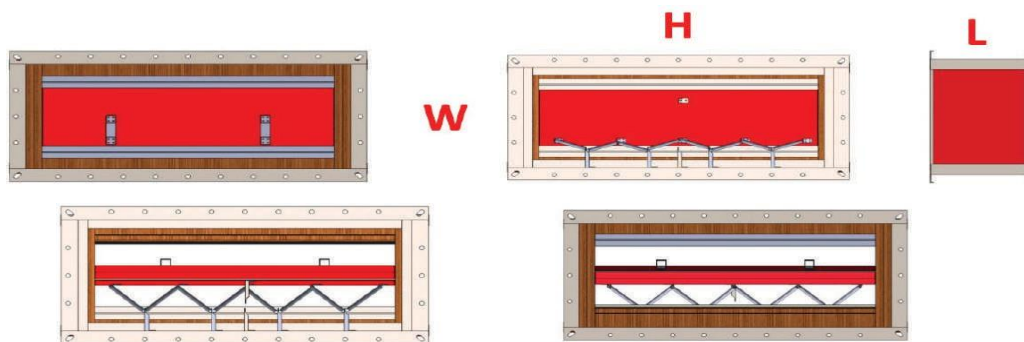
- Được dùng để ngăn cháy trên đường ống
- Được lắp trên đường ống gió vuông hoặc lắp gắn tường

Cấu tạo:

- Được làm bằng tole mạ kẽm dày 2.0mm.
- Phần khung cánh và cánh van được chế tạo từ nhiều lớp gỗ MDF



Van gió MFD sử dụng bích V



Chi tiết chế tạo van MFD dùng bích V

Van FD (Van cầu chì)	Van MFD (Van Động cơ)	GHI CHÚ
<ul style="list-style-type: none"> • $W < 600$ • $D < 1200 \rightarrow$ Sử dụng 1 cánh 	<ul style="list-style-type: none"> • $W < 600$ • $D < 1200 \rightarrow$ Sử dụng 1 cánh • Sử dụng 1 động cơ xoay cánh 	<p>- Van FD cầu chì bán ra thị trường thì chiều dày thân van L300</p> <p>- Van MD động cơ lưu ý khi lắp trên tường phải chế tạo thân van L500</p> <p>- Mẫu đốt thì đảm bảo chiều dày thân van phải phủ hết chiều ngang cánh (Đảm bảo không bị tạt lửa ở cạnh bên của cánh)</p>
<ul style="list-style-type: none"> • $W < 600$ • $D > 1200 \rightarrow$ Sử dụng 2 cánh 	<ul style="list-style-type: none"> • $W < 600$ • $D > 1200 \rightarrow$ Sử dụng 2 cánh • Sử dụng 2 động cơ xoay cánh 	
<ul style="list-style-type: none"> • $W > 600$ • $D > 1200 \rightarrow$ Sử dụng 4 cánh 	<ul style="list-style-type: none"> • $W > 600$ • $D > 1200 \rightarrow$ Sử dụng 4 cánh • Sử dụng 4 động cơ xoay cánh 	

Motor van sử dụng cho van gió MFD



SẢN PHẨM VAN GIÓ CHỐNG CHÁY KHÁC



PDT : MD-EI..
VAN MD MOTOR
CHỐNG CHÁY



PDT : MD-EI..
VAN XẢ ÁP MOTOR
CHỐNG CHÁY



PDT : VCD-EI..
VAN VCD CHỐNG
CHÁY



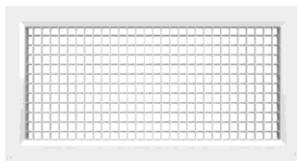
PDT : VCD-EI..
VAN VCD CHỐNG
CHÁY



PDT : VCDR-EI..
VAN VCD TRÒN
CHỐNG CHÁY



PDT : SILENCER-EI..
ỐNG TIÊU ÂM CHỐNG
CHÁY



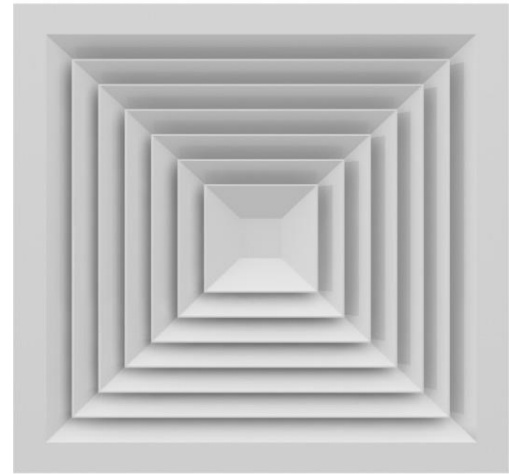
AIR DISTRIBUTION DEVICES

Supply Air Diffuser

Structure of square diffuser is designed to suit diversified building and it has elegant outward appearance. It is a widely used product with advantages in terms of pressure drop, noise, air spread and radius of air diffusion

Features.

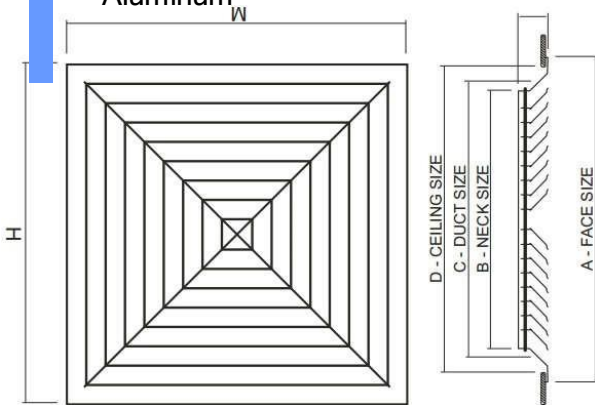
- It is fixed diffusing in 360° direction.
- Internal wings can be separated from the face frame of diffuser and volume can be controlled without separating the internal wings.



SAD

Material: Extruded Aluminum

Dimensions



Face size	Neck size	Duct size	Celling size	Flexible size
WxH	W-150 H-150	W-140 H-140	W-40 H-40	
300x300	150x150	160x160	260x260	D150
450x450	300x300	310x310	360x360	D200
600x600	450x450	460x460	560x560	D300

Area (m ²)	Neck size	Velocity (m/s)	1.5 2 2.5 3 3.5 4					
0.09	300x300	m3/s	0.078	0.084	0.107	0.125	0.147	0.170
		m3/h	280	305	385	450	530	615
		Distance	2.47	3.40	4.32	5.00	5.40	5.94
		Noice volumes	<17	<17	<23	<28	<33	<42
0.2025	450x450	m3/s	0.182	0.239	0.292	0.355	0.408	0.458
		m3/h	655	860	1050	1280	1470	1650
		Distance	2.59	3.57	4.54	5.25	5.67	6.24
		Noice volumes	<20	<24	<30	<36	<42	<50
0.36	600x600	m3/s	0.356	0.4	0.447	0.491	0.539	0.586
		m3/h	1280	1440	1610	1770	194	2110
		Noice volumes	<20	<26	<32	<38	<44	<51

Supply Air Diffuser Rotate Style

Application - ứng dụng:

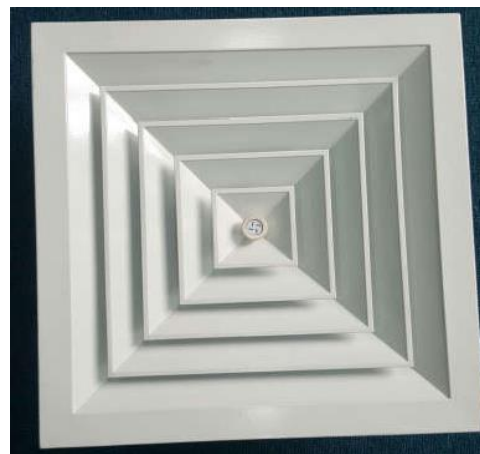
Used as air-supply diffuser, air-return diffuser
 Suitable for insulation for all types of false Ceiling
 Framework and core separately, easy to remove and
 maintenance

Supply Air Diffuser Rotate Style is air grill has knob
 versatile 360-degree, include circular damper,
 increase the performance of construction

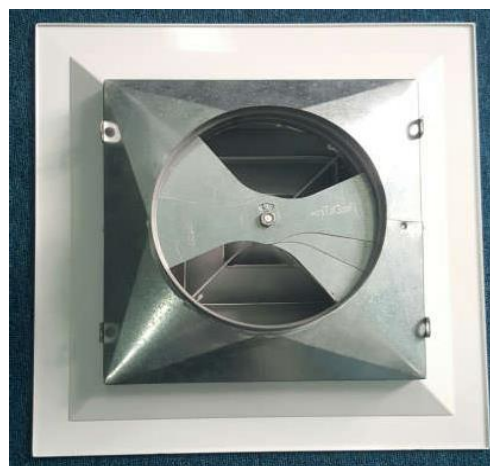
Material - Vật liệu:

Extruded Aluminum

Round volume damper- GI Sheet



SAD

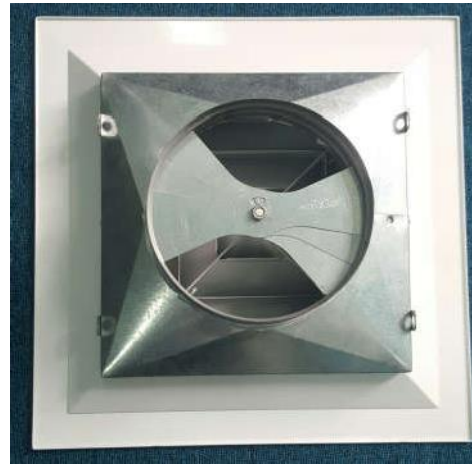


Dimensions -

Face size	Neck size	Round volume damper	Flexible size comfortable	Knob rotate 360 degree
WxH	W-150 H-150	VD size	FD	
300x300	150x150	VD150	FD 150	Yes
450x450	300x300	VD150, VD200	FD 150, FD 200,	Yes
600x600	450x450	VD150, VD200	FD 150, FD 200,	Yes

Air distribution devices

Supply Air Diffuser Rotate Style



Basic Performance data

Area (m ²)	Neck size	Velocity	1.5	2	2.5	3	3.5	4
Diện tích	Kích thước cổ	Lưu lượng kk ra khỏi cửa						
0.09	300x300	m3/s	0.078	0.084	0.107	0.125	0.147	0.170
		m3/h	280	305	385	450	530	615
		Distance	2.47	3.40	4.32	5.00	5.40	5.94
		Noice volumes	<17	<17	<23	<28	<33	<42
0.2025	450x450	m3/s	0.182	0.239	0.292	0.355	0.408	0.458
		m3/h	655	860	1050	1280	1470	1650
		Distance	2.59	3.57	4.54	5.25	5.67	6.24
		Noice volumes	<20	<24	<30	<36	<42	<50
0.36	600x600	m3/s	0.356	0.4	0.447	0.491	0.539	0.586
		m3/h	1280	1440	1610	1770	194	2110
		Distance	2.84	3.91	4.97	5.75	6.21	6.83
		Noice volumes	<20	<26	<32	<38	<44	<51

Slot Linear Diffuser

Application:

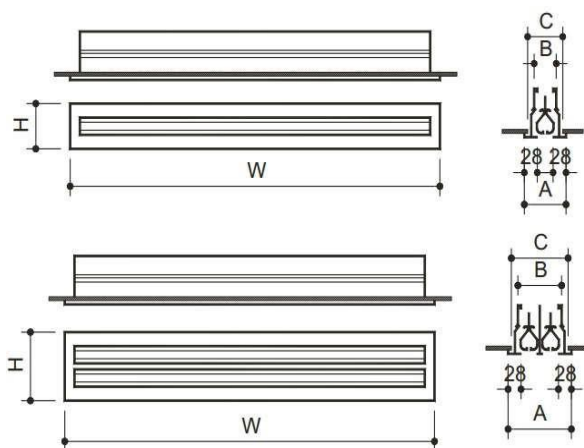
- Functioned as supply air grille and return air grille.
- Air adjustable wings.
- Suitable for meeting halls or showroom which require technical skills and high tech.

Material:



Dimensions - Kích thước

Model (slot)	Width	Face size	Neck size	Celling size
		WxH	W – 38	W - 28
			H – 38	H - 28
1		800x78	762x40	772x50
2		800x118	762x80	772x90
3	800	800x158	762x120	772x130
4		800x198	762x160	772x170
1		1000x78	962x40	970x50
2		1000x118	962x80	972x90
3	1000	1000x158	962x120	972x130
4		1000x198	962x160	972x170
1		1200x78	1162x40	1172x50
2		1200x118	1162x80	1172x90
3	1200	1200x158	1162x120	1172x130
4		1200x198	1162x160	1172x170



Basic Performance data

Neck size	Velocity	1	1.5	2	2.5	3	3.5	4
1 slot	m ³ /s	0.025	0.037	0.049	0.061	0.074	0.086	0.098
	m ³ /h	88	133	177	221	265	609	353
	Distances	1.55	2.15	2.90	3.46	4.54	5.47	6.18
	Noice volumes	< 17	< 21	< 21	< 23	< 25	< 25	< 28
2 slot	m ³ /s	0.049	0.074	0.098	0.123	0.147	0.172	0.196
	m ³ /h	177	265	353	442	530	619	707
	Distances	1.63	2.25	3.05	3.64	4.77	5.75	6.48
	Noice volumes	< 17	< 21	< 22	< 25	< 25	< 27	< 30
3 slot	m ³ /s	0.074	0.111	0.147	0.184	0.221	0.249	0.294
	m ³ /h	265	398	530	663	795	898	1060
	Distances	1.77	2.48	3.34	3.99	5.21	6.29	7.09
	Noice volumes	< 20	< 23	< 25	< 28	< 30	< 31	< 35
4 slot	m ³ /s	0.098	0.147	0.196	0.245	0.295	0.244	0.393
	m ³ /h	353	530	707	884	1060	1237	1414
	Distances	1.79	2.46	3.35	3.99	5.25	6.31	7.12
	Noice volumes	< 22	< 22	< 26	< 31	< 35	< 38	< 41

Air distribution devices

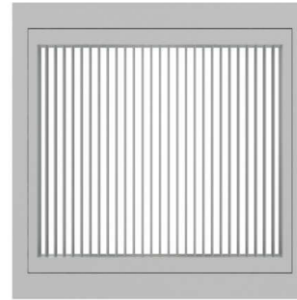
Return Diffuser

Application:

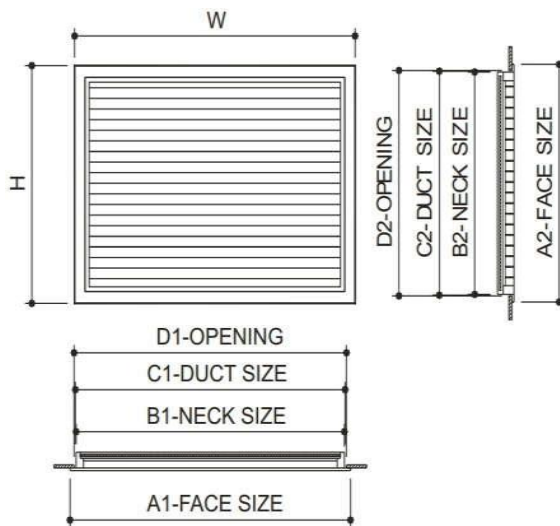
- Functioned as return air grille
- Placed on nock ceiling or attached directly to the ventilation pipe.
- Equipped with filter which can be removed for regular cleaning.
- Alternative bars either straighten or curled upon customer requirements.

Material:

- Extruded Aluminum



FRG



Face size	Neck size	Duct size	Celling size	Flexible size
WxH	W-32 H-32	W-28 H-28	W-20 H-20	
300x300	300x300	272x272	280x280	D150
400x450	450x450	422x422	430x430	D200
600x600	690x600	572x572	580x580	D300

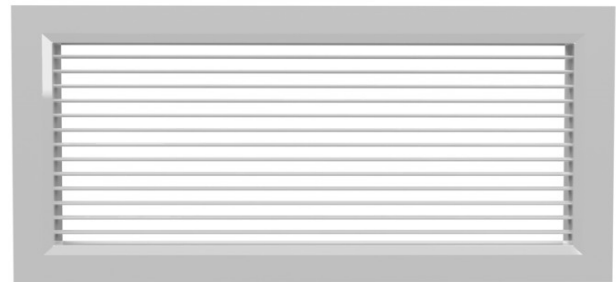
Basic Performance data

Area (m ²)	Neck size	Velocity (m/s)	1.5	2	2.5	3	3.5	4
0.09	300x300	m ³ /s	0.06075	0.081	0.10125	0.1215	0.14175	0.162
		m ³ /h	218.7	291.6	364.5	437.4	510.3	583.2
0.2025	450x450	m ³ /s	0.13669	0.18225	0.22781	0.27338	0.31894	0.3645
		m ³ /h	492.1	565.1	820.1	984.2	1148.2	1312
0.36	600x600	m ³ /s	0.243	0.324	0.405	0.486	0.567	0.684
		m ³ /h	874.8	1166.4	1458	1749.6	2041.2	2332.8

Single Layer Diffuser

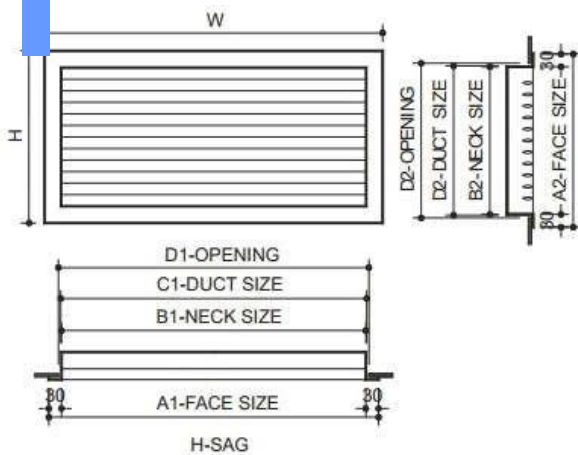
Application:

- Functioned as supply air grille and return air grille.
- Air adjustable wings.
- Suitable for meeting halls or showroom which require technical skills and high tech.



SL

Material:



Dimensions

Face size	Neck size	Duct size	Celling size	Flexible size
WxH	W-50	W-40	W-30	
300x200	250x150	260x160	270x170	D150
400x200	350x150	360x160	370x170	D150
400x300	350x250	360x260	370x170	D250
600x300	550x250	560x260	570x270	D250

Basic Performance data

Neck size	Velocity	1	1.5	2	2.5	3	3.5	4
300x200	m ³ /s	0.029	0.043	0.057	0.071	0.086	0.1	0.114
	m ³ /h	103	154	206	257	308	360	411
	Distance	4.78	7.44	9.96	11.04	13.22	13.95	16.02
	Noice volumes	<15	<17	<17	<19	<22	<23	<26
400x200	m ³ /s	0.04	0.061	0.081	0.101	0.121	0.142	0.162
	m ³ /h	146	218	291	364	437	510	583
	Distance	5.01	7.81	10.45	11.60	13.88	14.65	16.82
	Noice volumes	<19	<20	<23	<24	<27	<30	<31
400x300	m ³ /s	0.069	0.104	0.139	0.173	0.208	0.243	0.277
	m ³ /h	250	375	499	624	749	874	999
	Distance	4.99	7.77	10.41	11.55	13.82	14.59	16.75
	Noice volumes	<22	<26	<29	<31	<35	<38	<41

Air distribution devices

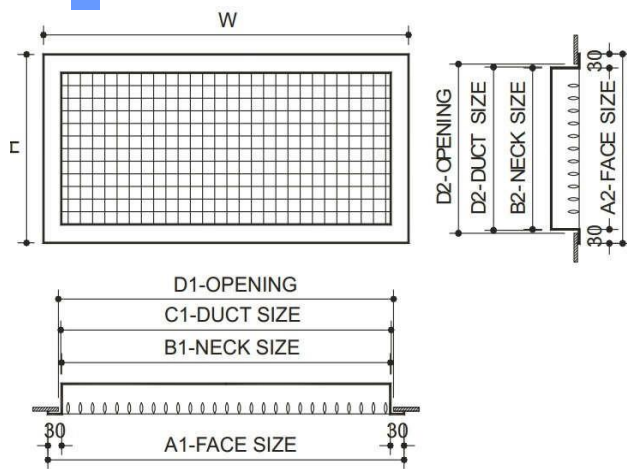
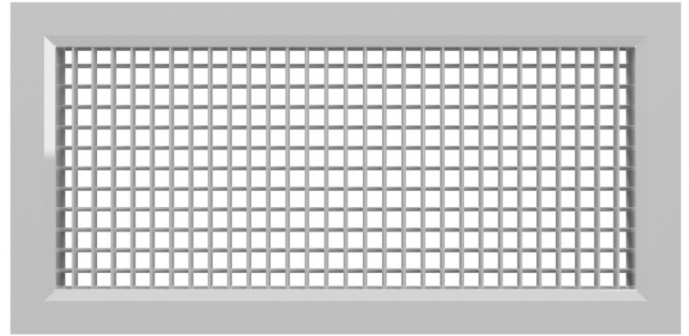
Double Layer Diffuser

Application:

- Functioned as large size air supplying and returning doors.
- Kidney shaped bars can be adjusted upon customer's requests.

Material:

- Extruded Aluminum



Dimensions

DLD

Face size	Neck size	Duct size	Celling size	Flexible size
WxH	W-50	W-40	W-30	
300x200	250x150	260x160	270x170	D150
400x200	350x150	360x160	370x170	D150
400x300	350x250	360x260	370x170	D250
600x300	550x250	560x260	570x270	D250

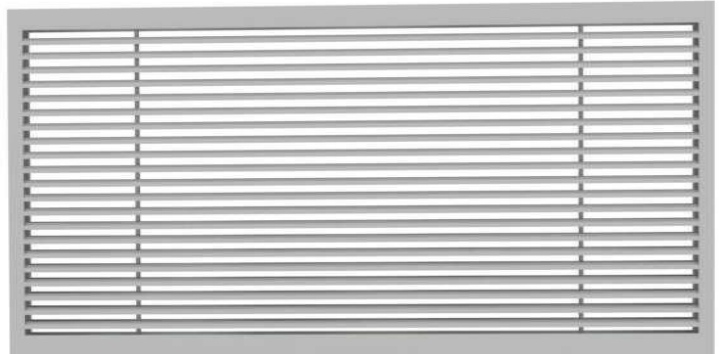
Basic Performance data

Neck size	Velocity	1	1.5	2	2.5	3	3.5	4
300x200	m ³ /s	0.025	0.038	0.050	0.063	0.076	0.188	0.101
	m ³ /h	91	136	181	227	272	318	363
	Distance	4.8	7.4	10.0	11.0	13.2	14.0	16.0
	Noice volumes	<15	<17	<17	<19	<22	<23	<26
400x200	m ³ /s	0.036	0.054	0.071	0.089	0.107	0.125	0.143
	m ³ /h	129	193	257	321	386	450	514
	Distance	5.0	7.8	10.5	11.6	13.9	14.7	16.8
	Noice volumes	<19	<20	<23	<24	<27	<30	<31
400x300	m ³ /s	0.061	0.092	0.122	0.153	0.184	0.214	0.245
	m ³ /h	220	330	441	551	661	771	881
	Distance	5.0	7.8	10.4	11.5	13.8	14.6	16.7
	Noice volumes	<22	<26	<29	<31	<35	<38	<41

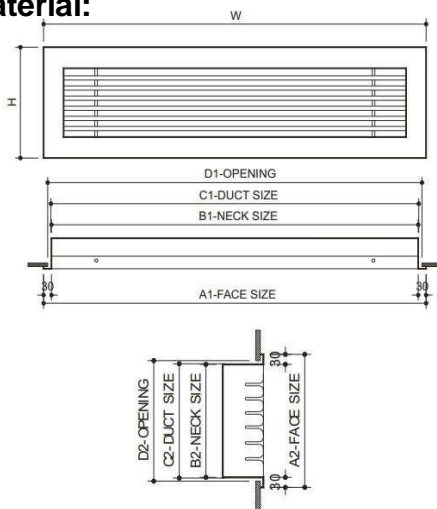
Linear Diffuser

Application:

- Functioned as air supplying and returning doors, linear air supplying grille.
- Placed on mock ceiling or directly attached to ventilation pipe.



Material:



LB

Dimensions

Face size	Neck size	Duct size	Celling size	Flexible size
WxH	W - 50	W-40	W-30	
300x200	250x150	260x160	270x170	D150
400x200	350x150	360x160	370x170	D150
400x300	350x250	360x260	370x170	D250
600x300	550x250	560x260	570x270	D250

Basic Performance data

Neck size	Velocity	1	1.5	2	2.5	3	3.5	4
300x200	m ³ /s	0.024	0.037	0.049	0.061	0.073	0.085	0.098
	m ³ /h	88	132	176	219	263	307	351
	Distance	3.41	5.31	7.11	7.89	9.44	9.97	11.44
	Noice volumes	<15	<17	<17	<19	<22	<23	<26
400x200	m ³ /s	0.034	0.051	0.068	0.085	0.102	0.119	0.137
	m ³ /h	123	184	246	307	369	430	491
	Distance	3.13	4.87	6.52	7.23	8.66	9.14	10.49
	Noice volumes	<17	<19	<21	<21	<25	<30	<32
400x300	m ³ /s	0.057	0.085	0.114	0.142	0.171	0.199	0.228
	m ³ /h	205	307	410	512	614	717	819
	Distance	3.58	5.58	7.47	8.28	9.92	10.47	12.02
	Noice volumes	<19	<21	<22	<25	<29	<31	<34

Air distribution devices

Weather Proof Diffuser

Application:

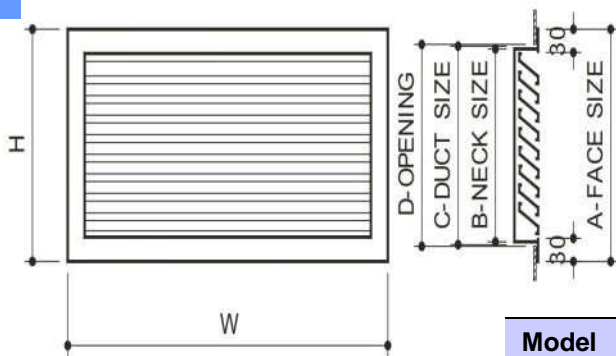
- Functioned as fresh air grille and return air grille.
- Suitable for construction work which require good designs.
- Rain proof. Open air installation.
- Possible attachment to the wall or to the ventilation duct.
- Possible attachment with insects and dust filters.

Material:

- Extruded Aluminum



WPD



Dimensions

Model	Face size	Neck size	Duct size	Ceiling size	Flexible ductsize
WPD	W x H	W - 50	W - 40	W-30	
		H - 50	H - 40	H - 30	
	300 x 200	250 x 150	260 x 160	270 x 170	D150
	400 x 200	350 x 150	360 x 160	370 x 170	D150
	400 x 300	350 x 250	360 x 260	370 x 270	D250

Basic Performance data

Neck size	Velocity	1	1.5	2	2.5	3	3.5	4
300x200	m ³ /s	0.02	0.03	0.04	0.05	0.06	0.071	0.081
	m ³ /h	73	109	145	181	218	254	290
400x200	m ³ /s	0.029	0.043	0.057	0.071	0.086	0.101	0.114
	m ³ /h	103	154	206	257	308	360	411
400x300	m ³ /s	0.049	0.073	0.098	0.122	0.147	0.171	0.196
	m ³ /h	176	264	353	441	529	617	705

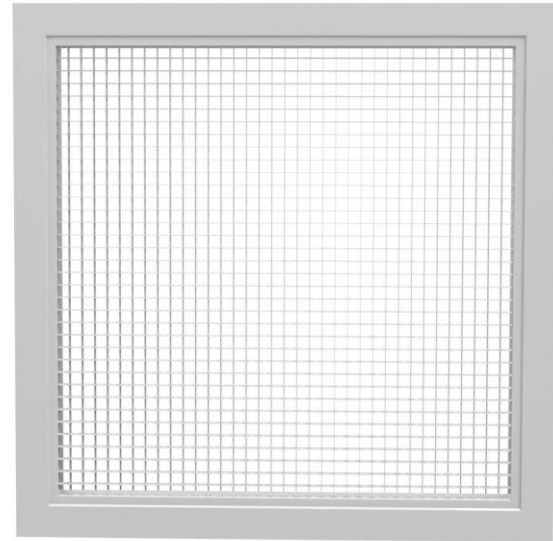
Egg Crate Diffuser

Application:

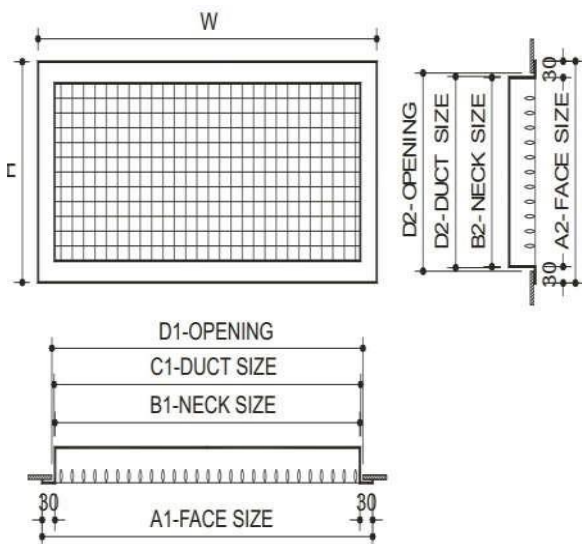
- Functioned as large size air supplying and returning doors.
- Kidney shaped bars can be adjusted upon customer's requests.

Material:

- Extruded Aluminum



ECD



Dimensions

Face size	Neck size
WxH	W-50
200x200	150x150
300x300	250x250
400x400	350x350
500x500	450x450
600x600	550x550

Basic Performance data

Neck size	Velocity	1	1.5	2	2.5	3	3.5	4
300x200	m ³ /s	0.025	0.038	0.050	0.063	0.076	0.188	0.101
	m ³ /h	91	136	181	227	272	318	363
400x200	m ³ /s	0.036	0.054	0.071	0.089	0.107	0.125	0.143
	m ³ /h	129	193	257	321	386	450	514
400x300	m ³ /s	5.0	7.8	10.4	11.5	13.8	14.6	16.7
	m ³ /h	< 22	< 26	< 29	< 31	< 35	< 38	< 41

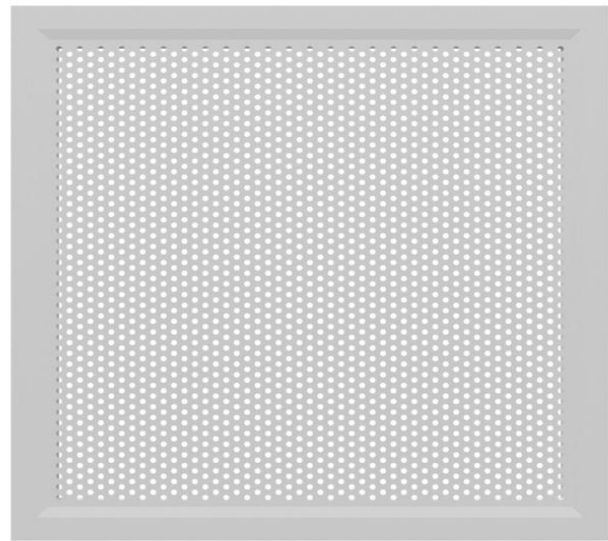
Air distribution devices

Perforated Face Diffuser

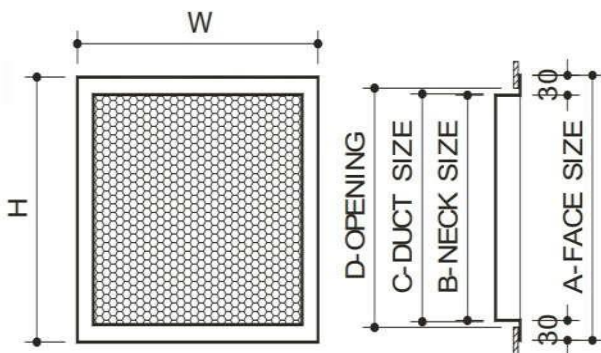
Application:

- Functioned as air supplying and returning doors.
- Equipped with filters.
- Suitable for health services.

Material:



PFD



Dimensions

Face size	Neck size	Duct size	Ceiling size	Flexible size
W x H	W - 50	W - 40	W - 30	
200 x 200	150 x 150	160 x 160	170x 170	D100
300 x 300	250 x 250	260 x 260	270 x 270	D150
400 x 400	350 x 350	360 x 360	370 x 370	D200
500x500	450x450	460x460	470x470	D250
600 x 600	550 x 550	0 x 560	570 x 570	D300

Basic Performance data

Neck size	Velocity	1	1.5	2	2.5	3	3.5	4
300x300	m ³ /s	0.0317	0.0475	0.0634	0.0792	0.095	0.1109	0.1267
	m ³ /h	114.05	171.07	228.1	285.12	342.14	399.17	456.19
500x500	m ³ /s	0.1065	0.1597	0.213	0.2662	0.3194	0.3727	0.4259
	m ³ /h	383.33	574.99	766.66	958.32	1150	1341.6	1533.3
600x600	m ³ /s	0.1604	0.2406	0.3208	0.401	0.4811	0.5613	0.6415
	m ³ /h	577.37	866.05	1154.7	1443.4	1732.1	2020.8	2309.5

Round Diffuser

Application:

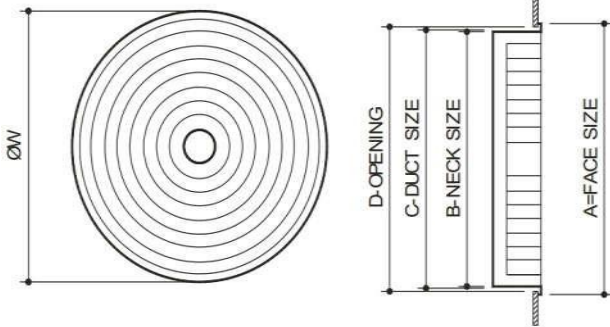
- Functioned as air-supplying and air returning doors.
- Possible attachment with VCD valves on the ceiling.

Material:

- Extruded Aluminum



RD



Dimensions

Face size	Neck size	Duck size
D	D - 205	D - 200
300	95	D100
400	195	D200
500	295	D300
600	345	D400

Basic Performance data

Neck size	Velocity	1	1.5	2	2.5	3	3.5	4
300	m ³ /s	0.042	0.064	0.085	0.106	0.127	0.148	0.170
	m ³ /h	152.6	228.9	305.2	381.5	457.8	534.1	610.4
400	m ³ /s	0.075	0.113	0.151	0.188	0.226	0.264	0.301
	m ³ /h	271.3	406.9	542.6	678.3	813.9	949.5	1085.2
500	m ³ /s	0.118	0.177	0.236	0.294	0.353	0.412	0.471
	m ³ /h	423.9	635.9	847.8	1059.8	1271.7	1483.7	1695.6
600	m ³ /s	0.17	0.254	0.339	0.424	0.509	0.593	0.678
	m ³ /h	610.4	915.6	1220.8	1256	1813.2	2136.5	2441.7

Air distribution devices

Ball Jet Diffuser

Application:

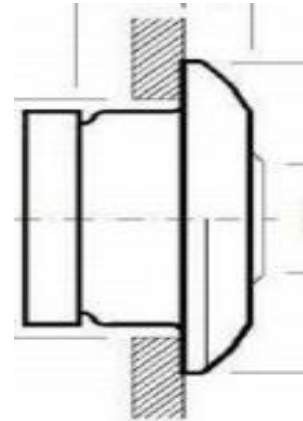
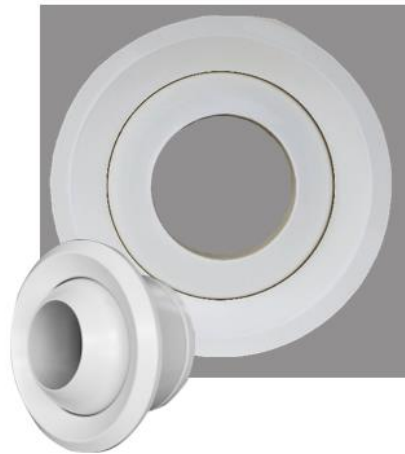
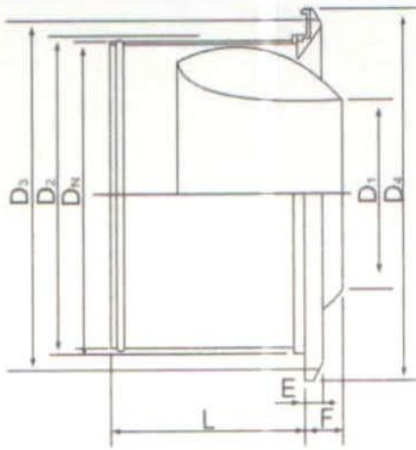
- Mainly used in area where the a/c outlets are far away from the people moving around, such as airport, concert hall, theater, museum,...

Material:

- Extruded Aluminum



BJD



Basic Performance data

Neck size	D1	D2	D3	D4	L	E	F	Air volume (m3/h)	Range (m)
100	100	149	48	73	76	22	0	450	30
125	125	173	62	90	95	24	0	600	30
150	151	199	76	108	110	23	5	800	30
200	203	265	107	152	138	27	4	1094	30
250	252	310	128	195	175	25	7	1368	30
315	318	378	180	240	200	30	18	1680	30
400	399	468	223	330	227	31	46	2710	30
450	448	523	275	375	220	32	33	3200	30
500	494	583	285	430	250	35	63	4000	30

Round Diffuser Rotate Style - Cửa gió tròn có núm xoay

Application - Ứng dụng

• Functioned as air-supplying and air-returning doors.

Được sử dụng làm cửa gió hồi và cửa gió cấp

• Air grill attachment with VCD valves on the top.

Cửa gió gắn kèm van VCD được gắn trực tiếp trên cổ.



RDR

Material - Vật liệu:

Extruded Aluminum

Nhôm định hình

Round Volume Damper—GI Sheet

Van gió tròn—Tôn tráng kẽm

Dimensions - Kích thước



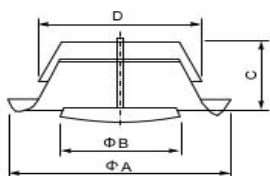
Face size Kích thước bề mặt	VD Van gió tròn	Flexible Duct Ống gió mềm
D	VD	FD
320	150	D150
450	200	D200
600	250	D250

Basic Performance data - Dữ liệu cơ bản

Neck size Kích thước cổ	Velocity Lưu lượng kk ra khỏi cửa	1	1.5	2	2.5	3	3.5	4
300	m ³ /s	0.042	0.064	0.085	0.106	0.127	0.148	0.170
	m ³ /h	152.6	228.9	305.2	381.5	457.8	534.1	610.4
400	m ³ /s	0.075	0.113	0.151	0.188	0.226	0.264	0.301
	m ³ /h	271.3	406.9	542.6	678.3	813.9	949.5	1085.2
500	m ³ /s	0.118	0.177	0.236	0.294	0.353	0.412	0.471
	m ³ /h	423.9	635.9	847.8	1059.8	1271.7	1483.7	1695.6
600	m ³ /s	0.17	0.254	0.339	0.424	0.509	0.593	0.678
	m ³ /h	610.4	915.6	1220.8	1256	1813.2	2136.5	2441.7

Air distribution devices

Metal Air Valves



EV-S
Stainless air valves

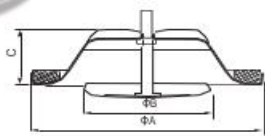
EV Exhaust Air Valves

- Suitable for offices, houses, etc, easy installation on the wall or in the ceiling.
- Manufactured from sheet steel painted white
- Available also in Stainless steel version EV-S.
- The valve body is equipped with a cellular plastic gasket to form an air-tight seal.
- The air flow is adjusted by rotating the control disc.
- Supplied with mounting ring.

Semi gloss finish 70%
specular finish 90%

- **Packing: hardboard box in white or brown colour.**

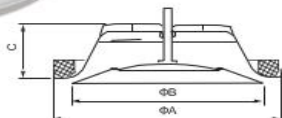
EV	A	B	C	D	
80	115	62	42	77.5	7
100	138	75	40	97.5	7
125	164	100	46	122.5	7
150	202	120	50	147.5	7
160	211	130	54	157.5	7
200	248	158	63	197.5	7
250	305	215	75	248	7



NEV

- Suitable for offices, houses, etc, easy installation on wall or in the ceiling.
- Manufactured from sheet steel painted white
- The valve body is equipped with a cellular plastic gasket.
- The air flow is adjusted by rotating the control disc.
- Supplied with mounting ring.

NEV	A	B	C	
80	114	62	37	7
100	134	77	40	7
125	165	101	46	7
150	195	121	54	7
160	198	121	54	7
200	247	160	64	7



NSV

- Suitable for offices, houses, etc, easy installation in the ceiling.
- Manufactured from sheet steel painted white
- The valve body is equipped with a cellular plastic gasket.
- The air flow is adjusted by rotating the control disc.
- Supplied with mounting ring.

NSV	A	B	C	
80	114	95	37	7
100	134	112	40	7
125	165	137	46	7
150	195	160	54	7
160	195	160	54	7
200	247	207	64	7

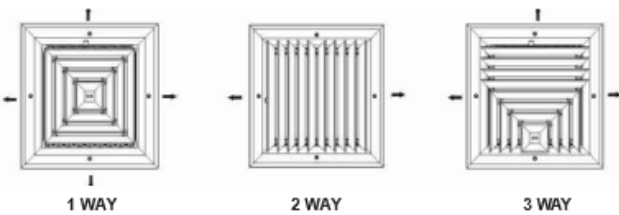
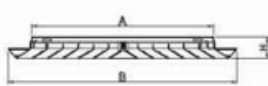
Air distribution devices



CD-SD

- The diffuser CD-SD is used for the supply and exhaust of cooled and heated air.
- Completely in extruded aluminium; satin anodized or powder-coated white RAL9010, 9016.
- The central core is removable for easy maintenance.
- Simple and pleasant appearance.
- Accessories: **OBD opposite blade damper**

Neck adapter



CD-SD	A	B	H
6"	140	230	55
8"	190	280	55
9"	216	306	55
10"	240	330	55
12"	292	382	55

Circular Diffusers



CD-RA

- Used for supply and exhaust of the hot or cold air.
- All aluminium construction.
- Powder-coated or anodized finish, standard colour RAL9010, 9016.
- Assembled with integral butterfly volume damper made of plastic.
- The rotatable inner core offers free access to the integral butterfly plastic volume damper.

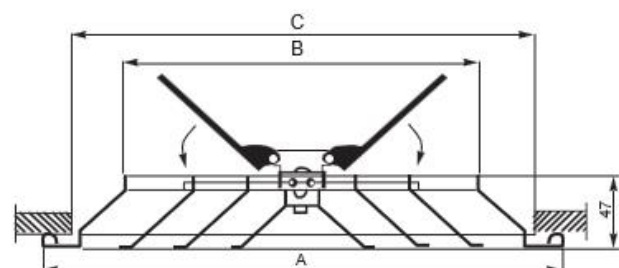


Butterfly damper in plastic

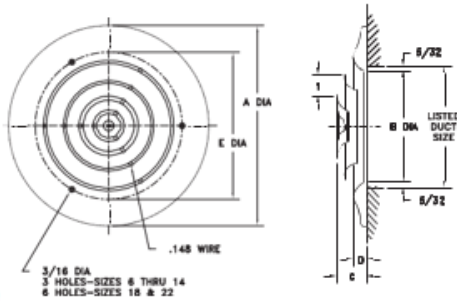


Vacuum plastic film packing

CD-RA	A	B	C
150	257	149	225
200	307	199	275
250	357	249	325
300	407	299	375
350	457	349	425



Air distribution devices



CD-RC

- All-steel construction.
- Step-down diffuser rings deflect air stream 360 degrees.
- For ceiling air diffusion application.
- Round face.
- Bright White finish.

Size	A DIA	B DIA	C	D	E DIA
6	9-15/16	5-11/16	1-3/64	11/16	6-1/2
8	11-15/16	7-11/16	1-7/32	11/16	8-1/2
10	13-15/16	9-11/16	1-25/64	11/16	10-1/2
12	15-15/16	11-11/16	1-9/16	11/16	12-1/2
14	17-15/16	13-11/16	1-3/4	11/16	14-1/2
18	23	17-11/16	2-19/32	11/16	21-3/4

Swirl Diffusers

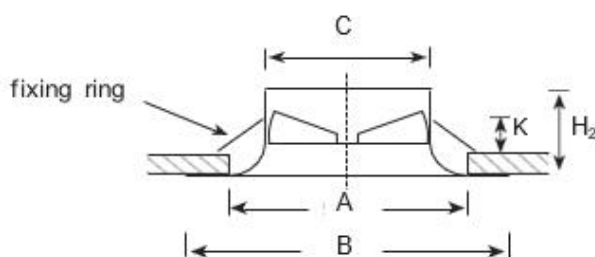


SD-A

- Applied to premium places and industrial workshop.
- Blow in helix, high inductivity, reduce temperature rapidly with low noise.
- With excellent performance, SD-A could be either installed flatly with the ceiling or hung on construction objects, or on the air pipe inside of enclosed ceiling.
- Both the panel and diffusing ring are painted white (RAL9010) standard.



SPECS	A	B	C	H ₂
125	165	205	124	70
160	210	250	159	95
200	260	310	199	110
250	330	380	249	130
315	395	435	314	165



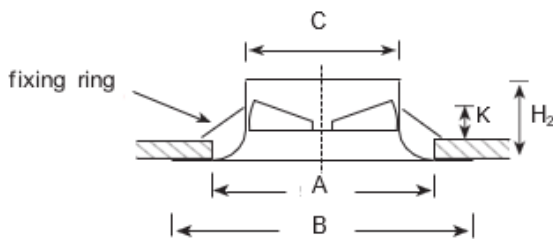
Swirl Diffusers



SD-A

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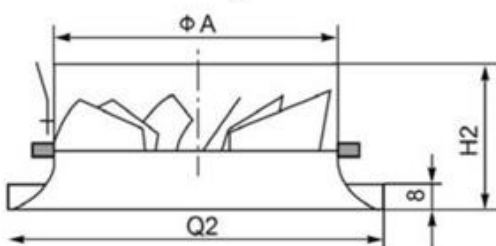
SPECS	A	B	C	H ₂
125	165	205	124	70
160	210	250	159	95
200	260	310	199	110
250	330	380	249	130
315	395	435	314	165



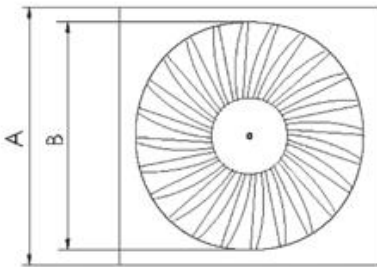
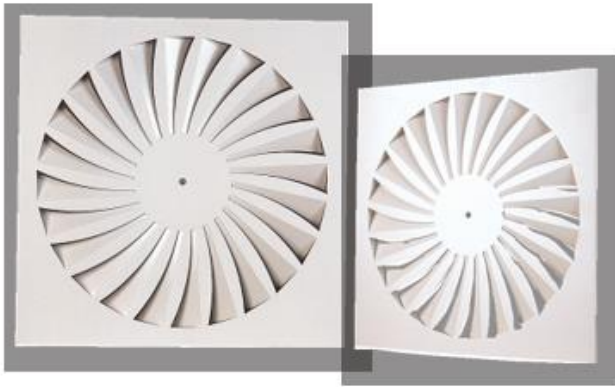
SD-R

- the positive air outlet assembled with air deflector and turbine type blades, the blades could be adjustable by manual or by electric device to reach the goal of blast steadily.
- All Aluminum construction painted in RAL9010 or 9016.

SD-R	A	H ₂	Q ₂
250	295	195	370
315	368	212	468
350	398	216	500
400	456	232	567
500	559	233	655



Air distribution devices

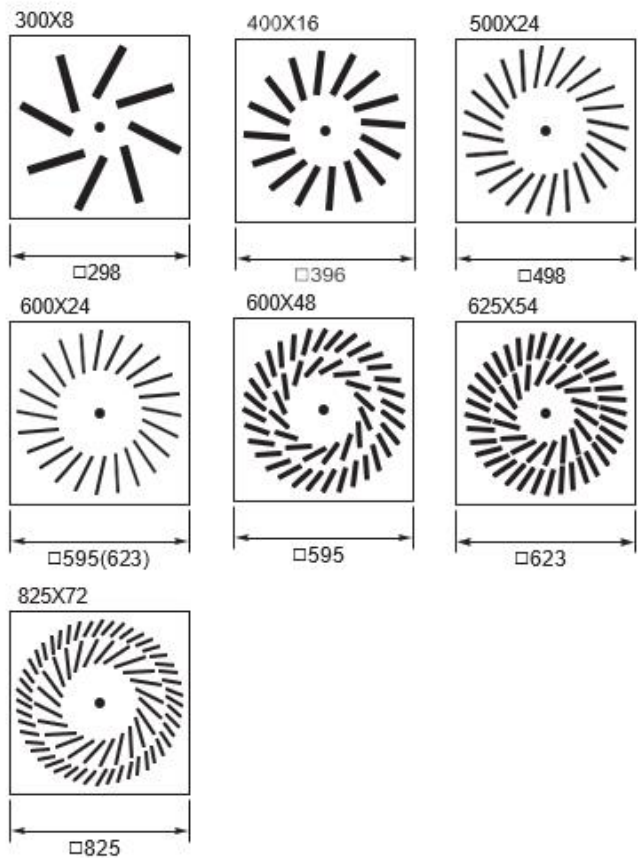


SD-B

- SD-B swirl diffusers consist of fixed, rapidly arranged air control blades.
- The diffuser face of SD-B offers a high volume flow rate at low sound power levels
- Available in 4 sizes to meet architectural requirements, the face plate can be circular or square.
- Square face plate are designed for T-bar ceiling.
- Powder-coated surface finish, standard colour ~~colour~~.

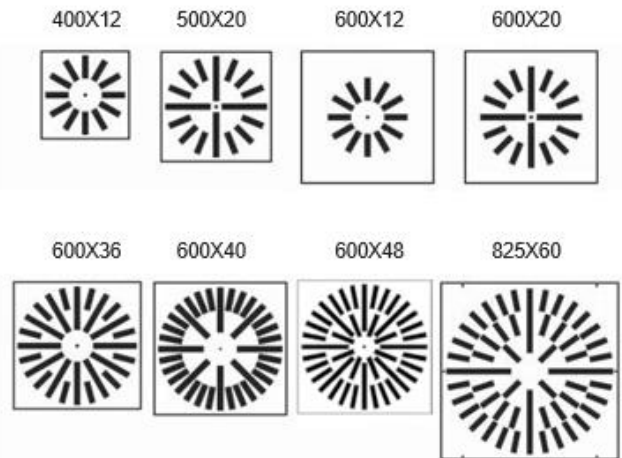


SD-B	A	B
300	595	254
400	595	336
500	595	440
600	595	530



SD-CA

- The swirl diffuser SD-CA be used for either supply or exhaust air application.
- The diffuser be supplied with either circular or square face plate depending on architectural requirements.
- The face plate is in galvanized sheet steel, powder coated white (RAL 9010 or RAL 9016).
- Control blades are made from polystyrol, with black as standard or white on request.
- All sizes are suitable for flush mounting into a ceiling.
- Available in the sizes above.

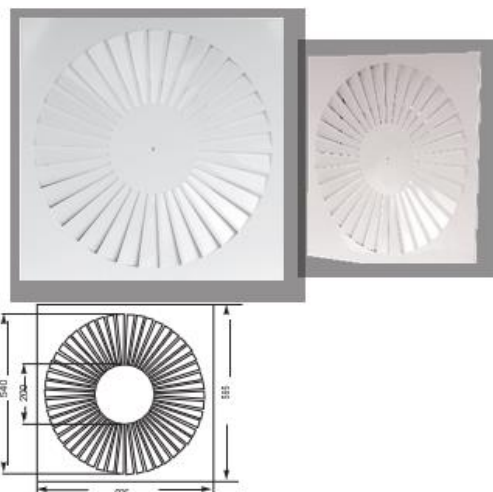


SD-CB

- The swirl diffuser SD-CB be used for either supply or extract air application.
- The diffuser be supplied with square face plate.
- The face plate is in galvanized sheet steel, powder coated white (RAL 9010 or RAL 9016).
- Control blades are made from polystyrol, with black as standard or white on request.
- All sizes are suitable for flush mounting into a ceiling.
- Available in the sizes listed below.

SD-CB	Dimensions	Slot numbers
400X12	395X395	12
500X20	495X495	20
600X12	595X595	12
600X20	595X595	20
600X36	595X595	36
600X40	595X595	40
600X48	595X595	48
825X60	820X820	60

SW



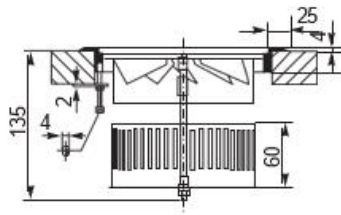
- Swirl diffuser SW generate high-quality, diffuse air flow according to the principle of turbulent mixing air flow.
- The diffuser SW can produce comfortable indoor air conditions.
- Low sound power level and pressure loss.
- For installation flush with suspended false ceiling or below closed false ceiling.

Air distribution devices



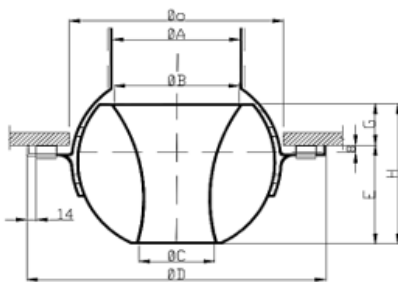
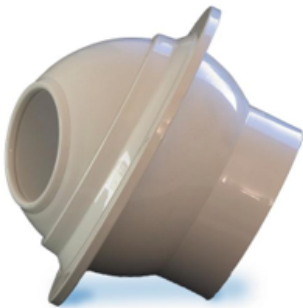
Circular swirl floor diffuser FDS

- Circular air supply diffuser with swirl function from mounting in floors.
- Diffuser manufactured in cast Aluminium, drip trap and internal swirl constructed in galvanized steel sheet.
- High induction levels.
- A cleanable diffuser.
- Sizes: $\Phi 150$, $\Phi 200$



JN-T

- Made of Aluminum powder coated in color RAL9010 or 9016
- Mounted on walls or directly on rectangular or round ducts
- Suitable for large spaces like in concert halls, museums, theatres, shopping centers, airports etc
- The up to 45 degrees possible inclination of the jet helps directing the air to the right places
- Throws of more than 20 meters can be achieved
round neck diameters of 150mm,200mm,250mm,300mm,350mm



JN-T	A	B	C	D	E	G	H	O
150	125	120	70	235	73	40	114	185
200	175	170	100	300	92	58	150	235
250	225	210	130	350	115	70	185	285
300	250	250	160	405	142	70	216	335
350	320	320	190	450	170	70	250	380

JN-R



- Made of aluminum
- Deliver large volumes of airflow at long throw and low noise level, the durational Jet Ring diffusers are most suitable for large size spaces as theaters, concert halls, airports, museums and entertainment facilities.
- Finish: Powder Coated in Color RAL9010 or 9016, other color on request.
Neck size:150,200,250,300,315,350,400

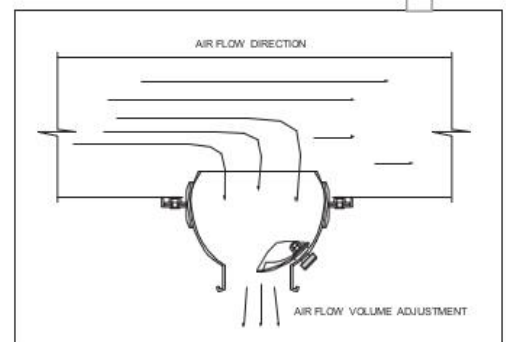
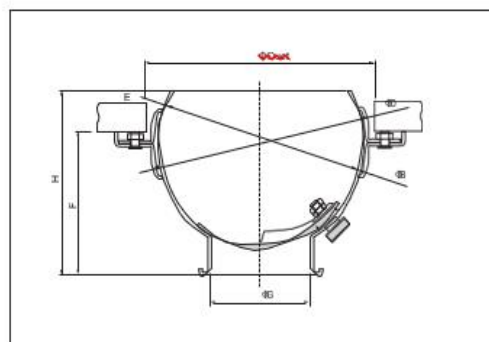
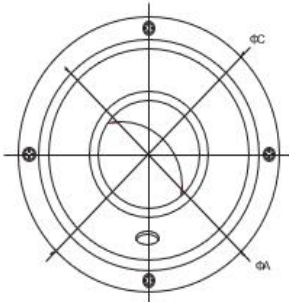
Spherical Diffuser SPD

- Made from aluminium.
- Anodized, or powder-coated surface finish.
- Rotable body can be rotated in any direction off center.
- Air volume is controlled easily with the turn of a knob.
- Available in size: 100,125,150,200,250,300 inches.



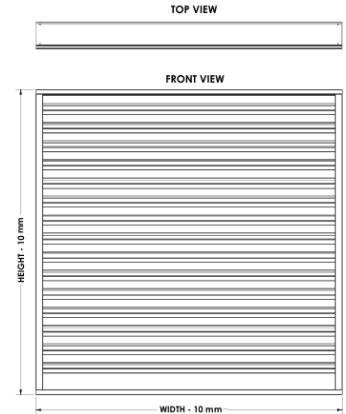
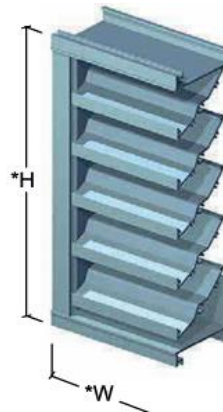
Technical data Dimension data mm

Size	A	B	C	F	G	H	N	Max Angle
CL-100	102	127	145	71.8	50	95	113	95
CL-125	127	155	178	85.8	64	114	138	114
CL-150	150	178	200	96.8	74	130	162	130
CL-200	193	230	255	116.8	99	156	205	156
CL-250	250	290	315	152	135	216	262	216
CL-300	300	340	366	176.5	160	250	313	250



Air distribution devices

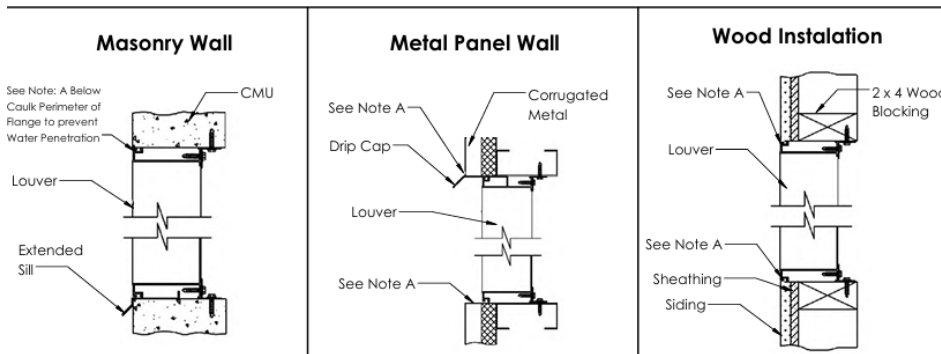
FIXED LOUVER (Aluminum extrusion thickness 2mmT) -Code : LOUVER-EXT2-.....
Type : FL-D-4



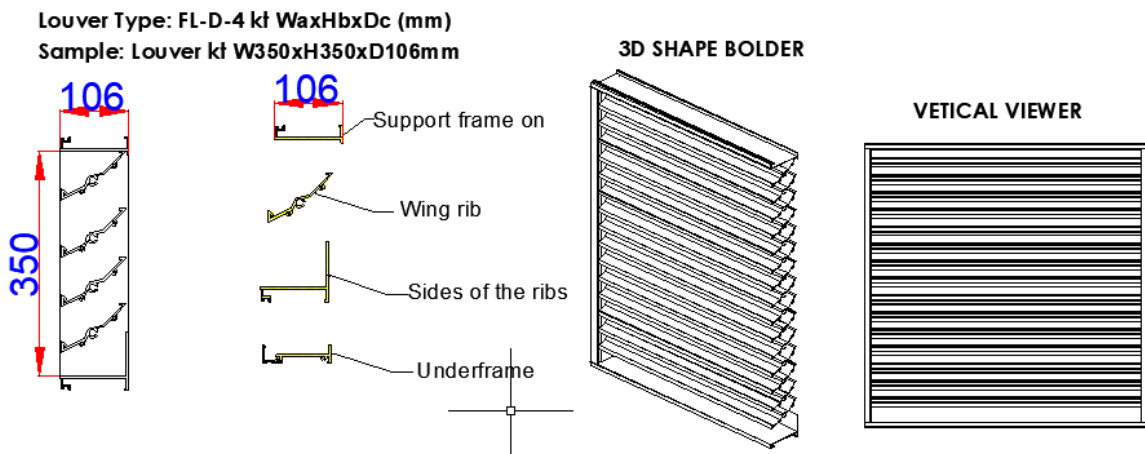
Prodetech Fixed Louvers are blades without operation, neither manual nor electrical. Unlike adjustable louvers, fixed blades are always positioned in the same fixed angle, e. g., 45° or 60°. Prodetech Fixed Louvers are used in buildings wherever there is a need for creating resistance to rainwater, excessive noise, hurricane-type winds, or a combination of these problems - while also ensuring proper airflow.

Prodetech Fixed Louvers are available in Standard Blades and also in Drainable Blades. These louvers are available in Extruded Aluminum, and Galvanized Steel and in different RAL finishes as per the project requirements.

Louver Installation Instructions

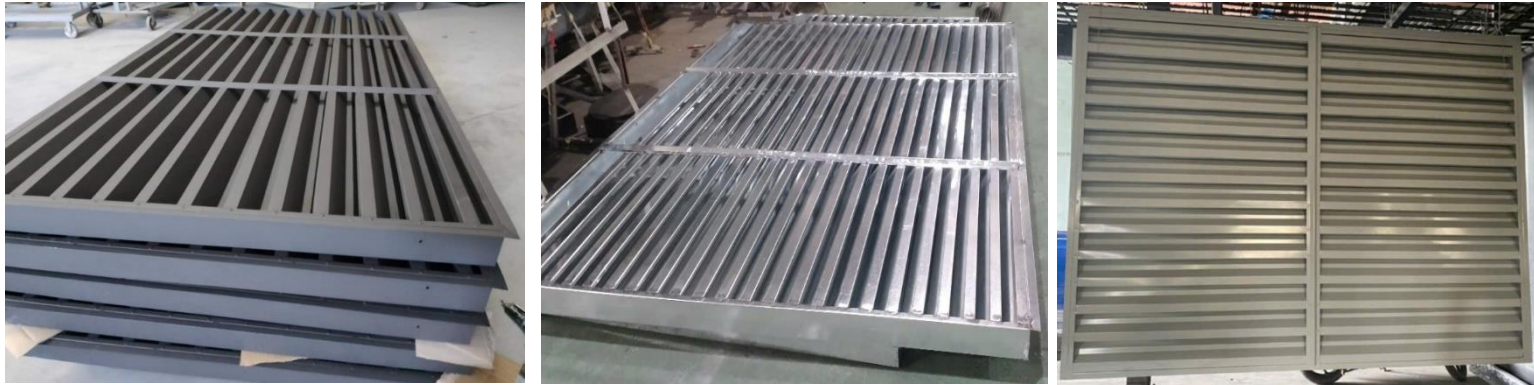


Drawing detail drawing for Louver 350x350 (Type :FL-D-4)

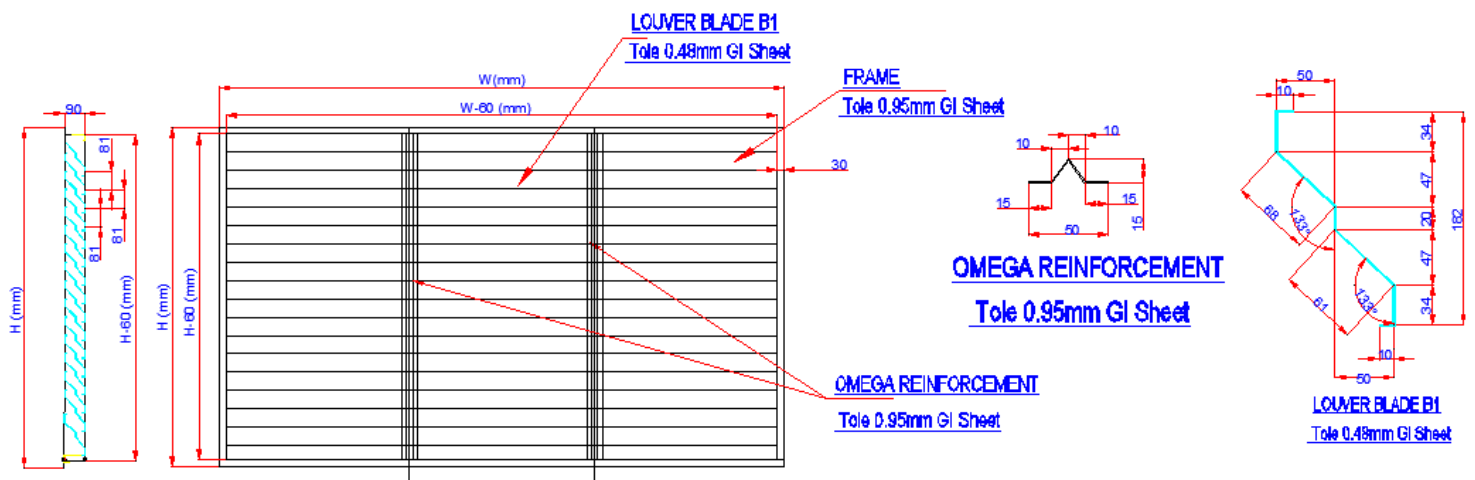


Air distribution devices

LOUVER GI SHEET (Electric Static Powder coating) - Code : LOUVER-GI SHEET.....



Details of fabricating Prodotech louver GI sheet with electrical static powder coating



For louver rainproof air vents with a maximum edge size of $W > 1500\text{mm}$, Prodotech recommends customers switch to using Louver GI Sheet powder-coated designed according to the standards combined by Vingroup and Hợp Lực ME. This louver design ensures good technical performance, excellent rain protection, and reasonable product pricing, providing benefits for contractors.

Advantages of Prodotech Louvers

- + Made from rust-resistant galvanized steel and welded connections, hence the louvers are sturdy and strong
- + Reasonable price suitable for project bidding
- + Excellent rain protection. Able to be powder-coated in multiple colors according to project requirements
- + The design and appearance of the louvers are beautiful and solid.

Images of installing Louver GI Sheet produced by Prodotech at construction site projects.



1 Air distribution devices

Storgare Material Extruded Aluminum



Extruded Aluminum



ALUMINIUM CUTTING TABLE



ALUMINIUM HAND CUTTER



AMADA MACHINE



ALUMINIUM WELDING MACHINE



OVARIAN POWDER COATING



- Note (Note):
- All products conform Prodetech wind door quality management system ISO 9001: 2008
- Products are tested vents Prodetech conformity:
- 1) TCVN 5878: 2007; TCVN 2097-1993; TCVN 197-2002
- 2) Standard Air Diffusion Council (USA) Equipment (Standard door vents world associations ADC)
- 3) SMACNA standard for air grill (Standard SMACNA the vents)



VENT CAP



1 Vent Cap

1. Wall Vent

SUS



Specification / Size	Duct Diameter(mm)	Duct Length(mm)
SUS 100	97	52
SUS 125	120	52
SUS 150	145	62
SUS 160	155	62
SUS 180	175	73
SUS 200	195	73

Specification / Size	Duct Diameter(mm)	Duct Length(mm)
SUS 100LN	97	52
SUS 125LN	120	52
SUS 150LN	145	62

SV



Specification / Size	Duct Diameter(mm)	Duct Length(mm)
SV 100	97	52
SV 125	120	52
SV 150	145	62
SV 160	155	62
SV 180	175	73
SV 200	195	73

SUC



Specification / Size	Duct Diameter(mm)	Duct Length(mm)
SUC 100	97	52
SUC 125	120	52
SUC 150	145	62

SUF



Specification / Size	Duct Diameter(mm)	Duct Length(mm)
SUF 100	97	52
SUF 125	120	52
SUF 150	145	62

Specification / Size	Duct Diameter(mm)	Duct Length(mm)
SUF 100LN	97	52
SUF 125LN	120	52
SUF 150LN	145	62

SUA



Specification / Size	Duct Diameter(mm)	Duct Length(mm)
SUA 100	97	52
SUA 125	120	52
SUA 150	145	62

Specification / Size	Duct Diameter(mm)	Duct Length(mm)
SUA 100LN	97	52
SUA 125LN	120	52
SUA 150LN	145	62

SMS



Specification / Size	Duct Diameter(mm)	Duct Length(mm)
SMS100	97	52
SMS125	120	52
SMS150	145	62
SMS200 / AMS200	195	65
Specification / Size	Duct Diameter(mm)	Duct Length(mm)
SMS 100 LN	97	52
SMS 125 LN	120	52
SMS 150 LN	145	62

SMSR/AMSR



Specification / Size	Length (mm)	Width (mm)
SMSR2626/AMSR2626	255	255
SMSR3636/AMSR3636	355	355
SMSR4646/AMSR4646	455	455
SMSR5656/AMSR5656	555	555
SMSR6666/AMSR6666	655	655

SED



Specification / Size	Length (mm)	Width (mm)	Product high (mm)
SED 1309	130	90	11
SED 1809	180	90	11
SED 3009	300	90	11
SED 1522	150	220	11
SED 1616	160	160	11
SED 2020	200	200	11
SED 2520	245	195	11
SED 3704	370	40	11

SSE110/ASE110

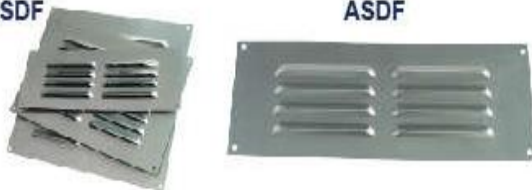
SSE204/ASE204



Specification / Size	Length (mm)	Width (mm)
SSE110 / ASE110	110	54
SSE204 / ASE204	205	61

SSDF

ASDF



Specification / Size	Duct Diameter(mm)	Duct Length(mm)
SSDF93 ASDF93	225	75
SSDF96 ASDF96	225	150
SSDF99 ASDF99	225	225

SUL



Specification / Size	Duct Diameter(mm)	Duct Length(mm)
SUL 100LN	97	52
SUL 125LN	120	52
SUL 150LN	145	62

Vent Cap

SUG



Specification / Size	Duct Diameter(mm)	Duct Length(mm)
SUG 100	97	52
SUG 125	120	52
SUG 150	145	62
SUG 160	155	62
SUG 180	175	73
SUG 200	195	73

SUK



Specification / Size	Duct Diameter(mm)	Duct Length(mm)
SUK 100	97	52
SUK 125	120	52
SUK 150	145	62

Specification / Size	Duct Diameter(mm)	Duct Length(mm)
SUK 100LN	97	52
SUK 125LN	120	52
SUK 150LN	145	62

SUE



Specification / Size	Duct Diameter(mm)	Duct Length(mm)
SUE100	95	22
SUE125	122	24
SUE150	144	26

SUH



Specification / Size	Duct Diameter(mm)	Duct Length(mm)
SUH100	97	15
SUH125	120	15
SUH150	145	15

LMA



Specification / Size	Duct Diameter(mm)	Duct Length(mm)
LMA 100	97	52
LMA 125	120	52
LMA 150	145	62

SCS



Specification / Size	Contour Dimension(mm)	Product high (mm)
SCS 140	φ 140	14
SCS 190	φ 190	14

AIE



Specification / Size	Length (inch)	Width (inch)
AIE 100	97	52
AIE 110	106	52
AIE 125	120	52
AIE 140	136	52
AIE 150	145	62
AIE 160	155	62
AIE 180	175	72
AIE 200	195	72

SUI



Specification / Size	Duct Diameter(mm)	Duct Length(mm)
SUI 100	96	47
SUI 125	120	47

AUA100



Specification / Size	Duct Diameter(mm)	Duct Length(mm)
AUA100	101	280

GUA



Specification / Size	Duct Diameter(inch)	Duct Length(inch)
GUA4"	4"	8"
GUA7"	7"	8"

2. Gable Vent

ASA



Specification / Size	Length (inch)	Width (inch)
ASA0808 / GSA0808	8"	8"
ASA1212 / GSA1212	12"	12"
ASA1218 / GSA1218	12"	18"
ASA1418 / GSA1418	14"	18"
ASA1424 / GSA1424	14"	24"
ASA1824 / GSA1824	18"	24"
ASA2430 / GSA2430	24"	30"
ASA0808CW	8"	8"
ASA1212CW	12"	12"
ASA1218CW	12"	18"
ASA1418CW	14"	18"
ASA1424CW	14"	24"
ASA1824CW	18"	24"
ASA2430CW	24"	30"

GSB



Specification / Size	Length (inch)	Width (inch)
GSB1212	12"	12"
GSB1218	12"	18"
GSB1412	14"	12"
GSB1418	14"	18"
GSB1424	14"	24"

GSC



Specification / Size	Length (inch)	Width (inch)
GSC1212	12"	12"
GSC1218	12"	18"
GSC1412	14"	12"
GSC1418	14"	18"
GSC1424	14"	24"

3. Undereave Vent

GTV



Specification / Size	Length (inch)	Width (inch)
GTV1404	14"	4"
GTV1406	14"	6"
GTV1408	14"	8"

GWV1406



Specification / Size	Length (inch)	Width (inch)
GWV1406	14"	6"

GFV



Specification / Size	Length (inch)	Width (inch)
GFV1606	16"	6"
GFV1608	16"	8"

ASE



Specification / Size	Duct Diameter (mm)	Duct Length (mm)
ASE4 / ASE1W / ASE1B	25	24
ASE1 / ASE2W / ASE2B	51	24
ASE2 / ASE3W / ASE3B	75	24
ASE3 / ASE4W / ASE4B	101	24

SAB



Specification / Size	Duct Diameter (mm)	Duct Length (mm)
SAB100	97	52
SAB125	120	52
SAB150	145	62
SAB160	155	62
SAB180	175	73
SAB200	195	73

Specification / Size	Duct Diameter (mm)	Duct Length (mm)
SAB 100LN	97	52
SAB 125LN	120	52
SAB 150LN	145	62

1 Vent Cap

ASB1604



Specification / Size	Length (mm)	Width(mm)
ASB1604	406	102
ASB1604CB	406	102
ASB1604CW	406	102

ASC



Specification / Size	Length (mm)	Width(mm)
ASC8	2438	57
ASC8CW	2438	57
ASC8CB	2438	57

ASB1606



Specification / Size	Length (mm)	Width(mm)
ASB1606	406	152
ASB1606CB	406	152
ASB1606CW	406	152

ASB1608



Specification / Size	Length (mm)	Width(mm)
ASB1608	406	203
ASB1608CB	406	203
ASB1608CW	406	203

GEV



Specification / Size	Length (inch)	Width (inch)
GEV1405	14"	5"
GEV2203	22"	3"

GSV



Specification / Size	Length (inch)	Width (inch)
GSV1405	14"	5"
GSV2203	22"	3"

4. Door Vent

GDV



Specification / Size	Duct Diameter (mm)	Duct Length (mm)
GDV1414	14"	14"
GDV1824	18"	24"

SSDA



ASDA



Specification / Size	Length (mm)	Width (mm)
SSDA93/ASDA93	225	75
SSDA96/ASDA96	225	150
SSDA99/ASDA99	225	225

5. Foundation Vent

GLV1406



GLVB1608



Specification / Size	Length (mm)	Width (mm)
GLV1406-1	350	150
GLV1406-1S	350	150
GLV1406-2	450	230
GLV1406-2S	450	230

Specification / Size	Length (inch)	Width (inch)
GLVB1608	16"	8"

7. Roof Flashing

ACR



Specification / Size	Up diameter /short-axes(inch)	Duct height (inch)
ACR534	5 $\frac{3}{4}$ "	9.8"
ACR778	7 $\frac{7}{8}$ "	10"
ACR967	9 $\frac{6}{7}$ "	10"
ACR467	4 $\frac{6}{5}$ "	9.8"
ACO869	8 $\frac{6}{5}$ "	10"

8. Diffuser

SUB

AUB



Specification / Size	Duct Diameter(mm)	Duct Length(mm)
SUB 100 / AUB 100	97	52
SUB 125 / AUB 125	120	52
SUB 150 / AUB 150	145	62
SUB 160	155	62
SUB 200	195	62

9. Accessories

ABL

GBL



Specification / Size	Duct Diameter(mm)	Duct Length(mm)
ABL100 / GBL100	95	50
ABL125 / GBL125	120	60
ABL150 / GBL150	145	65

ABI



Specification / Size	Duct Diameter(mm)	Duct Length(mm)
ABI100 / GBI100	100	88
ABI125 / GBI125	125	88
ABI150 / GBI150	150	88
ABI200 / GBI200	200	88

SME



Specification / Size	Duct Diameter(mm)	Duct Length(mm)
SME 100	87	7
SME 125	112	8
SME 150	135	10

SB1 150



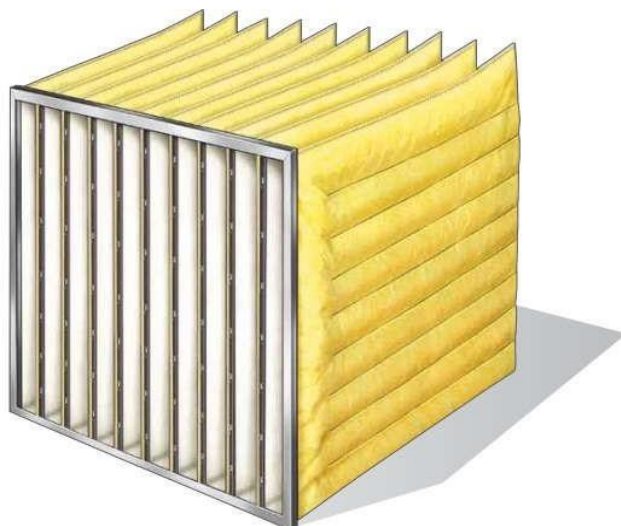
Specification / Size	Duct Diameter(mm)	Duct Length(mm)
SB1 150	145	62

FILTERS

M-pack Pocket Filters

M-PACK is designed by roll-form G.I steel frame. The pockets are assemble into the frame by mouth ring to form a system to prevent pocket drop off during transportation and operation.

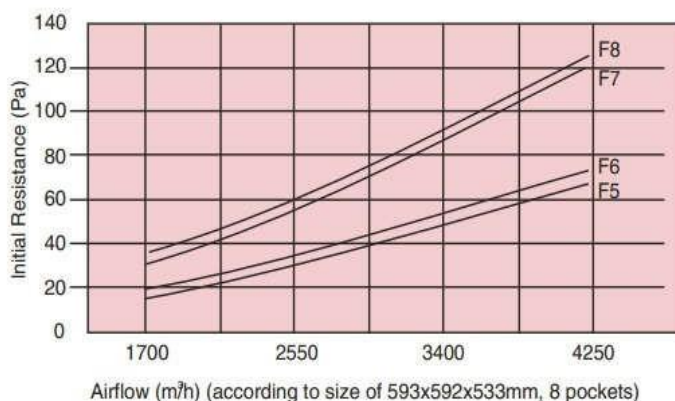
M-PACK filter media is using high quality synthetic fiber. The filter media consists of four different layers and using special process to make. Thus provide high holding capacity and low resistance. Needle pinching and melt blown layer will determine the filter efficiency. Each pocket is ultra sonically sealed to prevent leakage during operation. Mouth ring is to ensure the pocket can handle



CONSTRUCTIONS

Maximum Operating Temperature	60°C (150F)
Holding Frame	Roll formed G.I
Holding Frame Depth	21mm
Mouth Ring	G.I
Media	Meltblow synthetic fiber
Rated Air Flow	2.50m/s
Recommended Final Pressure Drop	1.0"W.G./250Pa
Comer Cap	Aluminium

Initial Resistance vs Rated Capacity



M-PACK POCKET FILTER

NOMINAL (inch) W x H x D	ACTUAL SIZE (mm) W x H x D	POCKET	MEDIA AREA (m²)	RATED AIRFLOW (m³/h)	RATED INITIAL RESISTANCEt (in.w.g)				RATED INITIAL RESISTANCE (Pa)			
					EFFICIENCY				EFFICIENCY			
					F8	F7	F6	F5	F8	F7	F6	F5
24 x 24 x 36	592 x 592 x 914	8	8.7	3400	0.224	0.212	0.132	0.120	56	53	33	30
12 x 24 x 36	287 x 592 x 914	4	4.4	1700	0.228	0.216	0.140	0.128	57	54	35	32
24 x 24 x 30	292 x 592 x 762	8	7.3	3400	0.628	0.256	0.156	0.144	67	64	39	36
12 x 24 x 30	297 x 592 x 762	4	3.6	1700	0.272	0.264	0.160	0.148	68	66	40	37
24 x 24 x 21	292 x 292 x 533	8	5.1	3400	0.368	0.353	0.212	0.196	92	88	49	43
12 x 24 x 21	297 x 592 x 533	4	2.6	1700	0.376	0.356	0.216	0.200	94	89	54	50
24 x 24 x 21	592 x 592 x 533	6	3.8	3400	0.496	0.476	0.288	0.264	124	119	72	66
12 x 24 x 21	287 x 592 x 533	3	1.9	1700	0.504	0.480	0.296	0.268	126	120	74	67
24 x 24 x 15	592 x 592 x 381	6	2.7	3400	0.535	0.496	0.315	0.236	136	126	80	60
12 x 24 x 15	297 x 592 x 381	3	1.35	1700	0.551	0.512	0.323	0.241	140	130	82	61

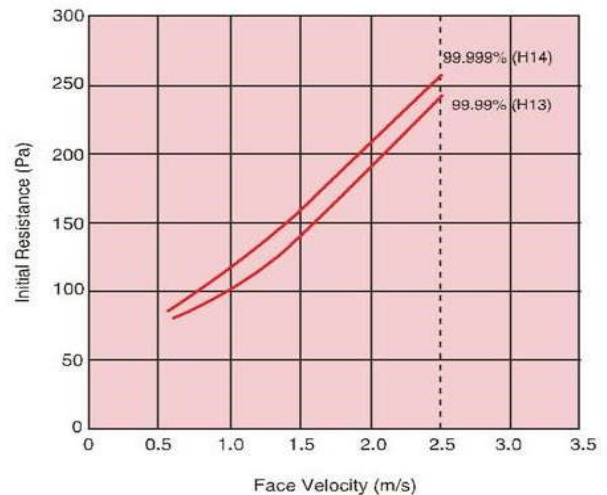
ADVANTAGES

- Low resistance
- Mini pleat design, glass fiber media
- High dust holding capacity, long life span
- Rigidity frame, good performance

M-HV is one of the highest air volume filter, suitable for turbulence air flow and steady air flow. Special designed thermoplastic glue can provide equal spacing between pleated media, this will ensure that the air flow passing with the lowest resistance. Meanwhile it enhances the filtration area, reduce electricity and operation costs.



Depth 290mm Face Velocity vs Pressure Drop



Low Cost, High Air Volume

Suit for center Air-conditioning system and duct works. The rated air flow of M-HV filter size 610 x 610 x 292mm, can stand up to 3400m³/h while the face area velocity is 2.5m/s

High Efficiency, Excellent Media

Galvanized iron frame, bigger filter area, ensuring the efficiency up to 99.99% @ 0.3µm (H13) 99.999% @ 0.3µm (H14). Under rated air flow.

Low Cost and Resistance

Give more pleated media area as compare with M-BOX. Available in two sizes: 610 x 610 mm (24" x 24") and 305 x 610 mm (12" x 24")



TYPE AND TECHNICAL DATA

DIMENSION (exclude gasket) W x H x D (mm)	RATED AIR VOLUME (m ³ /h)	PRESSURE DROP (Pa)			
		INITIAL		FINAL	
		99.99%	99.999%	99.95%	99.995%
305 x 610 x 290	1700	249	249	500	500
610 x 610 x 290	3400	249	249	500	500

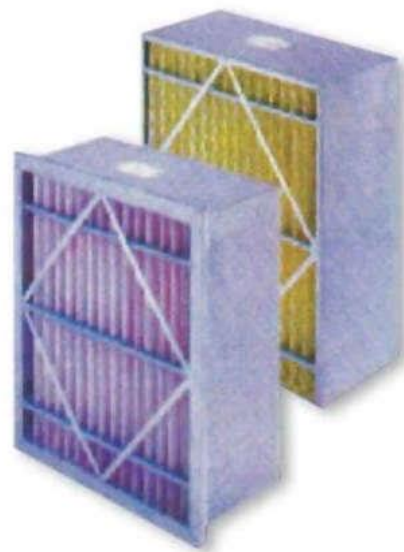
Note:

1. Temperature resistance up to 80°C
2. Humidity resistance up to 100%
3. 1 mm w.g is approximate 10 Pa
4. 1 CFM is approximate 1.6992 CMH

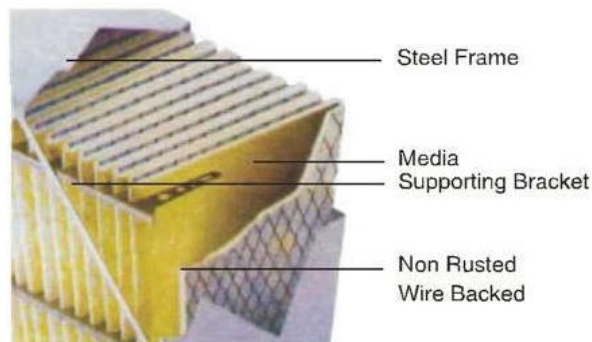
ADVANTAGES

- Rigidity casing
- Available in two frame made of AL or G.I
- High holding capacity and high volume of filtration area
- Low initial resistance
- High performance suitable for VAV & CAV AHU
- Media are ultra sonically sealed
- Average Dust Spot Efficiency: 60-65%, 80-85%, 90-95%
- EN779 Classification: F6, F7, F8

Applications for pharmaceutical, automotive industry, electronic cleanroom system, general industry and commercial buildings HVAC system.



- Protection Layer
- Electrostatic Needle Punching Layer
- Meit Blown Layer
- Protection Color Layer



CONSTRUCTIONS

M-Box filter media is using high quality synthetic fiber. The filter media consists of four different layers and using special process to make. Thus provide high holding capacity and low resistance. Pleating design enhance effective filtration area, increase filtration capacity. lamination of the wire backed material onto the filter media will increase the rigidity and stability of the unit. Available in two models i.e. 1. with header 2. without header (standard).

ADVANTAGES

- Sturdy and Rigid beverage board frame
- High quality & environment friendly synthetic media
- Equally pleated media supported by wire mesh
- High performance in high humidity & moisture environment
- Disposable type

M-DP is usually use as pre-filter in HVAC system to capture bigger portables in order to prolong the life span of high efficiency filters



CONSTRUCTIONS

M-DP is designed with sturdy and reliable frame, with die-cut and equal pleated double wall beverage board.

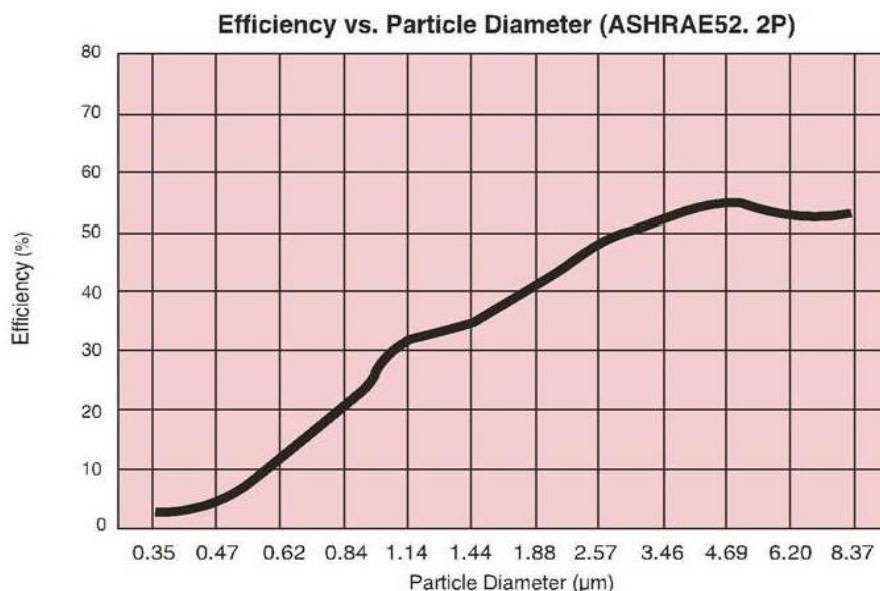
The media is support by the wire mesh at the air leaving side in order to maintain equal space between pleats so to ensure that the dust can be collected equally over the antire media surface

Average Dust Spot Efficiency : 25 - 30% (ASHRAE 52.1-1992 test method)

En779 Classification : G4

Available Model : M-DP30, M-DP20, M-DP10

Media : Synthetic Fiber

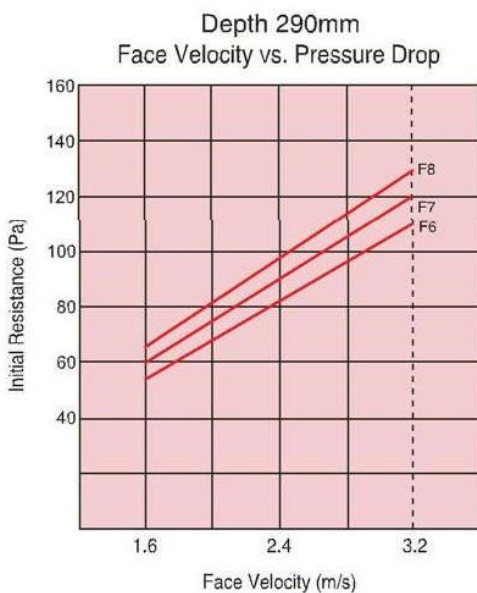


ADVANTAGES

- Low resistance
- Mini pleat design, glass fiber media
- High dust holding capacity, long life span
- Rigidity frame, conform the better capability
- Avera Dust Spost Efficiency: 60-65%, 80-85%, 90-95%
En779 Classification



M-MV is one of the highest air volume filter, suitable for turbulence air airflow and steady airflow. Special designed thermoplastic glue can provide equal spacing between pleated media. This will ensure that the airflow passing with the lowest resistance. Meanwhite it enhances the filtration area, reduce electricity and operation costs



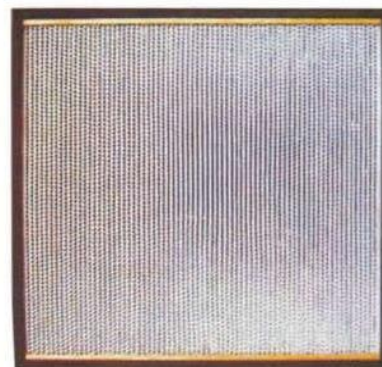
M-MV is made by ABS frame, light weight and low resistance. M-MV is widely used as secondary filter and commercial HVAC system, such as office building, meeting room, hospital, emporium electronics, semiconductors and cleanroom industries.

TYPE AND TECHNICAL DATA

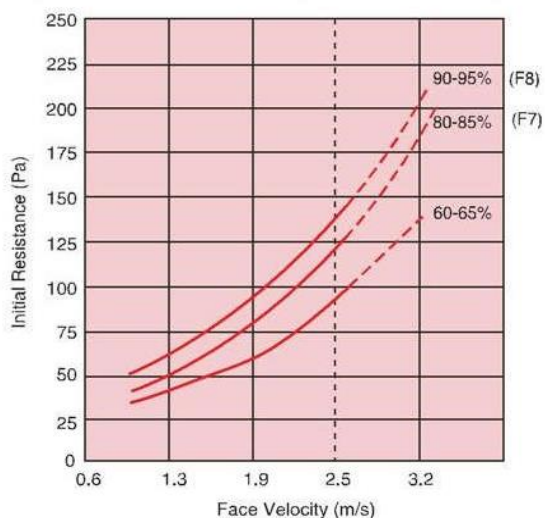
DIMENSION (exclude gasket) W x H x D (mm)	RATED AIR VOLUME (m ³ /h)	RETED INITIAL RESISTANCE (Pa)			RETED FINAL RESISTANCE (Pa)		
		60 - 65%	80 - 85%	90 - 95%	60 - 65%	80 - 85%	90 - 95%
592 x 287 x 290	2100	110	120	130	270	300	320
592 x 492 x 290	3500	110	120	130	270	300	320
592 x 592 x 290	4250	110	120	130	270	300	320

ADVANTAGES

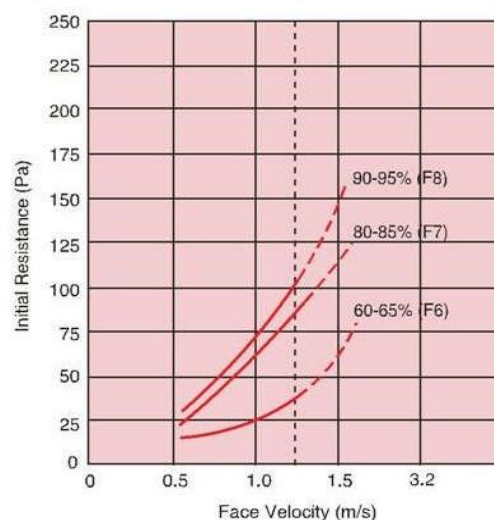
- Available in rigid box , single or double franges with 20mm depth
- Frame: Wooden, G.I, Aluminium and Stainless Steel
- Media: Fiberglass, super fine glass filter paper as media and paper or aluminium as separator, enable large air flow
- High-strength design, suitable for turbulence air flow system
- Average Dust Spot Efficiency: 60-65%, 80-85%, 90-95%
- En779 Classification F6, F7, F8



Depth 290mm Face Velocity vs. Pressure Drop



Depth 150mm Face Velocity vs. Pressure Drop



High efficiency, low air resistance and high dust loading capacity; widely used in aviation, electronics, pharmaceutical and bio-engineering.

M-MI SECONDARY FILTER TECHNICAL

DIMENSION (exclude gasket) W x H x D (mm)	RATED AIR VOLUME (m ³ /h)	PRESSURE DROP (Pa)					
		INITIAL			FINAL		
		60 - 65%	80 - 85%	90 - 95%	60 - 65%	80 - 85%	90 - 95%
305 x 610 x 290	1700	88	124	137	226	315	345
610 x 610 x 290	3400	88	124	137	226	315	345
305 x 610 x 150	850	45	88	103	120	225	265
610 x 610 x 150	1700	45	88	103	120	225	265

Note:

1. Temperature resistance up to 80°C
2. Humidity resistance up to 100%
3. 1 mm w.g is approximate 10 Pa
4. 1 CFM is approximate 1.6992 CMH

FLEXIBLE DUCT & CANVAS

Hệ thống sản phẩm ống gió mềm

Ống gió mềm có bảo ôn - không bảo ôn / Ống mềm nhôm nhún
Ống nhựa mềm / Nối mềm ống gió / vải bạt ống gió / Phụ kiện



FD - T1, T2



FD - T3



FD - T4



FD - T5



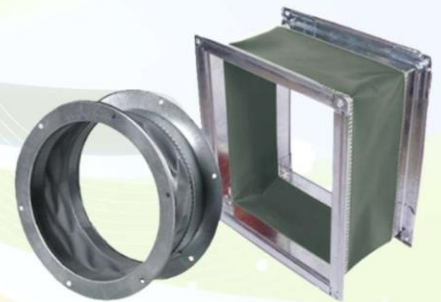
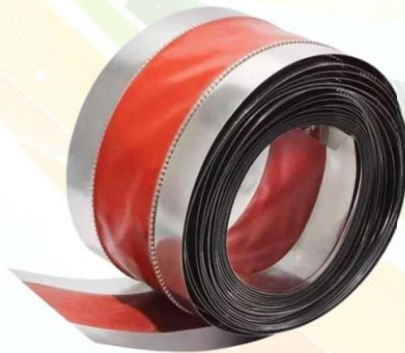
FD - T6



FD - T7



FD - VDT - 150



FD - VDT

GIỚI THIỆU VỀ HỆ THỐNG

Ống gió mềm là loại ống được thiết kế để dẫn khí trong các hệ thống thông gió, điều hòa không khí (HVAC), hoặc hút khói, khí thải trong công nghiệp. Loại ống này nổi bật với khả năng uốn cong linh hoạt, dễ dàng lắp đặt ở những vị trí phức tạp mà ống cứng khó đáp ứng, vật liệu nhẹ thường được lắp đặt ở những vị trí cần khử rung động và âm sai, dễ dàng uốn lượn trong các không gian hẹp tại công trình.

Cấu tạo của ống gió mềm bao gồm 3 phần:

Lớp trong (Ống dẫn khí)

Chất liệu: Lá nhôm mềm 1 lớp hoặc 2 lớp; Lá nhôm nhún.

Tính năng: Dẫn luồng khí lưu thông một cách trơn tru, hạn chế cản trở dòng chảy. Thiết kế:

Có thể dạng trơn hoặc gân xoắn giúp tăng tính linh hoạt khi lắp đặt.

Lớp giữa (Cách nhiệt)

Chất liệu: Bông thủy tinh hoặc bông polyester
Tính năng:

Giúp cách nhiệt, hạn chế thất thoát nhiệt từ luồng khí. Cách âm, giảm tiếng ồn trong quá trình vận hành.

Độ dày phổ biến: 25mm – 50mm tùy theo yêu cầu cách nhiệt.

Lớp vỏ ngoài (Lớp bảo vệ)

Chất liệu: Lá nhôm bạc hoặc PVC chống cháy.

Tính năng: Bảo vệ lớp cách nhiệt bên trong khỏi tác động của môi trường như bụi, độ ẩm. Tăng tính thẩm mỹ và độ bền cho ống gió.

Một số loại có khả năng chống cháy, hạn chế lan truyền lửa khi gặp nhiệt độ cao.

LỢI ÍCH KHI SỬ DỤNG

Do có tính đàn hồi cao, dẻo dai nên có thể lắp đặt ở mọi vị trí trong không gian của công trình. Do có khả năng uốn cong, lượn sóng nên dễ dàng thi công theo yêu cầu của thiết bị cần cách nhiệt. Gọn nhẹ, có thể xếp gọn để dàng nên rất dễ dàng vận chuyển, thi công và lắp đặt

LẮP ĐẶT

Việc bố trí ống gió mềm rất quan trọng, bên cạnh việc bố trí cẩn thận, gọn vào công trình thì cần phải chú ý đến những cửa hầm để việc bảo trì, bảo dưỡng hệ thống ống gió thuận tiện hơn. Ngoài ra, bố trí ống gió mềm phải thực hiện song song với bố trí công trình xây dựng để thực hiện tốt vai trò thông gió của ống gió mềm nhằm đạt hiệu quả trong điều hòa không khí. Về không gian, cần đảm bảo không gian của ống gió như sau:

- Ống gió cận kề 25mm
- Các cạnh mặt sát với những ống gió khác và sàn nhà 25mm
- Ống gió và cáp điện là 50mm
- Ống gió và mặt đất là 150mm

ỨNG DỤNG SẢN PHẨM

- Thông gió, hút khí cho hệ thống điều hòa không khí, thông gió cho nhà cao tầng, TTTM.
- Hút khói cho hệ thống bếp của nhà hàng, quán nướng.
- Dẫn nguồn khí sạch và áp suất cao cho các máy móc công nghiệp hoặc dân dụng.
- Dẫn rác nhẹ và các ứng dụng khác...

FLEXIBLE DUCT & CANVAS

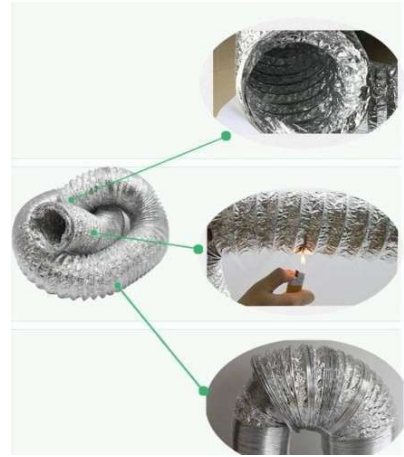
I. ỐNG GIÓ MỀM KHÔNG BẢO ÔN



Ống mềm không bảo ôn
Loại 1 lớp
Mã : FD-T1



Ống mềm không bảo ôn
Loại 2
lớp Mã :
FD-T2



Ống gió mềm không bảo ôn là loại ống dẫn khí chỉ có một lớp duy nhất, không được trang bị lớp cách nhiệt hoặc cách âm. Đây là loại ống được sử dụng phổ biến trong các hệ thống thông gió, điều hòa không khí không yêu cầu cách nhiệt, hoặc trong những môi trường có điều kiện ổn định về nhiệt độ.

Ống gió mềm không bảo ôn có tính đàn hồi cao nên có thể lắp đặt và hệ thống đầu ống hình tròn, hình chữ nhật hay hình bầu dục trong ứng dụng thông gió, dẫn truyền khí, vật liệu nhẹ.

THÔNG SỐ KỸ THUẬT

Tiêu chuẩn cơ sở	Kết quả (*)
Cấp đường kính ống	D100mm- D500mm
Bán kính uốn cong	0,54*D(mm)
Dải nhiệt độ hoạt động	-30°C đến 150°C
Vận tốc dòng khí (tối đa)	30m/s
Áp suất làm việc	≤ 2500Pa ; t = 2h
Độ hấp thụ nước	< 0,01%- ASTM D2305
Lực kéo xé rách dọc trục	250N- ASTM E345
Lớp vỏ ngoài chống cháy LAN	ANSI/UL723 , Bs476 Part 6- Class 0
Tiêu chuẩn Châu Âu về hạn chế các chất nguy hiểm (RoHS EU 2015/863)	Lớp vỏ bọc trong và ngoài đạt tiêu chuẩn RoHS
Được sản xuất tại Việt Nam Chúng tôi nhận sản xuất theo yêu cầu đặc biệt của khách hàng	

Hình ảnh sản phẩm thực tế



II. ỐNG GIÓ MỀM CÓ BẢO ÔN

THÔNG SỐ KỸ THUẬT

II.1: Ống mềm có bảo ôn - Bông thủy tinh



Ống mềm có bảo ôn - Bông thủy tinh Mã : FD-T3

Tiêu chuẩn cơ sở	Kết quả (*)
Cấp đường kính ống	D100mm- D500mm
Bán kính uốn cong	0,54*D(mm)
Dải nhiệt độ hoạt động	-30°C đến 150°C
Vận tốc dòng khí (tối đa)	30m/s
Áp suất làm việc	≤ 2500Pa ; t = 2h
Độ hấp thụ nước	<0,01%- ASTM D2305
Lực kéo xé rách dọc trục	250N- ASTM E345
Lớp vỏ ngoài chống cháy LAN	ANSI/UL723 , Bs476 Part 6- Class 0
Tiêu chuẩn Châu Âu về hạn chế các chất nguy hiểm (RoHS EU 2015/863)	Lớp vỏ bọc trong và ngoài đạt tiêu chuẩn RoHS

Được sản xuất tại Việt Nam
Chúng tôi nhận sản xuất theo yêu cầu đặc biệt của khách hàng

(*) NSX thường xuyên cập nhật thông tin được test bởi các đơn vị độc lập. (**) Theo tiêu chuẩn NSX vật liệu của các đơn vị được test bởi các đơn vị độc lập.

Ống gió mềm có bảo ôn là loại ống dẫn khí được thiết kế với nhiều lớp cấu tạo, trong đó có lớp cách nhiệt giúp giữ ổn định nhiệt độ luồng khí, giảm thất thoát nhiệt và hạn chế tiếng ồn. Loại ống này thường được sử dụng trong hệ thống HVAC (điều hòa không khí), hệ thống thông gió công nghiệp, hoặc các khu vực cần yêu cầu cách nhiệt và cách âm cao.

Là dạng ống gió được sản xuất từ nhiều lớp màng nhôm được gắn với dây thép tăng cường nên có tính đàn hồi và dẻo dai. Ở giữa là lớp Bông thủy tinh cách nhiệt dày 25mm / 50mm có tỷ trọng 18-24-32kg/m³, ngoài cùng là phủ một lớp vải thủy tinh gia cường không bị phá hủy ở điều kiện thường.



Hình ảnh sản phẩm thực tế



II. ỐNG GIÓ MỀM CÓ BẢO ÔN

II.2: Ống mềm có bảo ôn - Bông Polyester

THÔNG SỐ KỸ THUẬT



Ống mềm có bảo ôn bông Polyester Mã : FD-T4

Tiêu chuẩn cơ sở	Kết quả (*)
Cấp đường kính ống	D100mm- D500mm
Bán kính uốn cong	0,54*D(mm)
Dải nhiệt độ hoạt động	-30°C đến 150°C
Vận tốc dòng khí (tối đa)	30m/s
Áp suất làm việc	≤ 2500Pa ; t = 2h
Độ hấp thụ nước	<0,01%- ASTM D2305
Lực kéo xé rách dọc trục	250N- ASTM E345
Lớp vỏ ngoài chống cháy LAN	ANSI/UL723 , Bs476 Part 6- Class 0
Tiêu chuẩn Châu Âu về hạn chế các chất nguy hiểm (RoHS EU 2015/863)	Lớp vỏ bọc trong và ngoài đạt tiêu chuẩn RoHS
Được sản xuất tại Việt Nam Chúng tôi nhận sản xuất theo yêu cầu đặc biệt của khách hàng	

Ống gió mềm bông Polyester là loại ống dẫn khí được thiết kế với lớp cách nhiệt từ bông Polyester, giúp tăng khả năng cách nhiệt, cách âm, đồng thời giảm thiểu sự ngưng tụ hơi nước. Đây là lựa chọn phổ biến trong các hệ thống HVAC (Heating, Ventilation, and Air Conditioning) hiện đại, đặc biệt trong các công trình yêu cầu cao về chất lượng không khí và độ bền. Kháng virus và nấm mốc.

Được ứng dụng rộng rãi cho các dự án có yêu cầu cao như : Phòng sạch, nhà máy dược phẩm, bệnh viện, biệt thự..



Hình ảnh sản phẩm thực tế



VII. ỐNG GIÓ MỀM NHÔM TRÁNG PVC



Ống mềm nhôm tráng PVC

Mã : FD -T6

Mô tả:

Ống gió mềm tráng PVC: là loại ống dẫn khí được chế tạo từ lớp màng bạc mềm kết hợp với lớp phủ PVC, giúp tăng khả năng chịu nhiệt và độ bền của sản phẩm. Loại ống này thường được sử dụng trong các hệ thống thông gió, điều hòa không khí và các ứng dụng công nghiệp yêu cầu khả năng chịu nhiệt cao.

Vật liệu thân thiện với môi trường, đúc nhôm- polyester & PVC, gia cố bằng dây thép xoắn ốc. Sản phẩm không chứa các chất độc hại như clo hoặc cadimi.

Vật liệu :

- Lá nhôm nguyên chất (PET), các vòng dây thép dày 0.8mm- 1.1mm chạy xoắn liên tục giúp tăng cường tính chắc chắn và dẻo dai của
- Bề mặt : Phủ PVC chịu nhiệt.

Đặc tính:

- Dẻo, dễ uốn cong và lắp đặt ở nhiều vị trí khác nhau.
- Khả năng chịu nhiệt và chống ăn mòn tốt.
- Lớp phủ PVC giúp tăng tuổi thọ và hạn chế bụi bẩn bám và
- Nhẹ, dễ vận chuyển và thi công.

Ứng dụng phổ biến :

- Hệ thống thông gió trong nhà xưởng, nhà máy, tòa nhà.
- Ống dẫn khí cho máy lạnh, quạt thông gió.
- Hệ thống hút khói trong bếp công nghiệp.
- Dẫn khí thải trong các khu vực cần xử lý không khí.

Quy cách :

- Cấp đường kính ống : Từ D100mm - D400mm
- Chiều dài : 8met/ cuộn



VIII. ỐNG GIÓ MỀM TAPULIN



Mô tả:

Ống gió
mềm Tapulin

Mã : FD -T7

Ống mềm Tapulin là loại ống mềm được làm từ chất liệu thép mạ kẽm hoặc inox, thường được phủ thêm một lớp nhựa PVC để tăng độ bền và khả năng chống chịu thời tiết. Loại ống này được sử dụng phổ biến trong các hệ thống điện, hệ thống dẫn nước, và trong ngành công nghiệp xây dựng.

Đặc điểm của ống mềm Tapulin:

- **Chất liệu:**

- Lõi thép mạ kẽm hoặc inox, giúp tăng độ cứng và khả năng chịu lực.
- Bên ngoài phủ lớp nhựa PVC hoặc cao su để chống thấm, chống cháy và bảo vệ khỏi các tác nhân bên ngoài

nư hóa chất, dầu mỡ.

Đặc tính nổi bật:

- Chống chịu tốt: Khả năng chống nước, chịu nhiệt và chống ăn mòn tốt.
- Dẻo dai, linh hoạt: Dễ uốn cong, thuận tiện cho việc thi công ở những khu vực hẹp hoặc cần linh hoạt.
- Độ bền cao: Đảm bảo an toàn cho hệ thống dây dẫn điện hoặc hệ thống dẫn chất lỏng.

Ứng dụng của ống mềm Tapulin:

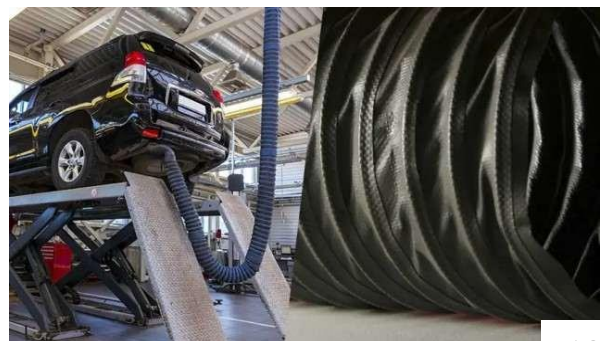
- Trong hệ thống điện: Bảo vệ dây cáp điện, dây tín hiệu trong các tòa nhà, nhà máy.
- Trong ngành công nghiệp: Dẫn chất lỏng, khí, hoặc bảo vệ ống dẫn trong môi trường khắc nghiệt.
- Hệ thống PCCC: Làm ống dẫn nước, khí chữa cháy.
- Xây dựng: Ống dẫn nước, dẫn dầu trong các công trình.

Kích thước phổ biến:

- Đường kính: Từ D80mm- D50mm
- Độ dày lớp vỏ: 0.28mm
- Chiều dài tiêu chuẩn: 10met/ ống

Ưu điểm:

- Dễ dàng lắp đặt và thi công.
- Chịu nhiệt và chống cháy tốt.
- Tuổi thọ cao, tiết kiệm chi phí bảo trì



NỐI MỀM CỔ BẠT - CANVAS (May sẵn dải tôn)

STT	Tên sản phẩm	Mô tả
1	<p>Nối mềm cổ bạt may sẵn 2 dải tôn màu đỏ - chịu nhiệt 300 độ FD - VDT - 300</p> 	<ul style="list-style-type: none"> - Tôn mạ kẽm dày 0.4mm và nối mềm chống rung vải sợi thủy tinh tráng silicone chống cháy. - Mạ kẽm trên thép : 2 mặt 60-65g/m². - Vải sợi thủy tinh tỷ trọng : 430g/m² - Lớp phủ silicone : 2 mặt 130g/m². - Dải nhiệt độ hoạt động : -30°C↔280°C - Lực kéo dãn dài (N): 2300x1860; - Lực kéo căng chống dìm (N) : 253.6x180.5 - Chiều dài cuộn : 25met/cuộn - Màu sắc : Màu đỏ - Kích thước : W250mm (50/150/50) – (Tôn/ nối mềm/ Tôn) W165mm (45/75/45) – (Tôn/ nối mềm/ Tôn) - Chống cháy : Class A2
2	<p>Nối mềm cổ bạt may sẵn 2 dải tôn màu đen - chịu nhiệt 150°C FD - VDT - 150</p> 	<ul style="list-style-type: none"> - Tôn mạ kẽm dày 0.4mm và nối mềm chống rung có lớp màng PVC chịu nhiệt. - Mạ kẽm trên thép : 2 mặt 60-65g/m². - Lớp màng PVC tỷ trọng : 180g/m² - Lớp màng PVC : 2 mặt 430g/m². - Dải nhiệt độ hoạt động : -30°C↔120°C - Lực kéo dãn dài (N): 3000x2090; - Lực kéo căng chống dìm (N) : 288.5x246.6 - Chiều dài cuộn : 25met/cuộn - Màu sắc : Màu đen - Kích thước : W250mm (50/150/50) – (Tôn/ nối mềm/ Tôn) W200mm (50/100/50) – (Tôn/ nối mềm/ Tôn) W240mm (45/150/45) – (Tôn/ nối mềm/ Tôn) W190mm (45/100/45) – (Tôn/ nối mềm/ Tôn) - Chống cháy : Class B1
3	<p>Nối mềm cổ bạt loại thường - màu xanh bộ đôi, may sẵn dải tôn FD - VDT</p> 	<ul style="list-style-type: none"> - Tôn mạ kẽm dày 0.4mm và nối mềm chống rung có lớp màng PVC chịu nhiệt. - Mạ kẽm trên thép : 2 mặt 60-65g/m². - Lớp màng PVC tỷ trọng : 180g/m² - Lớp màng PVC : 2 mặt 430g/m². - Dải nhiệt độ hoạt động : -30°C↔120°C - Lực kéo dãn dài (N): 3000x2090; - Lực kéo căng chống dìm (N) : 288.5x246.6 - Chiều dài cuộn : 30met/cuộn - Màu sắc : Màu đen - Kích thước : W250mm (50/150/50) – (Tôn/ nối mềm/ Tôn) W200mm (50/100/50) – (Tôn/ nối mềm/ Tôn) Hoặc theo yêu cầu của Khách hàng. - Chống cháy : Class B1

VẢI BẠT ỐNG GIÓ

(Dạng cuộn/ không có dài tôn)



Vải bạt loại thường FD-V-120	Vải bạt chống cháy silicone FD - V - 300	Vải bạt chống cháy Nano FD - V - 600
<ul style="list-style-type: none"> - Quy cách : 1.4m x 60m - Độ dày : 0,2mm - 3.5mm - Nhiệt độ làm việc: -30°C - 150°C - Áp suất làm việc : ≤2KPa - Chống cháy : Class B 	<p>Vải cốt thủy tinh có tráng phủ Silicone có đặc điểm khá giống với vải cốt thủy tinh có tráng phủ PTFE: chịu nhiệt độ tốt (300°C), chịu hóa chất tốt và khả năng cách điện.</p> <ul style="list-style-type: none"> - Quy cách : 1.0m x 40m - Độ dày : 0,2mm - 3,5mm - Nhiệt độ làm việc : -70°C - 300°C - Áp suất làm việc : ≤2KPa - Chống cháy : Class A2 	<ul style="list-style-type: none"> - Kháng khuẩn, kháng nấm mốc - An toàn cho người sử dụng, thân thiện môi trường. - Dễ cắt gọt tạo hình, gia công theo yêu cầu của khách hàng. - Quy cách : 1.0mm x 40mm - Độ dày : 0,2mm - 3,5mm - Nhiệt độ làm việc : -50°C - 600°C - Áp suất làm việc : ≤2KPa - Chống cháy : Class A2

CHỨNG CHỈ TEST REPORT

ỐNG GIÓ MỀM



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Fax: (04) 37 564 696

No.170208/ATATA-IIT

Hà Nội, ngày tháng năm 2017

KẾT QUẢ THỬ NGHIỆM (TEST REPORT)

- Khách hàng / Customer:** Công ty Cổ phần Prodetech/ PRODETECH, JSC
- Vật liệu, sản phẩm thử nghiệm / Materials, products:**
Mẫu ống gió mềm có bảo ôn – bông Polyester/ Sample Soft Wind Pipe insulation – Polyester wool
- Nguồn gốc mẫu/Origin of sample:** Công ty Cổ phần Prodetech/ PRODETECH, JSC
- Ngày nhận mẫu/Date of receiving:** 08/02/2017
- Kết quả / Results:**

STT	Loại thử nghiệm/ Types of test	Phương pháp thử nghiệm/ Test method	Kết quả/ Results	Ghi chú/ Notes
1	Phân tích nhiệt/ Thermal analysis test $t = -30^{\circ}\text{C} \rightarrow 150^{\circ}\text{C}, 10^{\circ}\text{C}/\text{min}$	ASTM D4591	Mẫu chịu được nhiệt độ > 150°C / Temperature resistant of sample > 150°C	Xem phụ lục kèm theo / See appendix attached
2	Độ bền áp suất/ Pressure Resistance ($P=2500\text{Pa}, t=2\text{h}$)	Theo yêu cầu của khách hàng/ Request by customer	Mẫu chịu được áp suất > 2500Pa /Pressure resistant of sample > 2500Pa	Xem phụ lục kèm theo / See appendix attached

Thử nghiệm viên
Technician

ThS. Phạm Thị Hà

Phụ trách Phòng Thử nghiệm
Head of the Testing Laboratory

KS. Nguyễn Văn Tuấn

Viện Kỹ thuật nhiệt độ
xác nhận chữ ký của ông Nguyễn Văn Tuấn
Signature confirmation of Eg. Nguyễn Văn Tuấn
by the Institute for Tropical Technology

VIỆN TRƯỞNG/ DIRECTOR

VIỆN KỸ THUẬT NHIỆT ĐỘ
GS.TS. Thái Hoàng

- Phiên kết quả này chỉ có giá trị đối với mẫu thử do khách hàng đưa tới / This test results report is only valid for samples provided by customer.
- Không được trích sao một phần kết quả này nếu không được sự đồng ý của Viện Kỹ thuật nhiệt độ / Duplication of this report or parts thereof is only permitted by the Institute for Tropical Technology.
- Tên mẫu và tên khách hàng được ghi theo yêu cầu của khách hàng / Sample's name and customer's name are provided by customer.

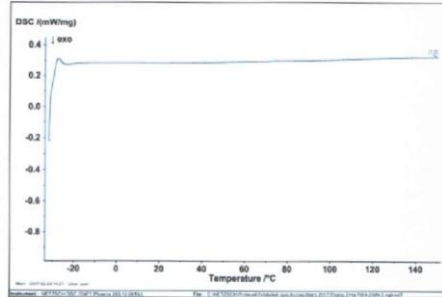


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PHỤ LỤC / APPENDIX

- Phân tích nhiệt/ Thermal analysis test



- Ảnh thử nghiệm độ bền áp suất/Photo of Pressure resistance testing



- Phiên kết quả này chỉ có giá trị đối với mẫu thử do khách hàng đưa tới / This test results report is only valid for samples provided by customer.
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2	Độ bền áp suất/ Pressure Resistance ($P=2500\text{Pa}, t=2\text{h}$)	Theo yêu cầu của khách hàng/ Request by customer	Mẫu chịu được áp suất > 2500Pa /Pressure resistant of sample > 2500Pa	Xem phụ lục kèm theo / See appendix attached

Thử nghiệm viên
Technician

ThS. Phạm Thị Hà

Phụ trách Phòng Thử nghiệm
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GS.TS. Thái Hoàng

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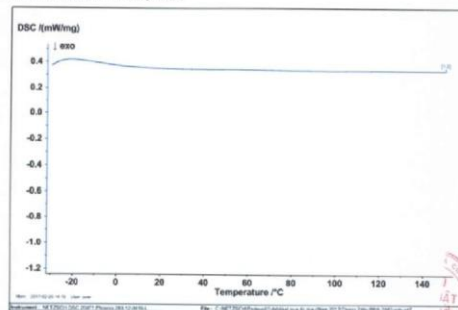


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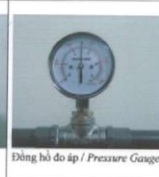
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Điện thoại / Tel.: (04) 38 361 322
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PHỤ LỤC / APPENDIX

- Phân tích nhiệt/ Thermal analysis test



- Ảnh thử nghiệm độ bền áp suất/Photo of Pressure resistance testing



- Phiên kết quả này chỉ có giá trị đối với mẫu thử do khách hàng đưa tới / This test results report is only valid for samples provided by customer.
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CHỨNG CHỈ TEST REPORT

NỔI MỀM CỎ BẠT



VIỆN HÀN LÂM KHOA HỌC VÀ CÔNG NGHỆ VIỆT NAM
VIETNAM ACADEMY OF SCIENCE AND TECHNOLOGY

VIỆN KỸ THUẬT NHIỆT ĐỚI
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Điện thoại/Phone: +8.24.38361322

PVC: 200612/33/P8	PHIẾU KẾT QUẢ THỬ NGHIỆM TEST REPORT	Số trang/Pages: 2
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1. Mẫu thử nghiệm: Vải bạt loại thường FD-V-120
 Dự án: Dầu tư xây dựng một trụ sở làm việc tòa án nhân dân tối cao
 Địa chỉ: Số 43 đường Hai Bà Trưng, Quận Hoàn Kiếm, thành phố Hà Nội

2. Khách hàng: Công ty TNHH Một thành viên Prodetech
3. Địa chỉ ĐKKD: Nhà B5-20, Khu đô thị Vinhomes Gardenia, Đường Hàm Nghi, Phường Cầu Diễn, Quận Nam Từ Liêm, thành phố Hà Nội, Việt Nam
4. Địa chỉ VPGD: Tòa nhà ATATA, Km 16+500 Đại Lộ Thăng Long thuộc cụm CN Yên Sơn, Xã Yên Sơn, Huyện Quốc Oai, thành phố Hà Nội, Việt Nam
5. Ngày nhận mẫu: 12/06/2024
6. Tình trạng mẫu: mẫu dạng tấm màu xanh rêu, dày 0,55 mm

7. Kết quả thử nghiệm:

STT	Chỉ tiêu	Phương pháp thử nghiệm	Kết quả
1	Thử nghiệm phân tích nhiệt TGA (t= 25-150°C), 10°C/phút	ASTM E1131	Mẫu chịu được nhiệt độ > 150°C (xem phụ lục kèm theo)
2	Thử nghiệm độ bền áp suất đến 4800 Pa trong 2 giờ	ISO 13938-2	Mẫu chịu được áp suất > 4800 Pa

CÁN BỘ THỬ NGHIỆM



ThS. Phạm Thị Hà

TRƯỞNG PHÒNG



TS. Nguyễn Văn Tuấn


Hà Nội, ngày 26 tháng 06 năm 2024

VIỆN TRƯỞNG



GS. TS. Trần Đại Lâm

1. Kết quả chỉ có giá trị đối với mẫu thử nghiệm do khách hàng cung cấp/ The results in this test report are only valid for samples provided by customer.
 2. Không được trích sao / phần kết quả trong đây nếu không được sự đồng ý của Viện Kỹ thuật nhiệt đới/ Duplication of this report or parts thereof is only permitted by the Institute for Tropical Technology.
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VIETNAM ACADEMY OF SCIENCE AND TECHNOLOGY

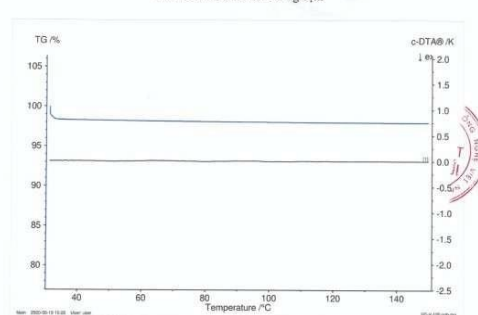
VIỆN KỸ THUẬT NHIỆT ĐỚI
Institute for Tropical Technology

Địa chỉ/Address: Nhà A13, Số 18 Hoàng Quốc Việt, Cầu Giấy, Hà Nội
Điện thoại/Phone: +8.24.38361322

PHỤ LỤC




Hình 1. Hình ảnh mẫu thử nghiệm

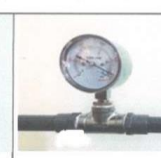


Hình 2. Biểu đồ phân tích nhiệt TGA

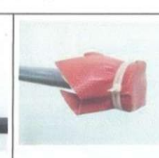
2. Ảnh thử nghiệm độ bền áp suất/Photos of Pressure resistance testing




Mẫu trước thử nghiệm/ Before testing



Đồng hồ đo áp/ Pressure Gauge




Mẫu sau thử nghiệm/ After testing



Hệ thống thử nghiệm/ Testing system

1. Kết quả chỉ có giá trị đối với mẫu thử nghiệm do khách hàng cung cấp/ The results in this test report are only valid for samples provided by customer.
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Địa chỉ/Address: Nhà A13, Số 18 Hoàng Quốc Việt, Cầu Giấy, Hà Nội
Điện thoại/Phone: +8.24.38361322

PVC: 210901/P8	PHIẾU KẾT QUẢ THỬ NGHIỆM TEST REPORT	Số trang/Pages: 03 trang
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1. Mẫu thử nghiệm/ Samples: Nổi mềm cỏ bạt chống rung màu đỏ kèm dải tôn / Canvas No.2: Anti-vibration Red canvas with GI sheet strip (Red canvas). Code : FD-VDT-300

2. Khách hàng/ Customer: CÔNG TY TNHH MỘT THÀNH VIÊN PRODETECH/ PRODETECH, LTD.

3. Địa chỉ/ Address: Nhà số B5-20, khu đô thị Vinhomes Gardenia, đường Hàm Nghi, Phường Cầu Diễn, Nam Từ Liêm, Hà Nội No. B5-20, Vinhomes Gardenia Urban area, Ham Nghi Street, Cau Dien Ward, Nam Tu Liem, Hanoi.


4. Ngày nhận mẫu/ Date of received: 01/09/2024

5. Loại thử nghiệm/ Type of test: Thử nghiệm phân tích nhiệt và Kiểm tra độ bền áp suất/ Thermal analysis and Pressure Resistance

6. Kết quả thử nghiệm/ Results:


STT /No.	Loại thử nghiệm/ Types of test	Phương pháp thử nghiệm/ Test method	Kết quả/ Results	Ghi chú/ Notes
1	Phân tích nhiệt quét vi sai/ Differential scanning calorimetry (DSC) t=0°C-300°C, 10°C/min.	ASTM D3418/ ISO 11357	Mẫu chịu được nhiệt độ gần 300°C. / Temperature resistant of sample nearly 300°C	Xem phụ lục kèm theo / See appendix attached
2	Độ bền áp suất/ Pressure Resistance (P=4800Pa, t=2h)	Theo yêu cầu của khách hàng/ Request by customer	Mẫu chịu được áp suất > 4800Pa /Pressure resistant of sample > 4800Pa	Xem phụ lục kèm theo / See appendix attached

CÁN BỘ THỬ NGHIỆM
Technician



Nguyễn Thị Phượng


TRƯỞNG PHÒNG
Head of the Testing Laboratory



TS. Nguyễn Văn Tuấn


Hà Nội, ngày 16 tháng 9 năm 2024

VIỆN TRƯỞNG
Director



GS. TS. Trần Đại Lâm

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2. Ảnh thử nghiệm độ bền áp suất/Photos of Pressure resistance testing




Mẫu trước thử nghiệm/ Before testing



Đồng hồ đo áp/ Pressure Gauge



Mẫu sau thử nghiệm/ After testing



Hệ thống thử nghiệm/ Testing system

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ỨNG DỤNG SẢN PHẨM TIÊU BIỂU



Thông gió cho trung tâm thương mại



Hút khói cho nhà hàng nướng



Thông gió cho nhà máy



Dẫn khí , chịu áp suất cao, nhiệt độ cao



Thông gió cho nhà cao tầng



Thông gió cho nhà máy

ỨNG DỤNG SẢN PHẨM TIÊU BIỂU



Nổi mềm cổ bạt chịu nhiệt 250 độ - màu đỏ



Nổi mềm cổ bạt chịu nhiệt 150 độ - màu đen



Nổi mềm cổ bạt loại thường - màu xanh bộ đội

PRODETECH SILICA GLASSFIBER FABRIC (fire-resistant fabric)

CODE : PDT-SILICA FABRIC-800°C

To serve fire prevention work in buildings, factories, and residential houses, Prodetech,. LTD provides new products of fireproof Silica glass fabric for blinds, curtains, and fireproof doors with many outstanding features and excellent efficiency.

HIGH SILICA CLOTH
EXTREME TEMPERATURE MATERIAL

- UNCOATED MATERIAL OFFERING OUTRIGHT FLEXIBILITY
- ROLLS AREA 3FTx164FT (1Mx50M)
- WITHSTAND INTERRUPTED TEMPERATURES UP TO 2552F(1400C)
- AVAILABLE IN 18OZ(600G) & 36OZ(1200G) WEIGHTS
- IDEAL FOR REFRACTORY AND INSULATION APPLICATIONS

Technical Data of Silica Fiberglass Fabric- The Production : Prodetech,. Ltd

No	Items	Technical Standard	Remark
1	Weave Style	Satin 8 HS	
2	Warp Counts (ends/cm)	20 ± 1	
3	Fill Counts (ends/cm)	13 ± 1	
4	MD BRK STRN (N/inch)	≥1200	
5	CD BRK STRN (N/inch)	≥1000	
6	Warp tensile strength, 750°C in 1Hr (N/Inch)	≥400	
7	Weft tensile strength, 750°C/1Hr (N/Inch)	≥200	
8	Weight (g/m ²)	600 ± 30	
9	STD ROLL (M/roll)	50.0	
10	Thickness(mm)	0.73±0.100	
11	Silica Content (%)	70%±5	
12	Working Temperature (degree C)	800 °C	
13	Coating PU (%)	0.8-1%	

Application

- 1.High-temperature resistance, heat insulation, heat preservation, the sealing material
- 2.High-temperature ablation material, furnace curtain;
- 3.Fireproof materials (making fireproof clothing, curtains, flame retardant barriers, fire blankets, etc.)
- 4.High-temperature gas dust removal, liquid filtration; metal melt filtration, and purification
- 5.Automobile, motorcycle noise reduction, heat shield, exhaust gas filtration



Images of Prodetech silica fireproof fabric applications in life

PRODETECH ALUMINUM GLASSFIBERFABRIC- CODE : PDT-AL FABRIC-300 °C

To serve fire prevention work in buildings, factories, and residential houses, Prodetech,. LTD provides new products of fireproof aluminium glassfiber fabric for blinds, curtains, and fireproof doors with many outstanding features and excellent efficiency.



Technical Data for Aluminium GlassFiber

Product Name		Aluminum Glassfiber fabric	Inspection Standard
Weave type		Plain	
Aluminum Thickness		7µm	
Glass fiber Weight		210gsm ± 5g	ASTMD3776-96
Total Thickness (mm)		0.23mm	ASTMD1777-96
Warp/Weft	Warp	18±1 ends/cm	GB/T 7689.2-2013
	Weft	12±1 picks/cm	
Tensile Strength	Warp	438 N/cm	GB/T 7689.5-2013
	Weft	350 N/cm	
Color		Silver	
High Temperature/ Lower Temperature		300°C/ -40°C, 4h. NoLayering	
FireProof		Non-flammable	

Application of glass fiber coated aluminum cloth

- Industrial protection:** used for heat insulation and protection in high temperature environment, such as heat insulation cover and pipe protective cover in high temperature working area.
- Fireproof material:** used to make fireproof doors, fireproof curtains, fireproof clothing, etc., to provide good fireproof and heat insulation protection.
- Building materials:** used for heat insulation and fireproof layer of buildings, such as roof insulation layer, wall fireproof layer, etc.





FABRIC DUCT

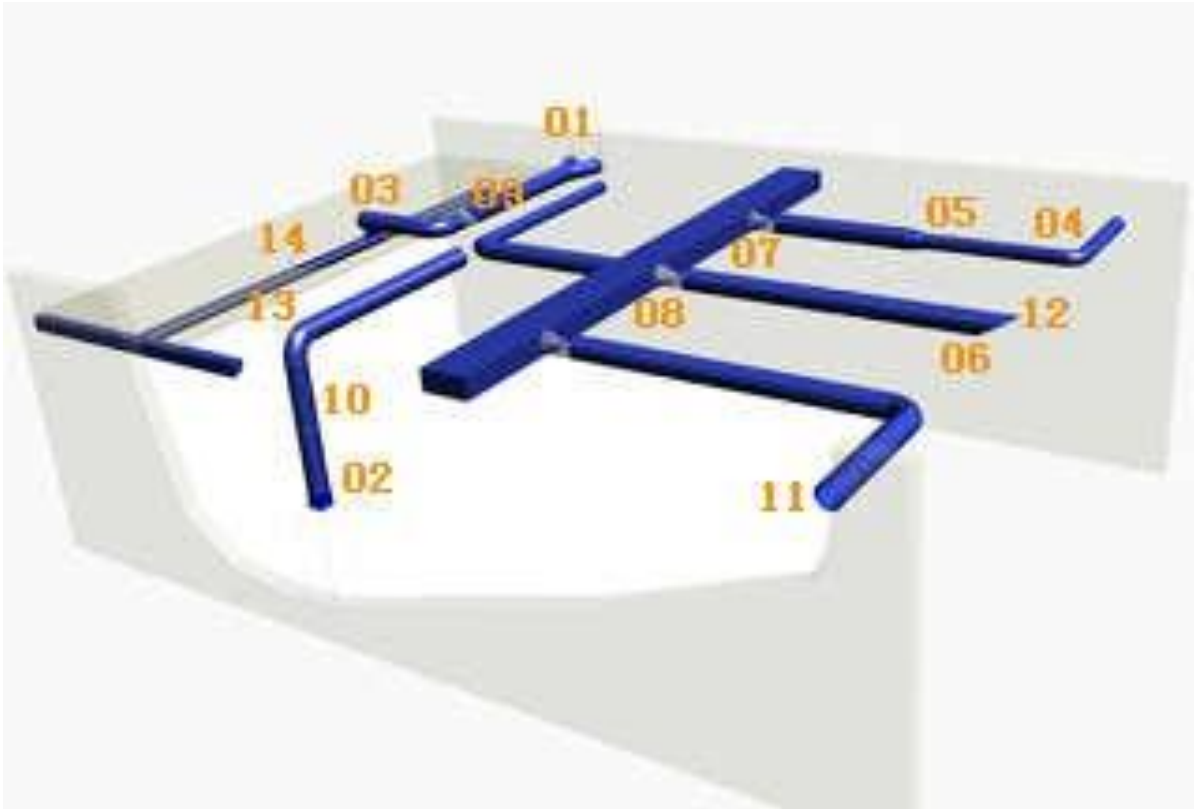


Fabric Duct Advantages

- ◆ Simplified Design
- ◆ Cost Savings
- ◆ Lightweight
- ◆ Easy to Maintain/Clean
- ◆ Ease of Use
- ◆ Colorful/



Fabric duct system



01.Y-inlet-Y

02.Square to round inlet-SR

03.T-Connector-T

04.Elbow-E

05.Transition-V

06.Bevel end

07.ACD-airflow control device

08.FAF-fabric air filter

09.Expansion segment-ES

10.Tension ring t-TW

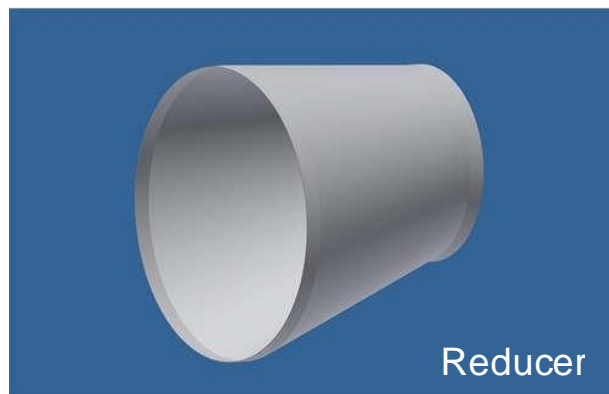
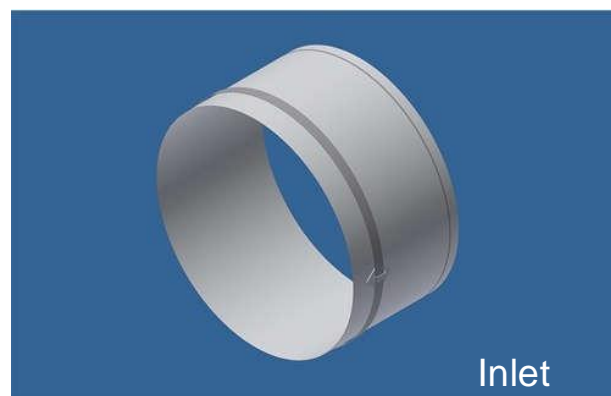
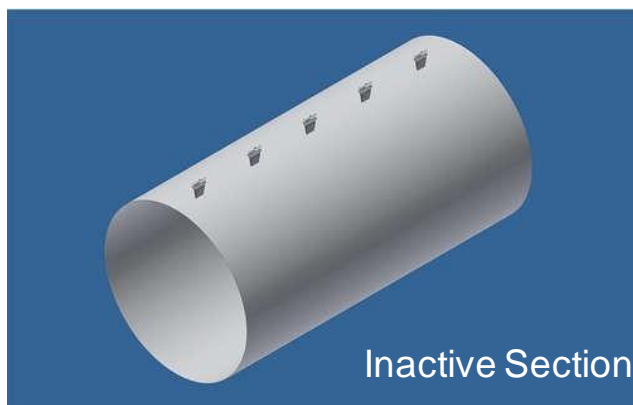
11.Wall pass through-TR

12.Galvanized cable

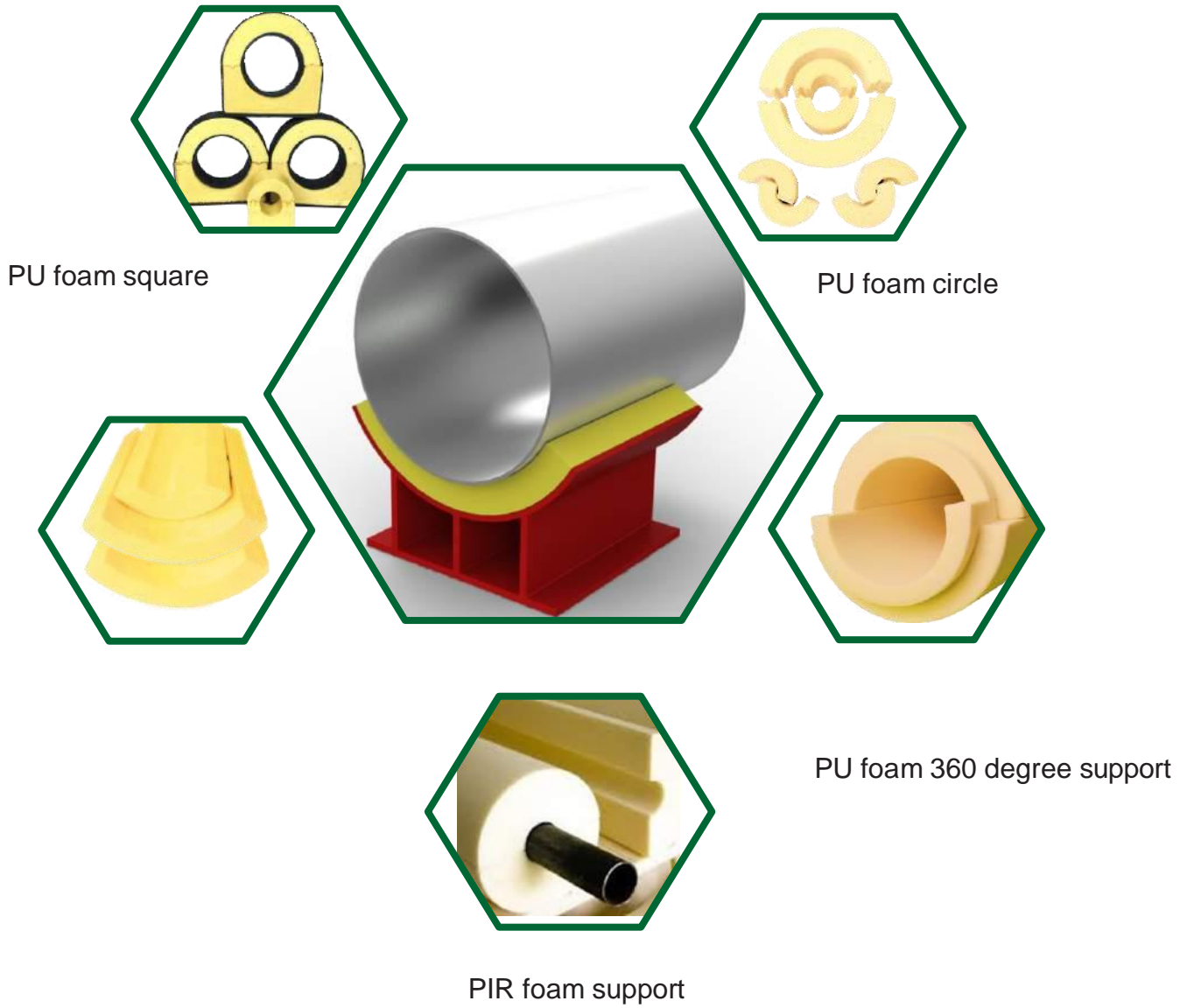
13.H-track

14.Flush mount track

Simple fabric duct

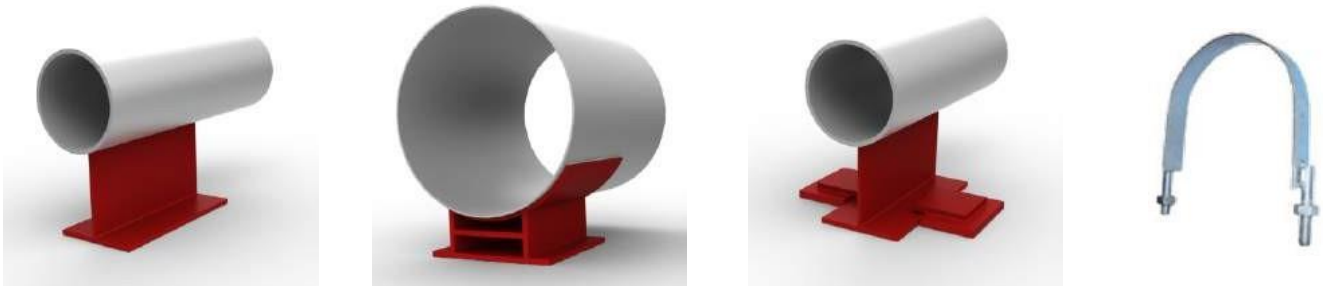


STEEL SHOE AND PU URETHAN



PIR foam support

STEEL SHOE



Guide shoe

GS

Anchor shoe

AS

Restraints shoe

RS

Cùm Ular

UL

I. POLYURETHAN FOAM (PU FOAM)

- Cold Shoe: Urethan Shoe, Chiller Shoe

A Cold Shoe or Chiller Shoe support utilizes Polyurethane foam as both an insulating material and a load bearing member of the support. This allows the pipe surface to be completely encapsulated by the foam component without relying upon a structural member to support the load.



PU foam Square support

Code : PUS - Da x bT x Lc



PU foam Circle support

Code : PUC - Da x bT x Lc



PU foam 120 / 360 Degree support

Code : PUD - Da x bT x Lc

TECHNICAL SPECCIFICATIONS

Reliability in terms of use:	PU Foam can withstand temperatures from -40°C to 150°C
The ability to absorb water :	PU Foam with low gas permeability.
The fire :	Like all other organic original insulation, PU Foam is flammable. However, the ability and the flow rate can adjusted to fit each building. Fighng capabilities of the panel can be significantly reduced by surface material, for example steel sheet surface...
Density	Ar the rate of 200 ± 50 kg/m ³ , the volume of polyurethane in PU Foam bearing is about 3%, the remaining 97% of the foam block is air trapped in the foam structure makes it have low heat transfer.
The deformaon	Bearing foam are mixing will swell filled area containing the original. It is be-cause of this characterics that PU Foam easily be manipulated into a fixed shape (square round pillows foam consists of two pieces of yin and yang) and convenient in transportation and installion.



1. Technical Data Sheet

Material	Poly Urethane Foam / Poly Iso Cyanurate Foam
Density (kg/m3)	200 ± 50 kg/m3 (ASTM D792)
Constant working temperature	-40°C -> + 150°C (TCVN 7699, IEC 60068)
Thermal Conductivity	0.0423 kg/m3 tại 23 độ C (ASTM C518)
Compressive Strength Mpa	3.23 MPa (theo ASTM D1621)
Water absorption	2.55% tại 23°C ngâm 24h (theo ASTM C272)
ULar's destructive pulling force	Lực kéo lớn nhất <=19.86 kN với ty ren M10, Ular bản 30mm dày 2mm

Environmental friendly material free CFC, HCFC


Good

2. Technical Data Specification

DN (mm)	ID (mm)	Length (m)	PU Foam insulation thickness						
			25mm	32mm	40mm	50mm	65mm	75mm	100mm
DN15	22	50	v	v	v	v	-	-	-
DN20	28	50	v	v	v	v	-	-	-
DN25	34	50	v	v	v	v	-	-	-
DN32	42	50	v	v	v	v	-	-	-
DN40	49	50	v	v	v	v	-	-	-
DN50	60	50	v	v	v	v	-	-	-
DN65	76	50	v	v	v	v	-	-	-
DN80	89	50	v	v	v	v	-	-	-
DN100	114	50	v	v	v	v	-	-	-
DN125	140	50	-	-	v	v	-	-	-
DN150	168	50	-	-	v	v	-	-	-
DN200	219	50	-	-	v	v	-	-	-
DN250	273	50	-	-	v	v	v	v	v
DN300	323	50	-	-	v	v	v	v	v
DN350	355	80	-	-	v	v	v	v	v
DN400	408	80	-	-	-	v	v	v	v
DN450	457	80	-	-	-	v	v	v	v
DN500	508	100	-	-	-	v	v	v	v
DN600	609	100	-	-	-	v	v	v	v

With the thickness of external and specification. We can produce on your request.

3. Test Report PU Urethan



BỘ XÂY DỰNG
VIỆN VẬT LIỆU XÂY DỰNG
PHÒNG THÍ NGHIỆM VLAS 003 (ISO/IEC 17025:2017) - TRUNG TÂM KIỂM ĐỊNH VẬT LIỆU XÂY DỰNG
VIET NAM INSTITUTE FOR BUILDING MATERIALS (VIBM)
VLAS 003 LABORATORY - INSPECTION CENTER FOR BUILDING MATERIALS
Địa chỉ (Address): 235 Đường Nguyễn Trãi, P. Thanh Xuân Trung, Q. Thanh Xuân, TP. Hà Nội
Điện thoại (Tel): 024 38582216; Fax: 024 38581112; Email: center@vlas003@gmail.com; Website: www.vibm.vn

Trụ sở chính: 55 B Hoàng Quốc Việt,
Cầu Giấy - Hà Nội
Tel: 024 38361399 • Fax: 024 38361199
Web: www.quatest1.com.vn
Cơ sở 2: Khu CN Nam Thăng Long,
Bắc Từ Liêm - Hà Nội
Tel: 024 32191002 • Fax: 024 32191001

Số/No: 24 / TN2 / 0490

Trang/Page: 2 / 2

KẾT QUẢ THỬ NGHIỆM

TEST RESULT

TT	Tên chỉ tiêu	Đơn vị	Kết quả	Phương pháp thử
1	Hệ số dẫn nhiệt (Thermal conductivity)	W/m.K	0,0423	ASTM C518-21

1. Cơ quan gửi mẫu (Client): Công ty TNHH Một thành viên Prodetech
 2. Loại mẫu (Kind of sample): Gói đỡ cách nhiệt PU Urethan (PU Urethan Foam Pipe Support), Nhà sản xuất: Công ty TNHH Một thành viên Prodetech, Made in Viet Nam. Mã sản phẩm: PUR-DaxbTxcL. Đường kính ống: 15A = 600A. Độ dày gói: 20mm = 50mm. Bán kính gói: 30mm = 100mm
 3. Số phiếu kế hoạch (Reg.No): 479/KH21
 1. Ngày nhận mẫu (Date of received sample): 20/02/2024

Hà Nội, ngày (Date): 01/03/2024


Cán bộ phân tích (Tested by): Tuyền - Quy

PTN Vlas 003 - Trung tâm Kiểm định VLXD
Vlas 003 - Inspection Center For B.M

PHÓ VIỆN TRƯỞNG
Nguyễn Văn Huyền

Nguyễn Thị Hải Yến

Ghi chú (Note):
 * Mẫu do khách hàng gửi đến phòng thí nghiệm VLAS 003-Viện Vật liệu xây dựng. Tên cơ quan gửi mẫu, số mẫu trên Phiếu kết quả thí nghiệm do khách hàng điền (Samples were sent to lab VLAS 003-VIBM. Name of client and sample as client's request)
 * Kết quả thí nghiệm chỉ có giá trị với mẫu. Khách hàng sao chép một phần Phiếu kết quả này khi không được phép ở bên ngoài bản gốc không có giá trị.



TỔNG CỤC TIÊU CHUẨN ĐO LƯỜNG CHẤT LƯỢNG
Directorate for Standards Metrology and Quality
TRUNG TÂM KỸ THUẬT TIÊU CHUẨN ĐO LƯỜNG CHẤT LƯỢNG
Quality Assurance and Testing Center 1

Trụ sở chính: 55 B Hoàng Quốc Việt,
Cầu Giấy - Hà Nội
Tel: 024 38361399 • Fax: 024 38361199
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Số/No: 24 / TN2 / 0490


Trang/Page: 2 / 2

KẾT QUẢ THỬ NGHIỆM

TEST RESULT

TT	Tên chỉ tiêu	Phương pháp thử	Kết quả
1	Khả năng chịu nhiệt ở -40°C/2h	TCVN 7699-2-1:2007	Mẫu sau khi thử nghiệm không nứt, vỡ
2	Khả năng chịu nhiệt ở 150°C/2h	TCVN 7699-2-2:2011 IEC 60068-2-1:2007 IEC 60068-2-2:2007	Mẫu sau khi thử nghiệm không biến dạng, phồng rộp

Yêu cầu của khách hàng



Hà Nội, ngày (Date): 01/03/2024


Cán bộ phân tích (Tested by): Tuyền - Quy

PTN Vlas 003 - Trung tâm Kiểm định VLXD
Vlas 003 - Inspection Center For B.M

PHÓ VIỆN TRƯỞNG
Nguyễn Văn Huyền

Nguyễn Thị Hải Yến

Ghi chú (Note):
 * Mẫu do khách hàng gửi đến phòng thí nghiệm VLAS 003-Viện Vật liệu xây dựng. Tên cơ quan gửi mẫu, số mẫu trên Phiếu kết quả thí nghiệm do khách hàng điền (Samples were sent to lab VLAS 003-VIBM. Name of client and sample as client's request)
 * Kết quả thí nghiệm chỉ có giá trị với mẫu. Khách hàng sao chép một phần Phiếu kết quả này khi không được phép ở bên ngoài bản gốc không có giá trị.



TỔNG CỤC TIÊU CHUẨN ĐO LƯỜNG CHẤT LƯỢNG
Directorate for Standards Metrology and Quality
TRUNG TÂM KỸ THUẬT TIÊU CHUẨN ĐO LƯỜNG CHẤT LƯỢNG
Quality Assurance and Testing Center 1

Trụ sở chính: 55 B Hoàng Quốc Việt,
Cầu Giấy - Hà Nội
Tel: 024 38361399 • Fax: 024 38361199
Web: www.quatest1.com.vn
Cơ sở 2: Khu CN Nam Thăng Long,
Bắc Từ Liêm - Hà Nội
Tel: 024 32191002 • Fax: 024 32191001


Số/No: 24 / TN1 / 1046

Trang/Page: 2 / 2

KẾT QUẢ THỬ NGHIỆM

TEST RESULT

STT	Tên chỉ tiêu	Đơn vị	Phương pháp thử	Kết quả
1	Khối lượng riêng	kg/m ³	ASTM D1622: 1998	228,7
2	Độ bền nén (Nén biến dạng 10% chiều cao)	MPa	ASTM D1621: 2000	3,23
3	Độ hút nước sau khi ngâm 24h ở 23°C	%	ASTM C272: 2001	2,55



Hà Nội, ngày (Date): 22 / 02 / 2024

Cán bộ phân tích (Tested by): Tuyền - Quy

PTN Vlas 003 - Trung tâm Kiểm định VLXD
Vlas 003 - Inspection Center For B.M

PHÓ VIỆN TRƯỞNG
Nguyễn Văn Huyền

Nguyễn Thị Hải Yến

Ghi chú (Note):
 1. Phiếu kết quả này chỉ có giá trị đối với mẫu thử do khách hàng đưa tới.
 This test results is valid only for samples taken by customer.
 2. Không được trích sao một phần kết quả này nếu không được sự đồng ý của trung tâm Kỹ thuật 1.
 This test results shall not reproduced except in full, without the written approval of QUATEST 1.
 3. Tên máy vẽ kết quả bằng được ghi theo yêu cầu của khách hàng.



TỔNG CỤC TIÊU CHUẨN ĐO LƯỜNG CHẤT LƯỢNG
Directorate for Standards Metrology and Quality
TRUNG TÂM KỸ THUẬT TIÊU CHUẨN ĐO LƯỜNG CHẤT LƯỢNG
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Tel: 024 32191002 • Fax: 024 32191001

Số/No: 24 / TN1 / 0283 - 5

Trang/Page: 4 / 4

KẾT QUẢ THỬ NGHIỆM

TEST RESULT

1. Tên mẫu / Sample: CỤM ULAR GÓI ĐỖ PRODETECH (ĐAI TỖN DÂY 2mm, BÀN RỘNG 30mm, TYREN M10) MẠ ĐIỆN PHẢN

2. Khách hàng / Customer: CÔNG TY TNHH MỘT THÀNH VIÊN PRODETECH

3. Số lượng mẫu / Quantity: 01

4. Tình trạng mẫu / Sample status: Xem ảnh đính kèm

5. Ngày nhận mẫu / Reception date: 19 / 02 / 2024

6. Thời gian thử nghiệm / Time of testing: 21 / 02 / 2024

7. Ngày hoàn thành / Completion Date: 21 / 02 / 2024

TT	TÊN CHỈ TIÊU	PHƯƠNG PHÁP THỬ	KẾT QUẢ
1	Thử kéo phá hủy mối hàn liên kết tyren + đai cum: • Lực kéo lớn nhất • Tình trạng mẫu sau khi thử	Theo yêu cầu khách hàng KN	19,86 Mẫu phá hủy



Hà Nội, ngày (Date): 22 / 02 / 2024

Cán bộ phân tích (Tested by): Tuyền - Quy

PTN Vlas 003 - Trung tâm Kiểm định VLXD
Vlas 003 - Inspection Center For B.M

PHÓ VIỆN TRƯỞNG
Nguyễn Văn Huyền

Nguyễn Thị Hải Yến

Ghi chú (Note):
 1. Phiếu kết quả này chỉ có giá trị đối với mẫu thử do khách hàng đưa tới.
 This test results is valid only for samples taken by customer.
 2. Không được trích sao một phần kết quả này nếu không được sự đồng ý của trung tâm Kỹ thuật 1.
 This test results shall not reproduced except in full, without the written approval of QUATEST 1.
 3. Tên máy vẽ kết quả bằng được ghi theo yêu cầu của khách hàng.

3. Feature

- Good insulation: withstand temperatures from -40°C to 150°C.
- Loading capacity up to 3.23 Mpa. The low water absorption, surface contact is coated waterproof, durable use.
- Lightweight: given the structure of the air bubbles, hold the foam cells for easy transportation and installation. Especially with PU Foam bearing no physical harm when installed and used, good cohesion.



- Remove heat bridges easily.
- Thermal conductivity coefficient is very low.
- Excellent compression force.
- There is glue available, creating tightness.
- Synchronize with Uband / Ular / Ubold.
- Fire spread, self extinguishing, do not burn dripping



- PU Foam is spreads fire, self extinguishing
- There are rubber foam lining on the inner surface which tighten and absorbs vibrarion of operating pipeline.
- The inside surface has a built-in adhesive, convenient for installation.
- Smooth side, easy to connect with most insulation methods

PU Foam Prodetech products has rubber foam lining on the inner surface which tighten (steel pipes have tolerances) and absorbs vibrarion of operating pipeline. The outer surface is hard, smooth and shiny that to prevent moisture after installation. Fire spread, self-extinguishing, not dripping to meet the requirements of fire protection standards of construction works.

Ular : Designed to Insulation pipe support PUR. The steel foil section is weled with the thyrod which not rust.

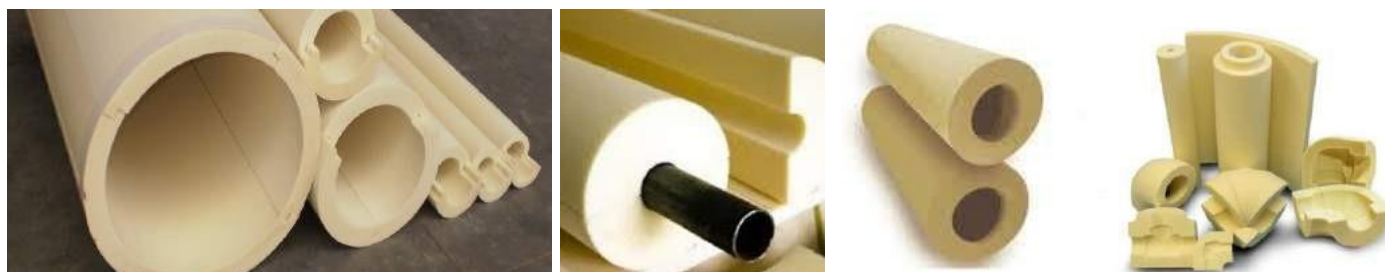
The width of Ular increases the surface area exposed to the PUR's surface making the PUR firmly fixed.

1. Material: Cacbon Steel CT3
2. Wel Standard: JIS Z3201

Finish: Electro-Galvanized, Hot dip-Galvanized

II. POLY- ISOCYANURATE FOAM (PIR FOAM)

- ▲ Pir pipe foam (Polyisocyanurate pipe foam) insulation is new professional cryogenic insulation m
- ▲ Material with high technology using so much in oil and petro factory manufacturer. With quality manager system ISO 9001:2008 and 5S standards of production. We are committed supply to market PIR pipe foam insulation with high quality and good price for use.
- ▲ PIR better than common polyurethane foam both in physical properties and fireproof performance, especially on cold insulation effects and fire retarding performance. PIR can be used in adiabatic demand of pipelines and equipment within -196 °C ~ + 150 °C it also provides the best efficient and stable cold insulation effects for Liquefied Nitrogen (LN -196 °C), Liquefied Natural Gas (LNG, -162°C), Liquefied Ethylene (LEG, -104 °C) PIR pipe foam insulation which our supply is using origin material foam famous company from American, Japan, Korean, Thailand, Singapore..
- ▲ The study evaluated the degree to which toxic product were released looking
- ▲ Mas Temperature Resistance to broken of aluminum films up to 450°C



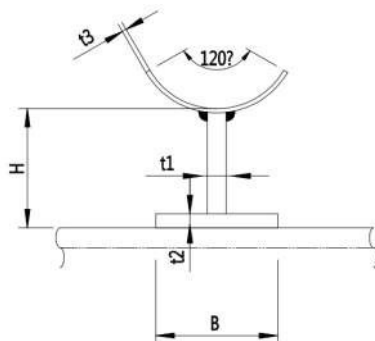
Technical data product:

Discription	Unit	Standard Test Method	Result	Remark
Resistance to Fire		Euro class BS2D0, DIN 4102	Class B2	
Molded Density	Kg/m3		50 kg/m3	
Closed cells content	%	ASTM D1622	>92KG/M3	
Initial thermalconductivity @23°C	W/mK		0.024	
Dimensional strength (perpendicular to the main plan of the panel)	kPa		170	
Dimensional stability (linear changes) 24hours at 70°C	%		Max 1%	
The proposed service temp			-196°C -> 150°C	

STEEL SHOE

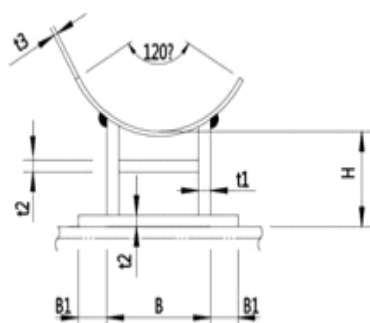
III. CHILLER SHOE

Material : - Pre galvanized steel (PG) - Hot Dip galvanized (HDG) - Powder (PC)



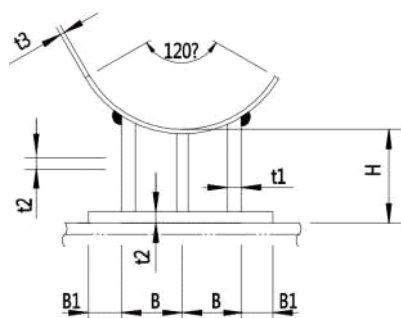
Pipe	L	B	H	C	T1	T2	T3
2.1/2"	300	75	100	20	6	9	6
3"	300	150		20	9	9	6
4"	300	150		20	9	9	6
5"	300	150		20	9	9	6
6"	300	150		20	9	9	6

Code : CS1



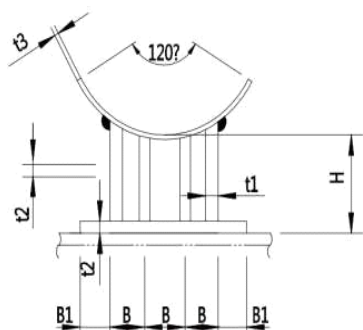
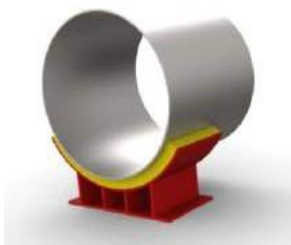
Pipe	L	B	B1	H	G	T1	T2	T3
8"	300	150	30	100	400	12	12	6
10"	300	150	30	100	400	12	12	6
12"	300	200	50	100	400	12	12	9
14"	300	200	50	100	400	12	12	9
16"	300	200	50	100	400	12	12	9
18"	300	200	50	100	400	12	12	9
20"	300	250	60	100	500	12	12	9
22"	300	250	60	100	500	12	12	9

Code : CS2



Pipe	L	B	B1	H	G	T1	T2	T3
24"	350	125	60	100	500	12	12	9
26"	350	125	60	100	500	12	12	9
28"	350	175	60	100	500	12	12	9

Code : CS3



Pipe	L	B	B1	H	G	T1	T2	T3
30"	350	150	80	100	600	12	12	9
32"	350	150	80	100	600	12	12	12

Code : CS

IV. RESTING SHOE

Material : - Pre galvanized steel (PG)

- Hot Dip galvanized (HDG)

- Powder (PC)



Code : RS1

Pipe	L	B	H	C	T1	T2
2.1/2"	300	75	150	200	6	9
3"	300	150		200	9	9
4"	300	150		200	9	9
5"	300	150		200	9	9
6"	300	150		200	9	9



Code : RS2

Pipe	L	B	B1	H	G	T1	T2
8"	300	150	30	170	40	12	12
10"	300	150	30	165	40	12	12
12"	300	200	50	175	40	12	12
14"	300	200	50	175	40	12	12
16"	300	200	50		40	12	12

V. GUIDE SHOE

Code : GS1



Pipe	L	B	H	C	T1	T2
2.1/2"	300	75	150	200	6	9
3"	300	150		200	9	9
4"	300	150		200	9	9
5"	300	150		200	9	9
6"	300	150		200	9	9

Code : GS2



Pipe	L	B	B1	H	G	T1	T2
8"	300	150	30	170	40	12	12
10"	300	150	30	165	40	12	12
12"	300	200	50	175	40	12	12
14"	300	200	50	175	40	12	12
16"	300	200	50		40	12	12

Other size can be produce upon request with difference specification.

VI. EVA FOAM PIPE SUPPORT

EVA rubber pillow is a pipe support material made from polyvinyl alcohol (EVA) material, which has excellent physical and chemical properties, can effectively protect pipes from the impact of the external environment and extends pipe life.

At the same time, the EVA rubber plastic pipe holder also has good shock absorption, vibration absorption and sound insulation effects, which can effectively reduce noise and vibration during pipeline operation, while improving the durability, safety and stability of pipelines.



**Wooden Support
code : PUW - aDxbT-L**

No	Specifications	Unit	Standard Test	Parameter
1	Color	Table color	ISO 105-A02:1993	Black
2	Surface			Smooth
3	Thickness	mm		3~5mm
4	Density	g/cm ³	ASTM D1622	1,35g/cm ³ - 2.0g/cm ³
5	Hardness	HB	TCVN 1595-1; 2007	7~20HB
6	Pressure	Mpa	ASTM D1621	0.13Mpa - 0.5Mpa
7	Tensile Strength	Mpa	ASTM D1622	0.2Mpa - 0.3Mpa
8	Elongation	%	TCVN 4509:2006	200%-300%
9	Temperature Service		GB/T8871	-30 ~+80

VII. WOODEN PIPE SUPPORT

Wooden support are a product constructed from wood to create stability and support loads. They are used to reduce vibrations and withstand loads in construction and industrial applications.

Our company's wooden pipe racks are all made of high-quality wood, sturdy, not easily deformed, never use reprocessed old wood, no preservatives and environmentally friendly.



**Wooden Support
code : PUW - aDxbT-L**

Item	Specification	Standard
Materials	Wooden	Standard
Density	800±100 kg/m ³	ASTM D1622
Thermal conductivity	0.032 W/mK	ASTM C518
Working temperature	-50 °C -> 150 °C	ASTM 1621
Compressive Strength	10.5Mpa	ASTM D1621
Environmental friendly material, free. CFC.	Good	ASTM D1056

VIII. ACCESSORIES FOR PIPE SUPPORT

Products Description:

Material:

- Steel,
- Aluminum,
- Stainless

steel Finishing

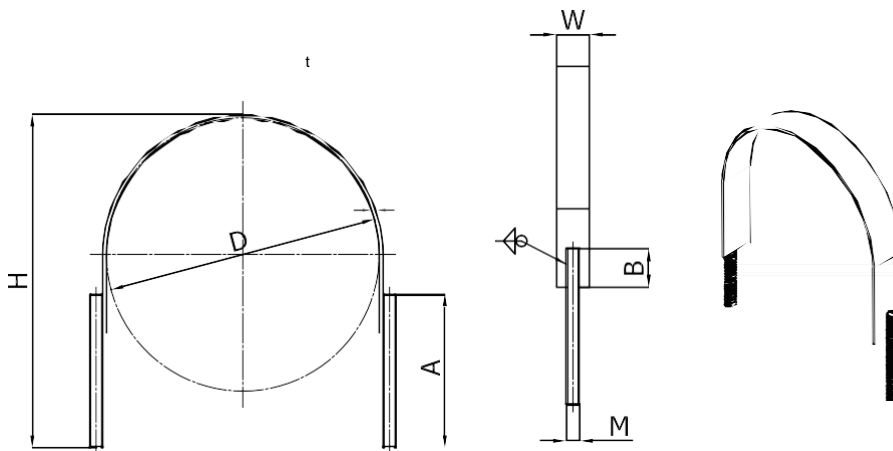
Surface:

- Powder coating
- Alkyd paint
- Hot deep Galvanized
- Zinc

coating

Thickness:

- 1,5mm; 2,0mm; 2,5mm; 3,0mm



Ular

Technical data product:

Code	DN	D (mm)	H (mm)	A (mm)	B (mm)	M (Ty Ren)	W (mm)
Ular 15A	15	21.7	47	40	10	M8	25; 30
Ular 20A	20	27.2	53	40	10	M8	25; 30
Ular 25A	25	34.0	60.0	40	10	M8	25; 30
Ular 32A	32	42.7	68	40	10	M8	25; 30
Ular 40A	40	48.6	75	40	10	M8;M10	25; 30; 40
Ular 50A	50	60.5	96	50	10	M8;M10	25; 30; 40
Ular 65A	65	76.3	120	60	12	M8;M10	25; 30; 40
Ular 80A	80	89.1	134	60	12	M8;M10	25; 30; 40
Ular 100A	100	114.3	154	60	15	M8;M10	25; 30; 40
Ular 125A	125	139.8	185	70	20	M8;M10	25; 30; 40
Ular 150A	150	165.2	213	70	20	M8;M10	25; 30; 40
Ular 200A	200	216.3	282	90	20	M10;M12	25; 30; 40; 50
Ular 250A	250	267.4	336	90	20	M10;M12	25; 30; 40; 50
Ular 300A	323	325	375	90	20	M12	40; 50
Ular 350A	357	375	435	90	20	M12	40; 50
Ular 400A	409	430	485	90	20	M12	40; 50



Other size can be produce upon request with difference specification.

TECHNICAL DATA FOR ULAR OF PU URETHAN

GI Pipe			PU Urethan Insulation Thickness																			
			50						40						32						25	
DN of pipe (mm)	ID (mm)	L (mm)	P (mm)	La Length Ular (mm)	t (mm)	d (mm)	w (mm)	P (mm)	La Length Ular (mm)	t (mm)	d (mm)	w (mm)	P (mm)	La Length Ular (mm)	t (mm)	d (mm)	w (mm)	P (mm)	La Length Ular (mm)	t (mm)	Bulon g (mm)	w (mm)
15A	22	50	134	284	2	8	30	114	232	2	8	30	98	191	2	8	30	84	155	2	8	30
20A	28	50	140	299	2	8	30	120	248	2	8	30	104	206	2	8	30	90	170	2	8	30
25A	35	50	147	317	2	8	30	127	266	2	8	30	111	224	2	8	30	97	188	2	8	30
32A	42	50	154	335	2	8	30	134	284	2	8	30	118	242	2	8	30	104	206	2	8	30
40A	48	50	160	350	2	8	30	140	299	2	8	30	124	258	2	8	30	110	222	2	8	30
50A	60	50	172	381	2	8	30	152	330	2	8	30	136	289	2	8	30	122	253	2	8	30
65A	76	50	188	422	2	8	30	168	371	2	8	30	152	330	2	8	30	138	294	2	8	30
80A	89	50	201	456	2	8	30	181	404	2	8	30	165	363	2	8	30	151	327	2	8	30
100A	114	50	228	500	2	10	30	208	449	2	10	30	192	407	2	10	30					
125A	140	50	254	567	2	10	30	234	515	2	10	30	218	474	2	10	30					
150A	168	50	282	639	2	10	30	262	587	2	10	30	246	546	2	10	30					
200A	219	50	335	770	2	12	30	315	718	2	12	30										
250A	273	50	389	909	2	12	30	369	857	2	12	30										
300A	323	50	439	1037	2	12	30	419	986	2	12	30										
350A	355	50	475	1119	3	14	50															
350A	377	50	497	1176	3	14	50															
400A	406	50	526	1250	3	14	50															
400A	419	50	539	1284	3	14	50															
400A	429	50	549	1310	3	14	50															
450A	457	80	577	1381	3	14	50															
450A	477	80	597	1433	3	14	50															
500A	509	80	629	1515	3	14	50															
500A	529	80	649	1567	3	14	50															
550A	559	80	679	1644	3	14	50															
600A	610	100	730	1775	3	14	50															
600A	630	100	750	1826	3	14	50															
650A	660	100	780	1903	3	14	50															
700A	711	100	831	2034	3	14	50															
700A	720	101	840	2057	3	14	50															
800A	813	150	933	2296	3	14	50															
800A	822	150	942	2320	3	14	50															



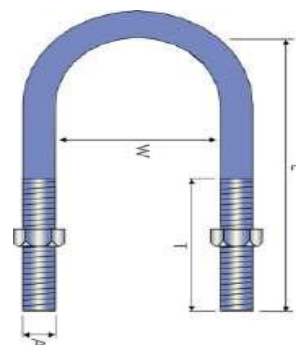
- T: Độ dày cách nhiệt
Insulation thickness
- L: Bàn rộng của gối
Length of PUR
- W: Bàn rộng Ula
Wide of Uband
- t: Độ dày lá thép Ula
Steel thickness
- P: *Khoảng cách khoan ty*
Distance to Drill threaded hole
- d: Đường kính ty Ula
Inner diameter of Ula
- DN: Đường kính danh nghĩa ống thép
Nominal diameter of steel pipe
- ID: Đường kính trong của gối
Inner diameter of the PUR
- La: Chiều dài cùm Ula



VIII. ACCESSORIES FOR PIPE SUPPORT

2. U - Bolts

Detail	Specification
Quality	Hard, strong
Material	Carbon, steel
Origin	Prodetech / Made in VN
Surface	Electrolytic galvanized according to ASTM B633 standard
Color	White, red..



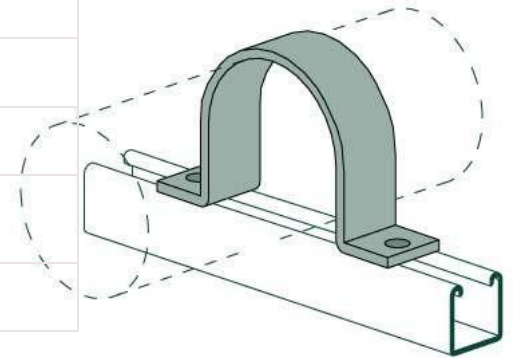
TECHNICAL SPECIFICATIONS

Part No	Size	Dimension (mm)			
		A	W	L	T
15A	1.2"	M10	21	65	50
20A	3/4"	M10	27	77	50
25A	1"	M10	34	85	50
32A	1-1/4"	M10	43	93	50
40A	1-1/2"	M10	48	100	50
50A	2"	M10	60	110	50
65A	2-1/2"	M12	76	127	50
80A	3"	M12	89	140	50
100A	4"	M12	115	165	50
125A	5"	M12	140	190	50
150A	6"	M12	168	220	50
200A	8"	M16	219	295	75
250A	10"	M20	273	370	100
300A	12"	M20	324	420	100

VIII. ACCESSORIES FOR PIPE SUPPORT

3. CLAMP TYPE A

Detail	Specification
Quality	Hard, strong
Material	Carbon, steel
Origin	Prodotech / Made in VN
Surface	Electrolytic galvanized according to ASTM B633 standard
Color	White, red..



TECHNICAL SPECCIFICATIONS

Part No	Size	D	A	B	Bolt size	Strip size
		mm	mm	mm		mm
15A	1.2"	22	76	51	M8	25x2
20A	3/4"	28	82	57	M8	25x2
25A	1"	35	89	64	M8	25x2
32A	1-1/4"	42	96	71	M8	25x2
40A	1-1/2"	48	102	77	M8	25x2
50A	2"	54	108	83	M8	25x2
65A	2-1/2"	60	114	89	M8	25x2
80A	3"	67	121	96	M8	25x2
100A	4"	75	145	113	M8	25x2
125A	5"	82	152	128	M8	25x2
150A	6"	90	160	138	M8	25x2
200A	8"	100	160	138	M8	25x2
250A	10"	108	178	153	M8	25x2
300A	12"	115	185	164	M8	25x2.5

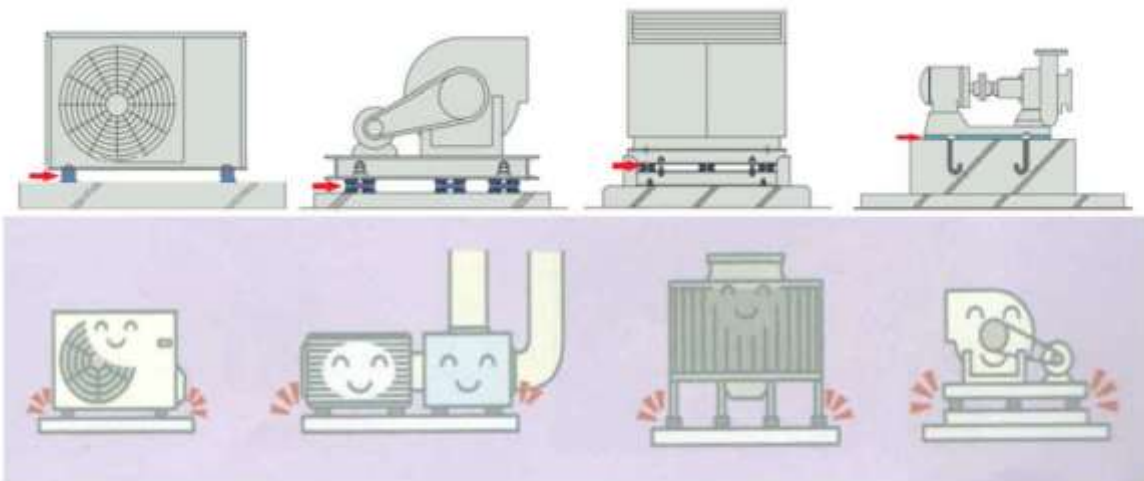
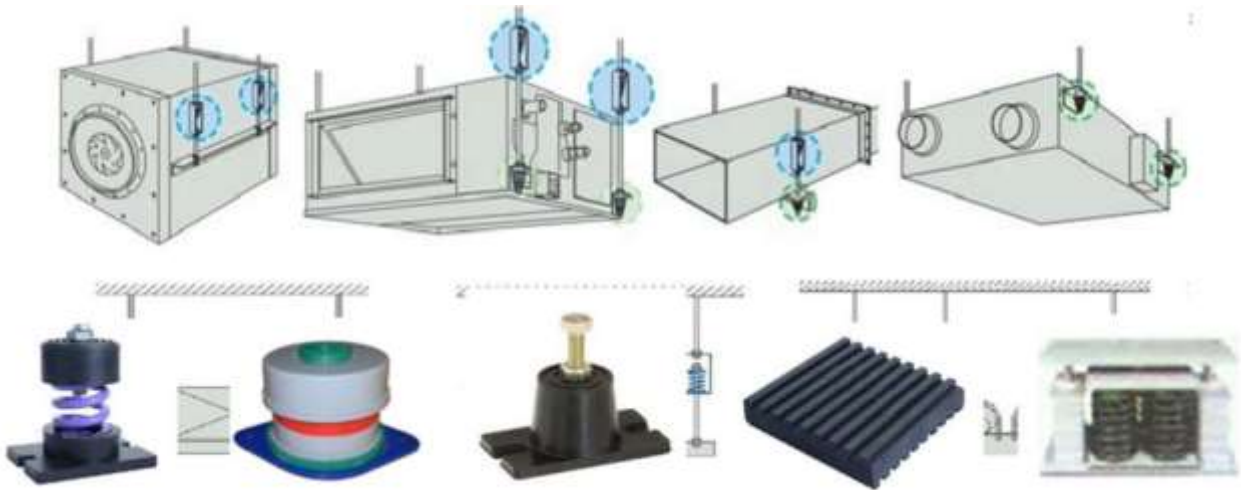


VIBRATION DAMPERS

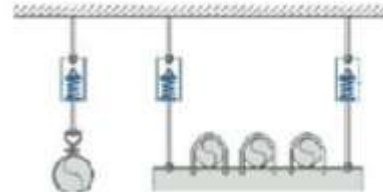
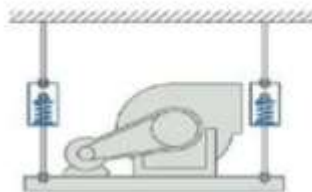
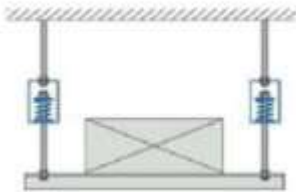
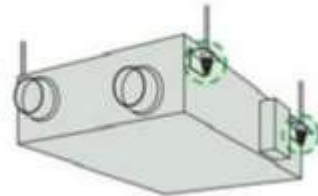
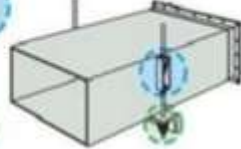
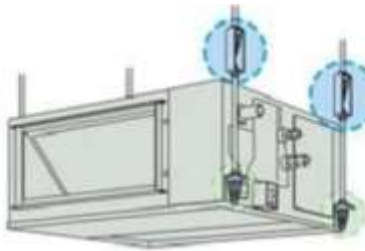


Vibration dampers

Vibration dampers are connected to floor



Vibration dampers are connected to ceiling



SH

SPRING HANGER



Design feature:

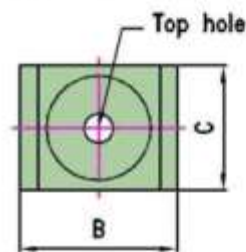
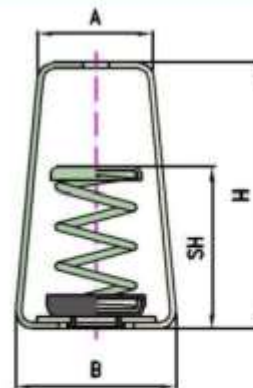
- High efficiency vibration from structure born vibration and noise.

Application:

- Fan, AHU, FCU, Piping, Ducting, etc...

Feature:

- Compliance-Springs designed according to BS 1726 (Part 1): 2002



Model	Color	Capacity	Deflection	Top Hole	Dimension mm				
		kgs	mm	mm	A	B	C	D	H
SH 10	Purple	10	25	13	55	70	52	12	115
SH 15	Yellow	15	25	13	55	70	52	12	115
SH 20	Grey	20	25	13	55	70	52	12	115
SH 40	Light Blue	40	25	13	55	70	52	12	115
SH 60	Blue	60	25	13	55	70	52	12	115
SH 100	Green	100	25	15	83	85	85	14	125
SH 160	Orange	160	25	15	83	85	85	14	125
SH 200	Red	200	25	15	83	85	85	14	125
SH 250	Purple	250	25	15	83	85	85	14	125
SH 160S	Orange	160	25	15	102	105	95	18	165
SH 200S	Red	200	25	15	102	105	95	18	165
SH 250S	Purple	250	25	15	102	105	95	18	165
SH 300	Grey	300	25	19	102	105	95	18	165
SH 400	Red	400	25	19	102	105	95	18	165
SH 500	Brown	500	25	19	102	105	95	18	165
SH 600	Black	600	25	19	102	105	95	18	165
SH 800	Red	800	25	19	102	105	95	18	165
SH 1250	Green	1250	25	19	102	105	95	18	165

Noted:

- Dimension is mentioned with 5% tolerance.
- To achieve good isolation do not overload.

SMA

CUP SPRING MOUNT - TYPE A



Design feature:

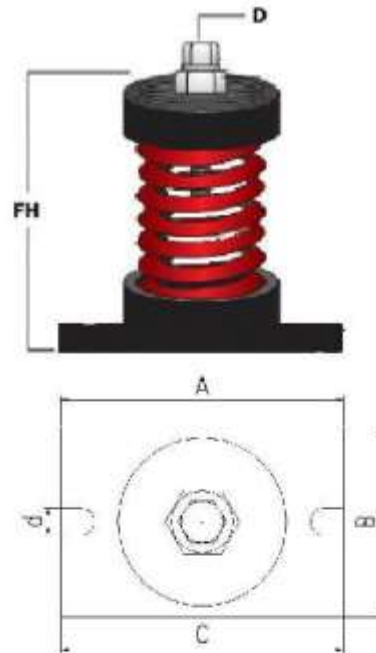
- Laterally stable springs
- Non-Skid bolt down base.
- Plated leveling/lock bolt.

Application:

- AHU, Pump, Centrifugal and Axial Fan, Inertia Base, Internal Combustion Engines, etc,...

Feature:

- Compliance-Springs designed according to BS 1726 (Part 1): 2002



Model	Color	Capacity	Deflection	Dimension mm					
		kgs	mm	A	B	C	D	d	FH
SMA 015	Purple	15	25	110	75	90	M8	M8	140
SMA 030	Yellow	30	25	110	75	90	M8	M8	140
SMA 060	Blue	60	25	110	75	90	M8	M8	140
SMA 100	Green	100	25	110	75	90	M8	M8	140
SMA 160	Orange	160	25	110	75	90	M8	M8	140
SMA 200	Red	200	25	110	75	90	M8	M8	140
SMA 250	Purple	250	25	110	75	90	M8	M8	140
SMA 160S	Orange	160	25	140	100	115	M10	M10	140
SMA 200S	Red	200	25	140	100	115	M10	M10	140
SMA 250S	Purple	250	25	140	100	115	M10	M10	140
SMA 300	Grey	300	25	140	100	115	M10	M10	140
SMA 400	Red	400	25	140	100	115	M10	M10	140
SMA 500	Brown	500	25	140	100	115	M10	M10	140
SMA 600	Black	600	25	140	100	115	M10	M10	140
SMA 800	Red	800	25	140	100	115	M10	M10	140
SMA 1050	White	1050	25	140	100	115	M10	M10	140
SMA 1250	Green	1250	25	140	100	115	M10	M10	140

Noted:

- Dimension is mentioned with 5% tolerance.
- To achieve good isolation do not overload.

XHS

XHS (hanger spring vibration damper)

XHS damping springs (shock) are used in small devices such as fan coil damping. When the installation of central air-conditioning, fan coil damping can improve the health of the wind installation disc, prolong life, reduce ambient noise and vibration environment pollution.

The product has a large damping, low natural frequency, easy installation, low cost.

Applications: Air conditioner, fans, pipes, all kinds of lifting equipment...



XHS

Product information :

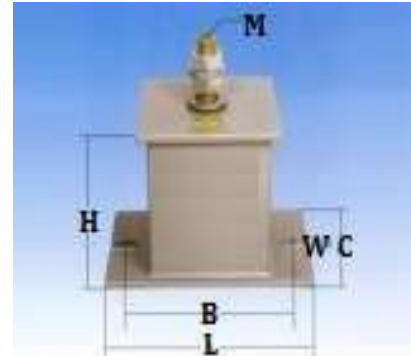
Thông số chi tiết:

Model	Rated load (Kg)	Frequency vibration (Hz)	Dimension (mm)						
			H	D1	D2	B	b	s	a
XHS-1	5-15	3.5-2.9	80	60	60	35	10.5	8	2.5
XHS-2	15-25	3.5-2.9	117	57	62	40	11	8	3
XHS-3	25-45	3.4-2.7	124	59	67	40	11	8	3
XHS-4	45-75	3.2-2.5	131	64	72	45	11	10	3
XHS-5	75-115	3.2-2.5	140	69	84	50	13	12	3
XHS-6	115-155	3.2-2.4	151	74	84	60	13	12	3
XHS-7	155-195	3.0-2.2	159	80	96	70	15	14	3
XHS-8	195-240	2.9-2.2	198	94	94	80	17	14	4
XHS-9	240-295	2.7-2.1	198	94	94	80	17	16	4

JW

JW can prevent seismic with good vibration performance. Product is equipped with adjusting bolt can keep the horizontal balance.

Product enables the damping device be connected to the transport equipment and against equipment damage by vibration



JW

Product information :

Model	Dimension						
	L	C	W	D	B	H	S
JW-10 - JW500	154	120	84	14	90	163	M16*120

Model	Load (kg)	Optimal deformation (mm)	Stiffness (kg/mm)
JW-30	30	10 - 15	2.00
JW-40	40		2.66
JW-60	60		4.00
JW-80	80		5.33
JW-100	100		6.66
JW-120	120		8.00
JW-140	140		9.33
JW-170	170		11.30
JW-200	200		13.30
JW-230	230		15.30
JW-280	280		18.60
JW-320	320		21.30
JW-370	370		24.60

ZD damping spring

Details:

ZD will combine the advantages of both springs and damping neoprene , remove the resonance amplitude , abrupt vibration phenomenon, also effectively solve the natural frequency vibration isolation ensures effectively .

Application :

pumps, fans , chillers , air conditioner combination , air-conditioning cabinets, air conditioners roof , centrifugal fans .

load range : 30-3300KG

Product Information:



Model	Load range (kg)	Deformation (mm)	Stiffness (kg/mm)
V-1	5-15	20~25	3.0-3.5
V-2	15-25		3.0-4.8
V-3	25-45		3.0-4.5
V-4	45-75		2.5-4.0
V-5	75-115		2.6-3.7
V-6	115-155		2.6-3.6
V-7	155-195		2.7-3.8
V-8	195-240		2.6-3.6
V-9	240-295		2.3-3.3

Model	Dimensions (±2mm)						
	L	B	C	H	D	M	E
V-1~V-3	100	65	40	70	8	8	85
V-3~V-6	120	70	50	100	13	12	105
V-7~V-9	150	90	75	150	15	14	120

Shock absorber type E

E type dampers made of metal and synthetic rubber , all metal surfaces are coated with rubber to prevent metal corrosion . Oil products , water-resistant , resistant to salt spray and sunlight , make sure to meet in the land use , marine and other environmental conditions . When the device is strongly influenced, damping type E can react immediately to unexpected vibrations , quickly eliminates vibration . It can be applied to diesel engines , fans, pumps , compressors , air conditioners , precision instruments and machinery for small and medium ...



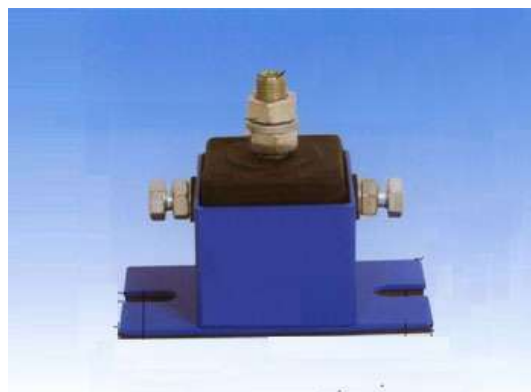
Product information:

Model	Load (kg)			Z static deformation (mm)		Dynamic stiffness (kg / cm)			Damping ratio (c / cc)	Weight (kg)
	Z	Y	X	Deformation	Deviation	Z	Y	X		
E10	10	10	5	0.6	± 0.3	330	500	350	0.08 ~ 0.12	0.16
E15	15	15	10	0.7		450	660	430		0.22
E25	25	25	10	0.9		750	880	690		0.22
E40	40	40	15	0.7		1300	1100	740		0.40
E60	60	60	25	0.7		1600	1400	900		0.65
E85	85	85	35	0.6		2000	1900	1000		1.10
E120	120	110	50	0.9		2500	2100	1100		1.40
E160	160	150	70	0.6		5500	2800	1400		1.80
E220	220	190	80	0.6		7000	3500	1500		2.20
E300	300	210	90	0.6		11000	5500	2260		2.50
E400	400	260	100	0.7	13000	6200	2400	3.10		
Model	M	L	L ₁	H	B	B ₁	N ₁	D		
E10	M8	70	54	40	35		2	ø7		
E15	M8	70	54	40	40		2	ø7		
E25	M8	70	54	40	40		2	ø7		
E40	M10	85	68	46	55		2	ø9		
E60	M12	100	80	50	65		2	ø9.2		
E85	M14	120	100	60	70		2	ø11		
E120	M16	140	112	65	85		2	ø13		
E160	M18	145	115	60	108		2	ø13		
E220	M22	150	120	60	118		2	ø15		
E300	M24	155	125	65	125	60	4	ø15		
E400	M27	175	140	65	130	65	4	ø17		

Shock absorber type JM

Product Overview :

JWF structure includes a spring surrounded by synthetic rubber and steel frame mounting bolts . JWF reduce vibration , reduce noise , increase the cushioning effect , and can prevent the unit being shifted , cracked in the process of motion.



Model	Load (kg)	Optimal deformation (mm)	Vertical stiffness (kg/mm)
JM-30	10	10 - 15	2.00
JM-40	20		2.66
JM-60	40		4.00
JM-80	60		5.33
JM-100	80		6.66
JM-120	100		8.00
JM-170	120		11.30
JM-200	140		13.30
JM-230	160		15.30
JM-280	180		18.60
JM-320	200		21.30
JM-370	240		24.60

Model	Dimension (±2mm)					
	L	C	W	D	H	S
JM3-30 to JM3-370	140	102	84	13	105	M16*80

Shock absorber type ZA

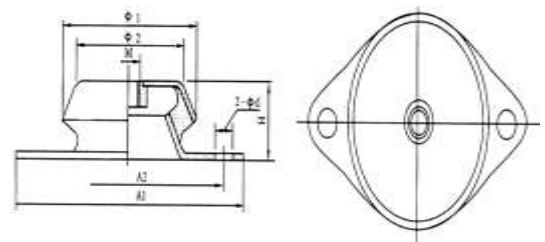
ZA series rubber isolators

ZA series vibration isolator is widely used in diesel engines (and generators), air compressors, fans, chillers, pumps and other mechanical equipment of forging, stamping machinery vibration isolation also had a marked effect.

Features:

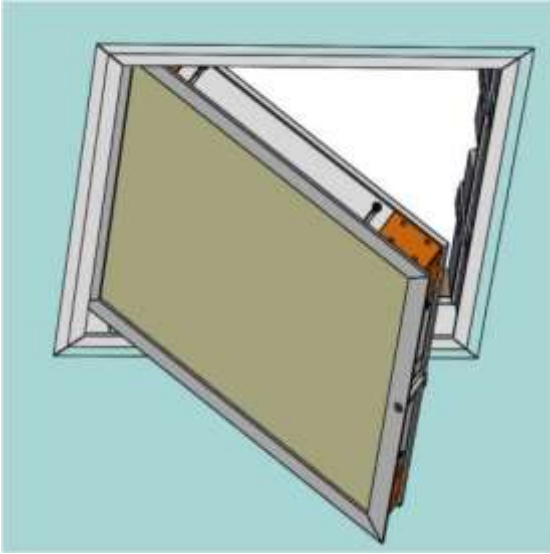
ZA has obvious effect of vibration isolation, small size, light weight, high and low, stable performance, low cost advantages.

Easy installation: In most occasions can be placed directly between the isolated ground unit (or units underneath a pedestal), generally do not bolt, do not have the traditional concrete foundation, and thus short construction period, low investment, is currently the ideal embodiment of power machinery vibration isolation.



Model	Dimensions (mm)						
	$\phi 1$	$\phi 2$	ϕd	A1	A2	H	M
ZA-34	70	50	10*15	130	100	35	12
ZA-39	95	70	12*16	152	120	45	14
ZA-49	145	115	14*20	212	182	49	16

Model	Load Range (kg)	Compressible deformation (mm)	Natural frequency (Hz)
ZA-34	20 - 100	1.0 - 3.5	16.0 - 12.5
ZA-39-40	100 - 400	1.5 - 4.5	15.0 - 10.5
ZA-39-50	150 - 450	1.5 - 4.5	14.0 - 9.0
ZA-39-60	200 - 550	1.5 - 4.5	13.5 - 9.5
ZA-39-70	250 - 650	1.5 - 4.5	14.0 - 10.0
ZA-49-40	250 - 550	3.5 - 6.0	14.0 - 8.5
ZA-49-50	300 - 750	2.0 - 5.5	13.5 - 9.5
ZA-49-60	400 - 1000	2.5 - 5.5	13.5 - 9.5
ZA-49-70	500 - 1200	2.0 - 5.5	12.5 - 9.0
ZA-49-80	600 - 1500	2.0 - 5.0	12.5 - 9.5



D1



D2



D3

D1	Access Door
D2	Highway safety products
D3	Rubber Industries



Access door

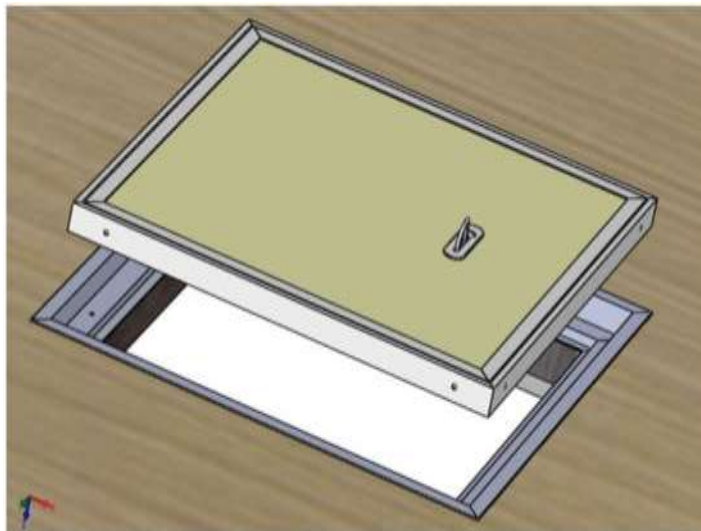


Access door

Floor Access Doors TUAS & TUAB

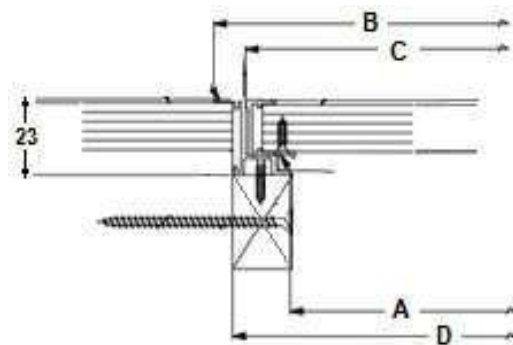
Product name : TUAS and TUAB

TUAS & TUAB helps facilitate the move, with high aesthetics, ease of installation and the use. This product suitable for most types of floors.



TUAS (White-plastic coated)

Model TUAS-TUAB	Dimension (mm)			
	A	B	C	D
300	260	312.2	291.2	300
450	410	462.2	441.2	450
600	560	612.2	591.2	600

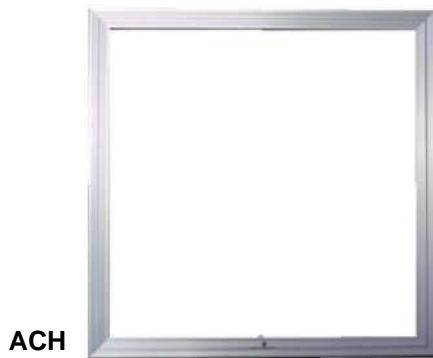


Thành phần	Số lượng		
	TUA30 (S-B)	TUA45 (S-B)	TUA60 (S-B)
Khung ốp trần	1	1	1
Khung cửa	1	1	1
Gối và vít chặn	4	4	4
Vít khung	4	4	4
Móc treo	4	4	4

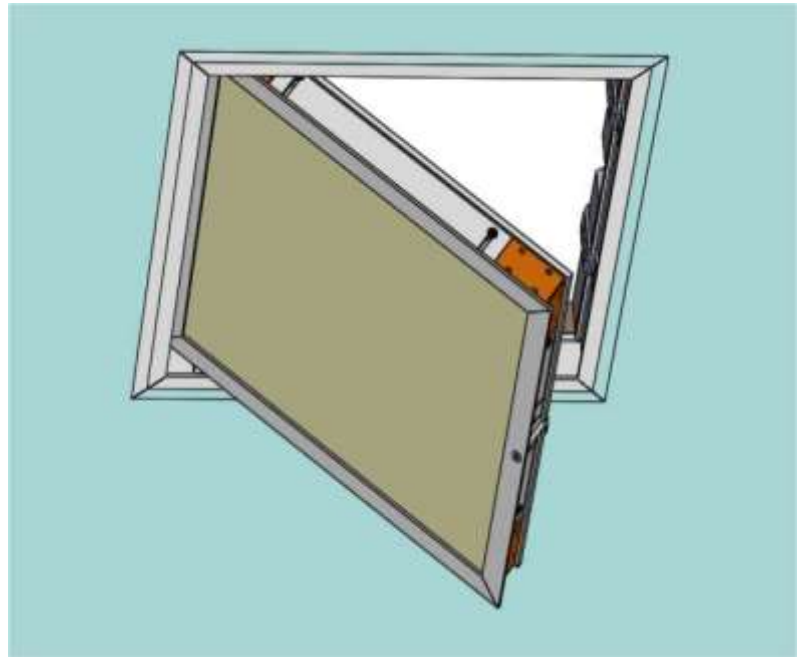
Ceiling Doors ACH & ACHW

Product name : **ACH and ACHW**

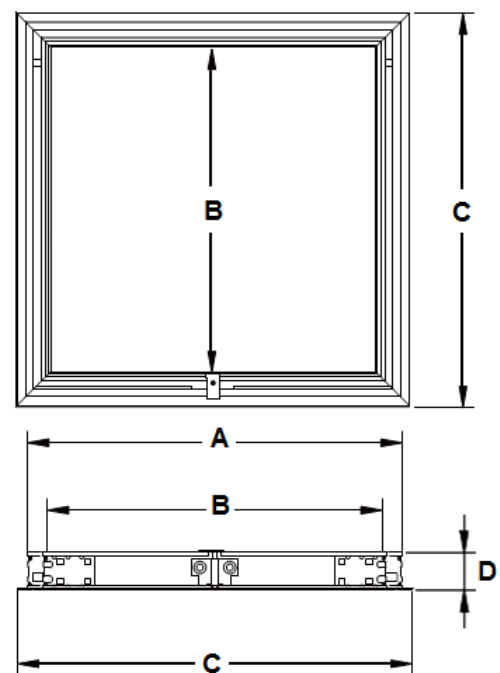
ACH & ACHW enables the replacement, installation and repair of electrical systems above the ceiling becomes easier, making it aesthetically pleasing and suitable for all ceiling systems.



(silver white- anode coated)



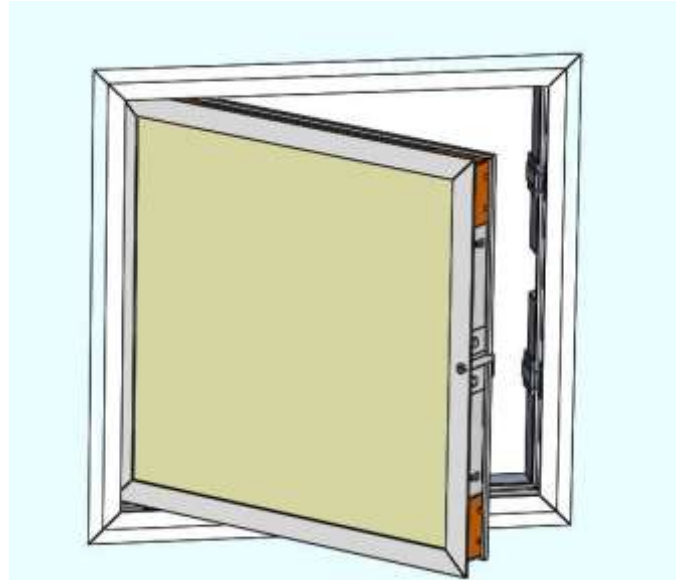
Model ACH-ACHW	A	B	C	D
300	303	268	316	30
450	454	418	466	30
600	606	568	616	30



Wall Access door AWH

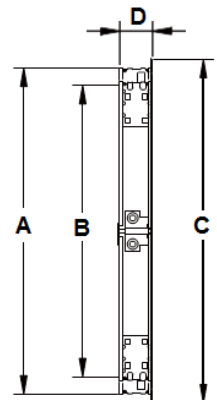
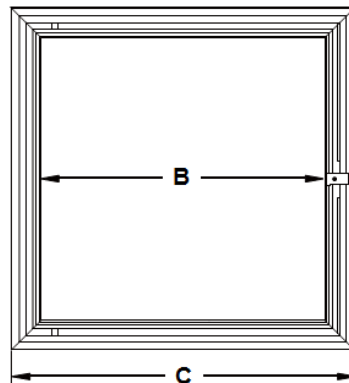
Product name: AWH

Side door AWH is the convenience products, easy to use, highly aesthetic, easy to install and suitable for most buildings.



Model	A	B	C	D
ACH-ACHW				
300	303	268	316	30
450	454	418	466	30
600	606	568	616	30

Side door AWH



Model	Dimension (mm)			
	A	B	C	D
TUAS-TUAB				
300	260	312.2	291.2	300
450	410	462.2	441.2	450
600	560	612.2	591.2	600

Product Information:

Items	Quantity		
	TUA30 (S-B)	TUA45 (S-B)	TUA60 (S-B)
Khung ốp sàn	1	1	1
Khung cửa	1	1	1
Bộ tay kéo cửa	1	1	1
Vít rời M4x16	2	2	2
Vít rời M3x4	2	2	2
Vít rời M3x12	8	8	8
Vít rời M3x20	8	8	8
Ốp lưng	-	1	1
Vít rời M4x12	-	1	1



HIGHWAY SAFETY PRODUCTS





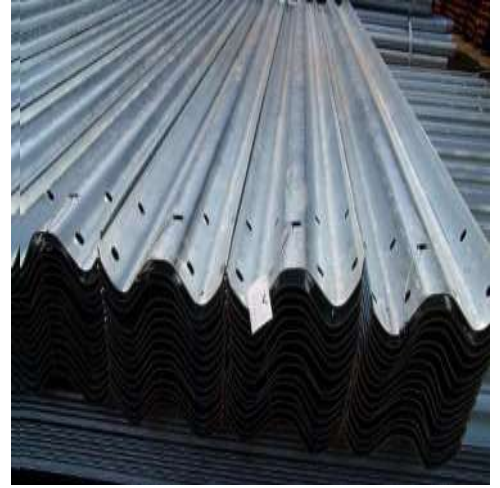
CABLE SAFETY SYSTEM

Cable safety system assists in re-directing errant vehicles that would otherwise traverse the median of a roadway. The unique post employs a proprietary wave shaped slot, which works in tandem with strategically positioned cables to increase the system's ability to restrain various types of vehicles that impact the system. The proprietary shape of the post allows for lower deflections during crash tests by minimizing the length of unsupported cables. Additionally, the widened cable spread works to retain different types of vehicles.

Features

- Three-cable (pre-stretched or standard) high-tension system.
- No sharp edges or hooks in 6:1 slope systems.
- Wave-shaped slot in post results in lower deflections.
- Aesthetically pleasing design with no interwoven cables.

Installation and Repair Advantages



Guardrail

Features

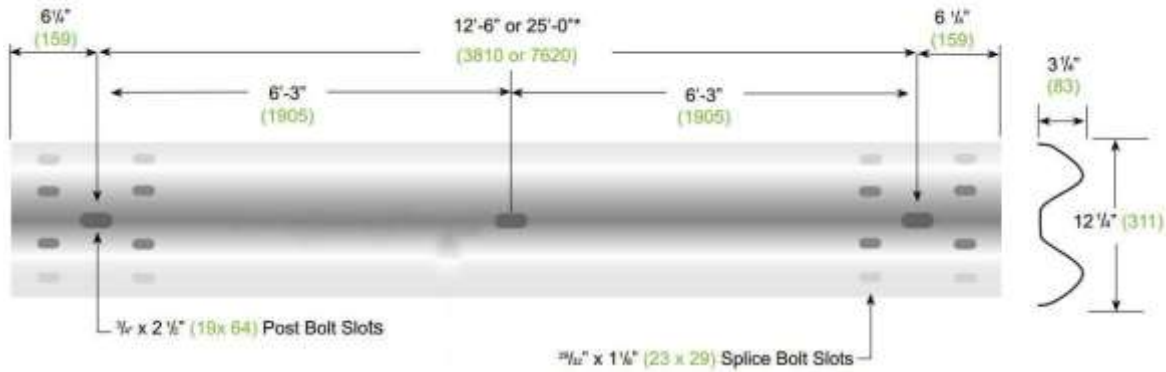
- Strong posts with weakening holes at the ground line.
- No offset blocks required.
- Countersunk-Head Bolts and Flange Protectors.
- Mid-span splices between adjacent posts.
- Meets the proposed “350 update” criteria.
- Reduced site grading by eliminating spacer block.
- Single-face or Double-Face (median) application

Specifications

Standard w-beam guardrail

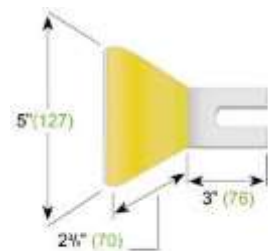
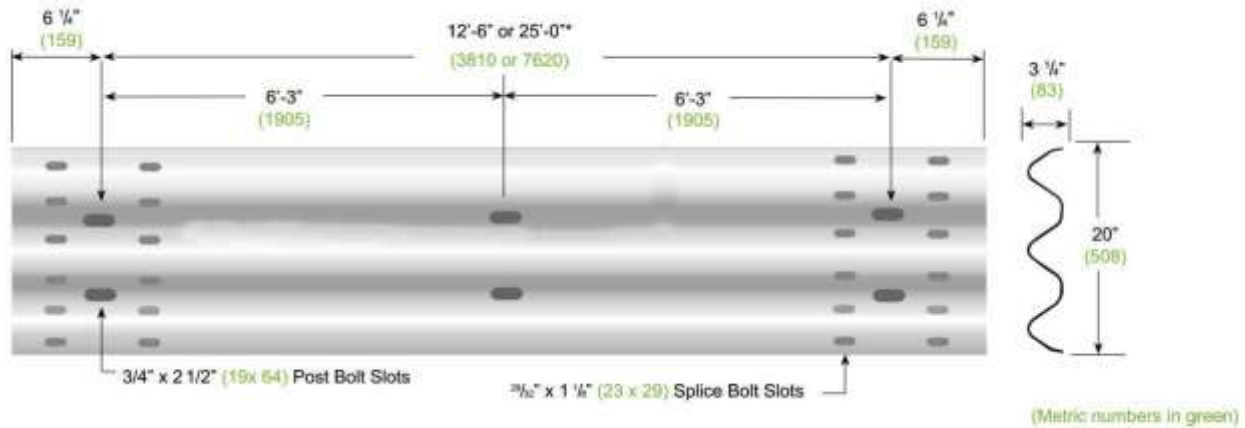
Highway safety products

W-BEAM RAIL



12' - 6" (3810mm)	SPACING	25' - 0" (7620 mm)
8G/208G	12' - 6" (3810 mm)	O.C. 58G/258G
9G/209G	6' - 3" (1905 mm)	O.C. 60G/260G
11G/211G	3' - 1 1/2"	O.C. 61G/261G

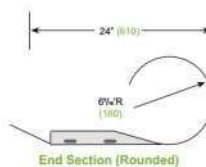
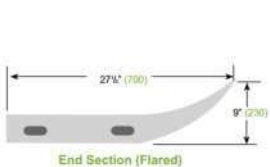
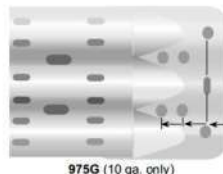
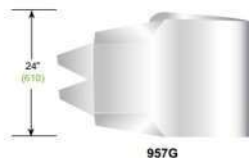
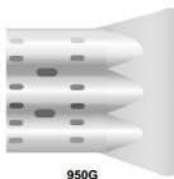
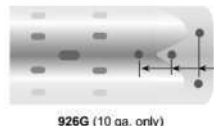
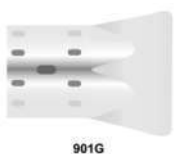
THRIE BEAM RAIL



Reflectorized Washer

NOMINAL WEIGHT

W-Beam	kg	Thrie-Beam	kg
901G (12 ga.)	8.2	950G (12 ga.)	13.2
907G (12 ga.)	10.0	957G (12 ga.)	16.8
926G (10 ga.)	10.0	975G (10 ga.)	16.8





End terminals

Features

- Tall and narrow extruder head.
- Softer ride down for smaller vehicles.





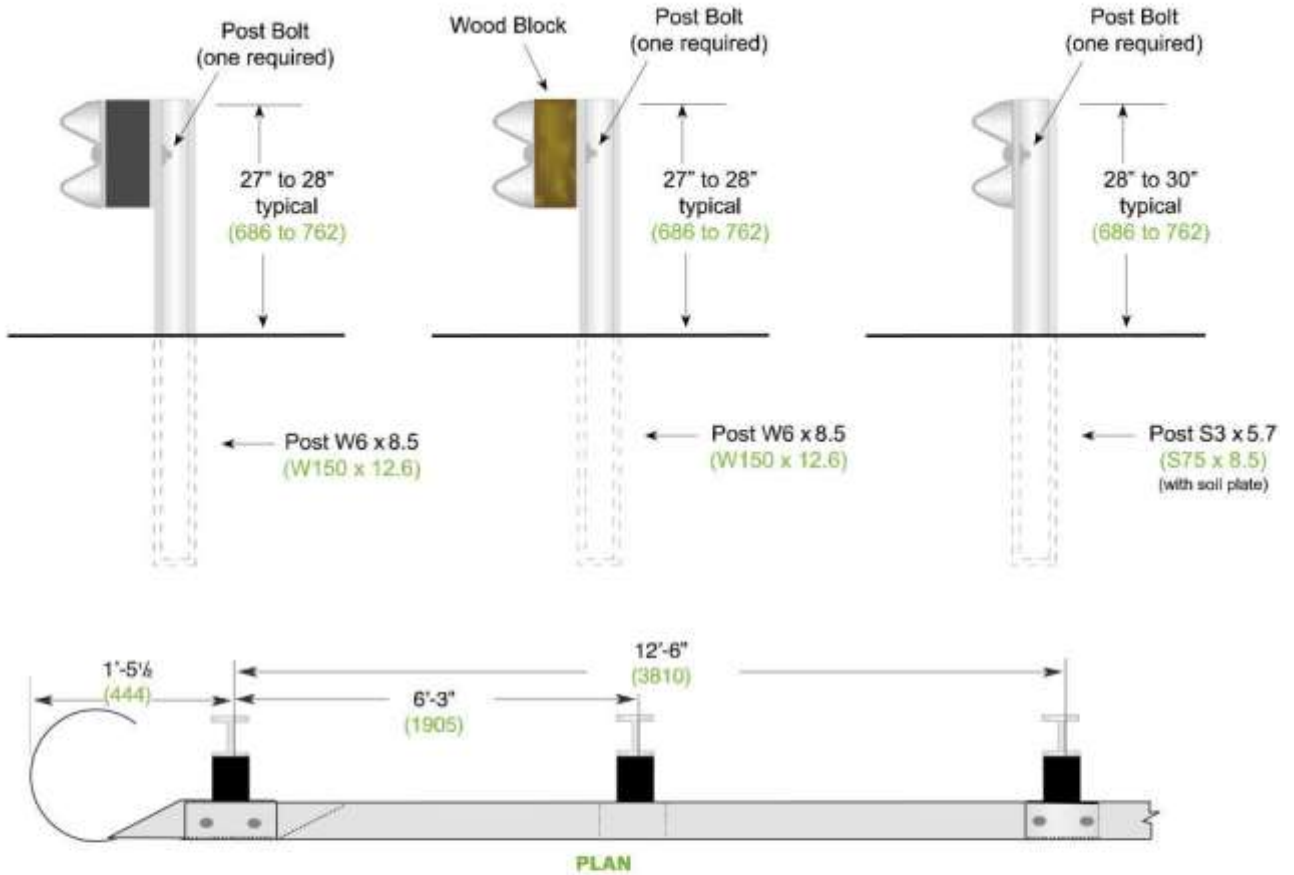
End terminals

Features

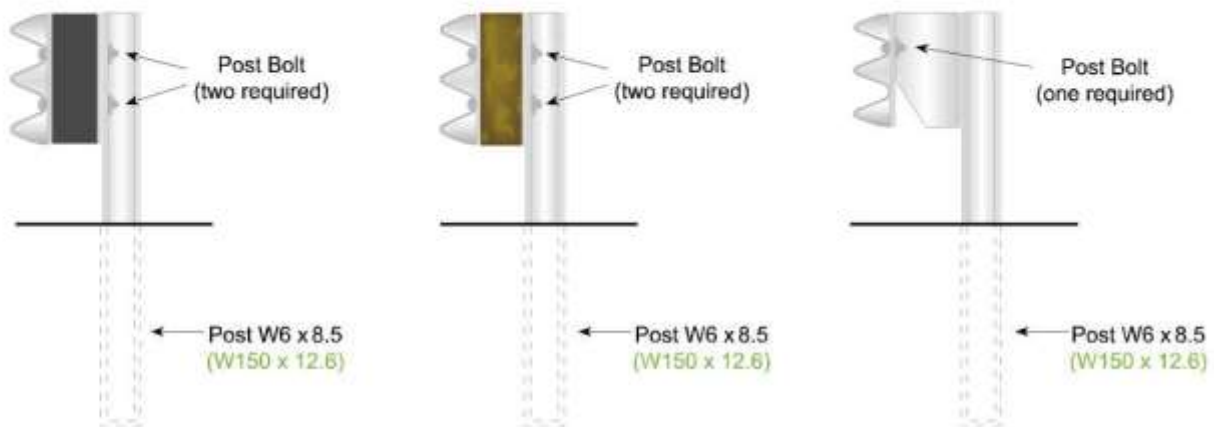
is a composite, polyethylene/crumb rubber block made fully from recycled materials. It can be substituted for wood or steel blocks on steel posts by end-users.



W-BEAM POST SYSTEMS



THRIE BEAM POST SYSTEMS



RUBBER INDUSTRIES

Rubber Wheel Stopper :



PDTs specially built kerb stoppers or wheel Stoppers

Features: Dual function yellow coloured UV resistant cover strip covers the flexing accessories giving smooth and attractive appearance

Sizes

Base width (A)
138
150

Height (B)
100
150

Length
As per customer requirement
As per customer requirement

Rubber Speed Hump :



PDT Rubber Speed Humps are traffic management devices designed for reducing the speed of vehicles, to under 30 km/h Locations considered for Speed Hump installations are school zones and crossings, residential areas, playground areas, hospitals, shopping centers, vehicle testing centers, construction and traffic detouring zones, gas/service stations, parking areas, warehouse complexes and such other areas where traffic calming is considered necessary for pedestrian and traffic safety

Product Features

Available in black and yellow colours for greater visibility.

UV, moisture and temperature resistant

Design provides flexibility to suit any size of road

Easy installation

Relocatable and reusable.

50mm high slows speed to 22-30 km/h

75mm high slows speed to 0-20 km/h

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Product Features

Easy and fast installation and removal– one person can handle the job using simple tools, Uniforms and consistent profile difficult to achieve with asphalt speed humps. Flexibility of rubber permits easy conformance to curvature of the Road. Resist damage to vehicles. Customization of lengths to meet specific location needs

Rubber Dock Stopper :



Rubber Dock Bumpers are moulded/ extruded profile manufactured from high impact-resistant rubber, designed to protect the walls of loading/unloading bays. Installed either vertically or horizontally on the wall. Holes shall be pre-drilled in the bumpers as per requirements.

The following are the available types of Rubber Dock Bumpers

- **D Bumpers**
- **Square Bumpers**
- **Laminated Dock Bumpers**
- **Light Duty Bumpers**

Rubber Corner Guard :

PRODETECHS are extruded profiles manufactured from high impact-resistant rubber, designed to protect the corners of columns. PRODETECHS are specially formulated to resist harsh weather conditions. The special blend of formulation also helps PRODETECHS to withstand damages caused by collisions as well as abrasions. PRODETECHS are available with or without steel backing plates of various wing lengths as per table below



Model No.	Size (mm)	Construction	Material
PDT-001	W(90x90)xT12xH1000	Metal Retainer with yellow strips	Rubber
PDT-002	W(90x90)xT12xH1000	Metal Retainer with yellow strips	HD/Rubber
PDT-003	W(100x100)xT10xH1200	Only Rubber with Yellow Reflectors	Rubber
PDT-004	W(100x100)xT12xH800	Only Rubber with Yellow Reflectors	Rubber
PDT-005	W(65x65)xT12xH1000	Metal Retainer with yellow strips	Rubber
PDT-006	W(75x75)xT12xH1000	Metal Retainer with yellow strips	Rubber
PDT-007	W(75x75)xT12xH1000	Metal Retainer with yellow strips	Rubber
PDT-008	W(75x75)xT12xH1000	Metal Retainer with yellow strips	HD/Rubber
PDT-009	W(100x100)xT12xH1000	Metal Retainer with yellow strips	Rubber
PDT-0010	W(100x100)xT12xH1000	Metal Retainer with yellow strips	Rubber

RUBBER WALL GUARD



Product Features

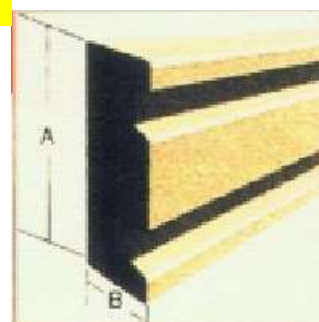
- Available in various sizes, and to lengths up to 5 meters
- Moisture and temperature resistant
- Easy and fast installation

Installation Method

- Secure the work area and take all safety precautions.
- Drill staggered holes at up to 600mm centers into the channeled recesses in PDT Rubber Wall Guard
- Place PDT Rubber Wall Guard on the surface to which it is to be fixed and using the holes on the product as guides, drill pilot holes in the substrate
- Remove the product and drill the pilot holes with the drill bit appropriate to the size of the bolt shield to the required depths
- Insert the shields in the holes
- Place PDT Rubber Wall Guard so that the holes drilled on the substrate are aligned to the holes on the product and secure them with the expansion bolts and flat washers. Do not over tighten

Sizes Available
(in mm)


Width (A)	Height (B)
100	15
200	15
200	20
200	25
200	50
250	25
300	25





Note:

Available in 5 meter lengths shapes and sizes also available.

PRODUCT LIST

			
Tube insulation normal	Tube insulation with aluminium	Tube insulation with fabrics jacket	Tube insulation pre - cutting jacket

			
Sheet insulation normal	Sheet insulation with aluminium	Sheet insulation with adhesive layer	Sheet insulation all in one

			
Egg - Sheet Rubber Foam	Flat - Sheet Rubber Foam	Press mix - Sheet Rubber Foam	Acoustic Panel Rubber

			
Acoustic Rubber for Pipe	Color Rubber Foam	Color Acoustic Rubber	Acoustic Panel Rubber

RUBBER INDUSTRIES

1. TUBE NORMAL INSULATION (T1)

NANOFLEX normal tube (T1) is cylindrical tube has closed cell structure with a core inside diameter was installed that fits with system air conditioning copper pipes, metal pipes water cooling, hot water PPR pipe, condensate uPVC pipe and soundproof decorative pipe is packed in carton box very handy...our insulation are widely used to saving energy, control and prevent condensation problem on chiller water pipe and refrigeration pipe. They also efficiently reduce heat flow on the hot water plumbing, liquid heating and soundproof application



Order example:

- Pipe - Type T1, size inside diameter 6mm, With thickness 13mm, black color - Class 1

See Table-01, Table-02, Order code should be: T1-D6x13T-T1-C1.

NANOFLEX tube (T2) with aluminum layer is highly puncture and tear resistant. Contains flame retardants and can be used as the exterior of hot or cold insulation. This product also provides excellent vapor barrier performance. In particular for outdoors application, it has good anti-aging properties and is resistant to all weather conditions. We are offering 4 grades of aluminum for multi-purpose applications.

Aluminium Layer code :	ALU-1	ALU2	ALU3	ALU4
Picture :				
Foil Backing Thickness:	100 Micron	20 Micron	7 Micron	20 Micron
Total Thickness	150 Micron	55 Micron	35 Micron	55 Micron
Tensile Strength	255N/25mm	50N/25mm	155N/25mm (XD)	15N/25mm
Elongation	20%	20%	10%	20%
Service Temp	-30°C to 100°C	-30°C to 100°C	-40°C to 100°C	-30°C to 100°C
Maximum Temp	450°C	240°C	115°C	100°C
Fire Performance	Class 0 - Passed follow BS476 - Part 6	Class 0 - Passed follow BS476 - Part 6	Class 1 - Passed	Class 1 - Passed
Description	High elasticity, smoothly surface, high fire resistance, difficult to crack, cannot tear away. Fire performance & Smoke is Class 0 follow BS476 Part 6.	Best elasticity, smoothly surface, high fire resistance, difficult to crack, difficult to tear away. Fire performance & Smoke is Class 0 follow BS476 Part 6.	Normal elasticity, smoothly surface, normal fire resistance, difficult to crack, Can be tear away. Fire performance & Smoke is Class 0 follow BS476 Part 6.	High elasticity, smoothly surface, normal fire resistance, difficult to crack, difficult to tear away. With antibacterial properties

Advice application:	Outdoor / Indoor. Flat surface, such as ducting	Outdoor / Indoor. Flat & Round surface, such as ducting and piping.	Indoor. Flat & Round surface, such as ducting and piping.	Outdoor/Indoor. Flat & Round surface, such as ducting and piping.
Application field :	Hotel, Building, Factory. Transportation (Car. board, train).	Hotel, Building, Factory. Transportation (Car. board, train).	Building. Factory.	Cleanroom Pharmacy and electronic industry.

Order example:

- Tube with aluminum layer - type T2(ALU-2)
With size inside diameter 60mm, thickness 25mm, Silver color - Class 0;
See Table-01, table-02, Order code should be: T1-D60x25T-B-T2(ALU-2)-C0.

3. TUBE INSULATION WITH FABRICS JACKET (T3)

Insulation jacketing consists of an outelnsulation jacketingr covering that is wrapped around tubing or pipe insulation to protect the insulation from moisture, wear and mechanical damage. The jacket also serves to provide support for the insulation and establish the system emissivity and appearance. Insulation jacketing plays an important role in the efficiency of the insulation.

The type of jacketing used depends on the mechanical, chemical, thermal, and moisture conditions of the installation as well as cost and aesthetics requirements.



TUBE INSULATION WITH FABRICS JACKET

Code : T-aDxbT-T3-Ci

Order example:

- Pipe - type T3, size inside diameter 114mm, With thickness 19mm, black color - Class 1
See Table-01, table-02, Order code should be: T1-D114x10T-B-T3-C1

4. TUBE INSULATION PRE - CUTTING / COLOR RUBBER (T4)

Pipeline insulation of this type is pre-cut throughout half the length of the pipe. This pipe makes construction convenient, saving labor costs in special cases.

Suitable for active pipelines requiring quick installation. Especially require high art and avoid opening joints after being properly protected.



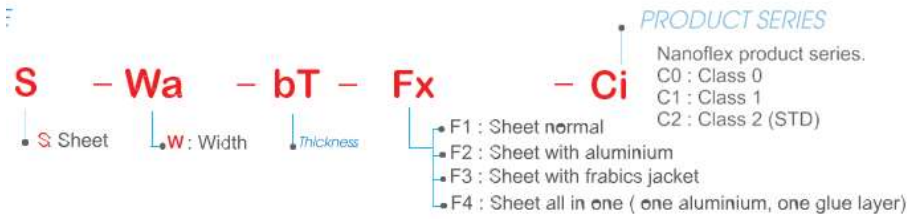
TUBE INSULATION PRE -CUTTING / COLOR RUBBER

Code : T-aDxbT-T4-Ci

Order example:

- Pipe - type T3, size inside diameter 114mm, With thickness 13mm, black color - Class 1
See Table-01, table-02, Order code should be: T1-D114x13T-B-T4-C0

II. SHEET INSULATION TYPE



1. SHEET NORMAL INSULATION (F1):

NANOFLEX standard sheet (F1) is a textured sheet with no binder and no aluminum layer, standard color for two surfaces is black. Installation for ventilation duct systems, cooling water and hot water pipes. High economic efficiency when used in normal conditions in buildings and factories.



SHEET NORMAL INSULATION
Code : S - Wa x bT -F1-C1

Classification: Class 0, class 1, class 2 (STD).

Order example:

- Standard sheet - type F1, size width 1100mm, with thickness 13mm, black color - Class 1;

Products code: S-W1100x13T-F1-C1.

* SHEET NORMAL INSULATION - COLOR RUBBER

Application:

Widely used in central air conditioning, construction, chemical, medical treatment, textile, metallurgy, vessel, vehicle, electrical appliance and etc industry and sectors of various hot and cold media pipeline, container, can achieve to reduce the energy saving effect of the hot and cold loss.



Sheet normal insulation- Color Rubber
Code : S-WaxbT-FC-C1

Classification: Class 0, class 1, class 2 (STD).

Order example:


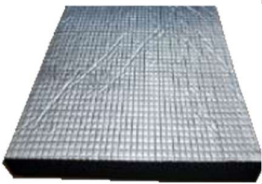


- ED
 - Standard sheet - type F1, size width 1100mm, with thickness 13mm, black color - Class 1;

Products code: S-W1100x13T-F1-C1.



2. SHEET INSULATION WITH ALUMINIUM LAYER (F2):

NANOFLEX sheet (F2) with aluminum layer is highly puncture and tear resistant. Contains flame retardants and can be used as the exterior of hot or cold insulation. This product also provides excellent vapor barrier performance. The foil facings ensure almost zero vapor permeability. In particular for outdoors application, it has good anti-aging properties and is resistant to all weather conditions. We are offering 4 grades of aluminum for multi-purpose applications.

Aluminium Layer	ALU-1	ALU2	ALU3	ALU4
Picture :				
Description :	Aluminium Glass Cloth Layer	Aluminium Embossed Caro Layer	Aluminium Caro with Re-inforcement Fiber Glass Layer	MPET Aluminium layer
Foil Backing thickness:	100 Micron	20 Micron	7 Micron	20 Micron
Total Thickness	150 Micron	55 Micron	35 Micron	55 Micron
Tensile Strength	255N/25mm	50N/25mm	155N/25mm (XD)	15N/25mm
Elongation	20%	20%	10%	20%
Service Temp	-30°C to 100°C	-300C to 1000C	-400C to 1000C	-300C to 1000C
Maximum Temp	4500C	2400C	1160C	1000C
Fire Performance	Class 0 - Passed follow BS476 - Part 6	Class 0 - Passed follow BS476 - Part 6	Class 1 - Passed	Class 1 - Passed
Description	High elasticity, smoothly surface, high fire resistance, difficult to crack, cannot tear away. Fire performance & Smoke is Class 0 follow BS476 Part 6 .	Best elasticity, smoothly surface, high fire resistance, difficult to crack, difficult to tear away. Fire performance & Smoke is Class 0 follow BS476 Part 6 .	Normal elasticity, smoothly surface, normal fire resistance, difficult to crack, Can be tear away . Fire performance & Smoke is Class 0 follow BS476 Part 6 .	High elasticity, smoothly surface, normal fire resistance, difficult to crack, difficult to tear away.
Advice application:	Outdoor / Indoor. Flat surface, such as ducting	Outdoor / Indoor. Flat & Round surface, such as ducting and piping.	Indoor. Flat & Round surface, such as ducting and piping.	Outdoor/Indoor. Flat & Round surface, such as ducting and piping.
Application field :	Hotel, Building, Factory. Transportation (Car, board, train).	Hotel, Building, Factory. Transportation (Car, board, train).	Building, Factory.	Cleanroom Pharmacy and electronic industry.

Order example:

Aluminum layer sheet - type F2, size width 1200mm, with thickness 25mm, insulation black color, Aluminum layer code ALU-2 - Class 0; Code : S-W1200x25T-F2(ALU-2)-C0.

Aluminum layer sheet - type F2, size width 1200mm, with thickness 13mm, insulation black color, Aluminum layer code ALU-1 - Class 0; Code : S-W1200x13T-F2(ALU-1)-C0.

SHEET INSULATION WITH ALUMINIUM LAYER
Code : S - Wa x bT - F2 - Ci

Rubber foam insulation

3. SHEET INSULATION WITH GLUE LAYER (F3):

NANOFLEX insulation with adhesive layer structure is that the lower surface is glued by a layer of glue + silicone release paper, the other surface is black.

The adhesive layer is easy to apply and very sticky to adhere to surfaces such as steel, plastic, metal & non-metal etc.

There is a special non-dead glue that is used for ventilation pipes, cooling water pipes, hot water pipes.

High economic efficiency when used under normal conditions in constructions and factories.



Order example:

- Sheet insulation with Adhesive layer - type F3, size width 1100mm, with thickness 25mm, insulation black color, with Glue layer (F3) - Class 1; Code : S-W1100x25T-B-F3-C1.

4. SHEET INSULATION ALL IN ONE (ONE ALUMINIUM & ONE ADHESIVE LAYER) (F4):

The aluminum layer is highly puncture and tear resistant. Contains flame retardants and can be used as the exterior of hot or cold insulation. This product also provides excellent vapor barrier performance. The outer sides of the leaves ensure near-zero water vapor permeability. Adhesive layer with peel off paper for easy application and excellent adhesion to surfaces such as steel, plastic, metal & non-metal, etc. There is a special glue that does not die specifically for ventilation pipes, cooling water pipes, hot water pipes. High economic efficiency when used in indoor and outdoor conditions in buildings and factories.



Order example:

- Sheet insulation all in one (one Aluminium & one Adhesive layer), size width 1200mm, with thickness 25mm, Aluminum layer code ALU-2 - Class 0; Code products : S-W1200x25T-B-F4(ALU-2)-C0.

Thickness (mm)	Lengh (m)	Area / Roll (m2)		
		1.1m Width	1.2mm Width	1.4mm Width
6	10	S-W1100 x 6T (11m2/ roll)	S-W1200 x 6T (12m2/ roll)	S-W1400 x 6T (11m2/ roll)
10	10	S-W1100 x 10T (11m2/ roll)	S-W1200 x 10T (12m2/ roll)	S-W1400 x 10T (14m2/ roll)
13	10	S-W1100 x 13T (11m2/ roll)	S-W1200 x 13T (12m2/ roll)	S-W1400 x 13T (14m2/ roll)
15	10	S-W1100 x 15T (11m2/ roll)	S-W1200 x 15T (12m2/ roll)	S-W1400 x 15T (14m2/ roll)
20	10	S-W1100 x 20T (11m2/ roll)	S-W1200 x 20T (12m2/ roll)	S-W1400 x 20T (14m2/ roll)
25	10	S-W1100 x 25T (11m2/ roll)	S-W1200 x 25T (12m2/ roll)	S-W1400 x 25T (14m2/ roll)
32	10	S-W1100 x 32T (11m2/ roll)	S-W1200 x 32T (12m2/ roll)	S-W1400 x 32T (14m2/ roll)
38	10	S-W1100 x 38T (11m2/ roll)	S-W1200 x 38T (12m2/ roll)	S-W1400 x 38T (14m2/ roll)
50	10	S-W1100 x 50T (11m2/ roll)	S-W1200 x 50T (12m2/ roll)	S-W1400 x 50T (14m2/ roll)

Note : Tolerance with thickness : ±2mm ; Tolerance with Width : ±3mm ; Tolerance with Leng : ±5mm ;

1. EGG – SHEET SOUNDPROOF RUBBER (E1):

NANOFLEX insulation is a acoustic absorber designed for use in a variety of different acoustic applications. To reduce noise air from the ventilation system and air conditioning (HVAC system), NANOFLEX soundproof material is glued to the box before and after axial fan system, making silencer box at location ducting go through wall, making soundproofing at the belows of pipe insulation, conducting target sound.

Nanoflex code number & product package :

Thickness (mm)	Width (mm)	Length (m)	M2/roll	Nanoflex code number / Area (m ²)
20, 25, 32	1200	10	12	ES - W1200x20T-E1/E3 - Ci (12m ² / roll) ES - W1200x25T-E1/E3 - Ci (12m ² / roll) ES - W1200x32T-E1/E3 - Ci (12m ² / roll)
38,50	1150	10	11.5	ES-W1150x38T-E1/E3 - Ci (11.5m ² /roll) ES-W1150x50T-E1/E3 - Ci (11.5m ² /roll)



EGG – SHEET RUBBER FOAM
Code : ES - Wa x bT - E1 - Ci



EGG – SHEET RUBBER FOAM WITH ADHESIVE
Code : ES - Wa x bT - E3 - Ci

Table: Minimum Insertion Loss Request for NANOFLEX Egg Sheet insulation follow AS ISO 11654 - 1997 (AS ISO 354-2006 Standard: Acoustics – Measurement of Sound absorption in a reverberation room)

Thickness of Nanoflex insulation material	Octave band center frequency (Hz)													Average of Absorption Coefficient
	100	250	400	500	800	1000	1250	1600	2000	2500	3150	4000	5000	
	Maximum Absorption Coefficient Sound α													
20 mmt	0.06	0.09	0.50	0.58	0.88	0.92	0.96	0.94	0.93	0.92	0.91	0.91	0.92	0.92
25 mmt	0.07	0.09	0.68	0.82	0.93	0.95	0.96	0.95	0.93	0.92	0.92	0.91	0.91	0.95
Using	Using for AC, VAV, FCU, Diffuser Air Grill, Pump system, Pipe water cooling													

2. FLAT – SHEET SOUNDPROOF RUBBER (E2)



FLAT- SHEET RUBBER FOAM
Code : ES - Wa x bT - E2 - Ci

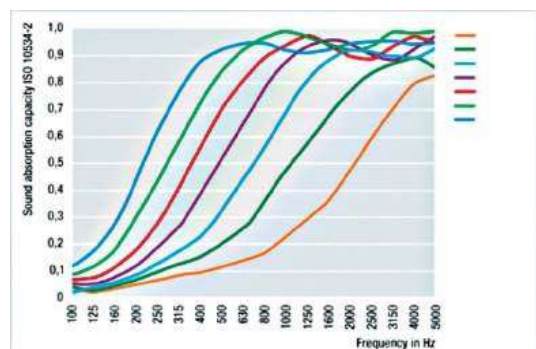


Table sound absorption coefficient of Nanoflex rubber foam soundproof - flat sheet

Rubber foam insulation

3. REBOUNING ACOUSTIC RUBBER FOAM (E3)

NANOFLEX rebounding Rubber foam is high performance acoustic insulating material with main material is rubber foam insulation with density 250 ~ 350 kg/m³. With design optimal performance at lower thickness than traditional materials, NANOFLEX high performance acoustic is a unique advance close cell acoustic insulation material..



REBOUNING ACOUSTIC RUBBER FOAM
Code : ES - Wa x bT - E4 - Ci

Sound Absorption :

Application	Typical Reduction	Used System	Remak
Pipe lines	Up to 50dB	9, 13, 20mm	High performance silencer
Waste water pipes	Up to 25dB	9, 13, 20mm	High performance silencer
Washing machine	20dB	10, 15mm	High performance silencer
General Enclosures	Up to 30dB	15, 20, 25, 32mm	High performance silencer
Chiller, Generators	Up to 30dB	15, 20, 25, 32mm	High performance silencer
Telecommunication	Up to 20 dB	15mm	Noise Standard

Sound barrier transmission loss :

Relatively high density and high flow resistance offers beneficial sound transmission loss properties. May be suitable for use as an alternative to complex foam barrier multi layers

4. FIBER ACOUSTIC PANEL (E4)

NANOFLEX fiber panel is made of 100% NANOFLEX fiber. It is a good acoustic and decorative material with characteristics of environmental friendly, heat insulation, mildew proof, easy cutting, easy removal and simple installation etc.

Specifications:

Standard thickness: 9mm/12mm

Size per piece: 1220mmx2420mm, fire retardant: available

Customization: color, pattern, size, thickness, etc. Installation: use glue, nail or velcro

Features:

With excellent sound absorbing performance. The NRC can be up to 0.98 sound absorption factor.

Easy to cut by knife, easy to install by glue or nail, will not inflate or shrink due to the change of temperature.

Easy dust removal and easy maintenance by vacuum cleaner or feather duster.

NANOFLEX Fiber Acoustic Panel

Frequency (Hz)	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	NRC
Sound absorption coefficient (a)	0.11	0.25	0.18	0.26	0.37	0.47	0.58	0.69	0.84	0.95	1.10	1.13	1.13	1.02	0.99	0.91	0.91	1.13	0.75



NANOFLEX ACCESSORIES PRODUCTS LIST :

			
NBR Gasket Duct Tape	EVA Gasket Duct Tape	PE Gasket Duct Tape	Fabrics & Fiber glass tape (High Temperature 350°C - 1000°C)
			
PVC Black tape (High Quality)	PVC Black tape (Normal)	Aluminium PET Foil Tape (High Quality)	Aluminium Fiber Glass Foil Tape
			
PU foam pipe support	Chiller shoe & PU foam support	Guide Shoe	Resting Shoe
			
Glasswool pipe	Glasswool roll	Rockwool pipe	Rockwool Blanket

Rubber foam insulation

I.1. NBR GASKET DUCT - TAPE (type : 3W-GT-NBR)

Product introduction:

NBR Gasket Duct Tape are specially designed for sealing the duct joints, eliminating the risk of air leakage through the joints. Excellent compressive strength, no deformation during operation. It is provided in the form of pre-cut rolls available in various sizes to suit all duct flanges standards. Manufactured from foam rubber materials meeting the fire protection standards, with physical cross-linking, the absolute sealed structure helps to completely prevent the penetration of liquids and moisture, extending the life of the product. .Integrated adhesive layer available at the factory, specially designed can be used in many different temperature conditions, saving maximum costs and time during installation.



Code: NBR1



Code: NBR2

Technical Specifications NBR - Gasket Duct Tape

No	Specification	Unit	Standard Test	Result
1	Cell Structure		ASTM 2856	Close cell
2	Density	kg/m3	ISO 854:2006	50-70 kg/m3
3	Color			Black
4	Material			Rubber Foam insulation
5	Rate Working Temperature	°C	ASTM E1131	-50°C - 110°C
6	Heat Thermal Conductivity	W/mK	ASTM C518	0.0343W/mK at 23°C
7	Fire Retardance		UL 94 & ASTM D635	Class V0 - HB
8	Under Layer			Silicone Coated Paper
9	Adhesion the Adhesive	kg		0.16 - 0.2kg/ 1 roll
10	Tensile Strength	N/cm	ISO 1798 - 1987	≥2.5N/cm
11	Special of Adhesive glue			Japan Style (No die/ no dry)
12	Thickness	mm		3mm ; 5mm ; 6mm
13	Width	mm		25mm;30mm; 35mm; 50mm; 100mm; 200mm
14	Length	m		10m/ roll

Notes : Products specification might be change due to actual manufacturing conditions.

I.2. EVA GASKET DUCT - TAPE (type : 3W-GT-EVA)

Product introduction:

EVA Gasket Duct tape are specially designed for sealing the duct joints, eliminating the risk of air leakage through the joints. Excellent compressive strength, no deformation during operation. It is provided in the form of pre-cut rolls available in various sizes to suit all duct flanges standards. Manufactured from foam rubber materials meeting the fire protection standards, with physical cross-linking, the absolute sealed structure helps to completely prevent the penetration of liquids and moisture, extending the life of the product. .Integrated adhesive layer available at the factory, specially designed can be used in many different temperature conditions, saving maximum costs and time during installation.



Code : 3W-GT-EVA

Technical Specifications EVA Gasket Duct Tape

No	Specification	Unit	Standard Test	Result
1	Cell Structure		ASTM 2856	Close cell
2	Density	kg/m ³	ISO 854:2006	60-100 kg/m ³
3	Color			Black
4	Material			EVA Foam
5	Rate Working Temperature	°C	ASTM E1131	-50°C to 110°C
6	Heat Thermal Conductivity	W/mK	ASTM C518	0.036W/mK at 0°C
7	Vacuum water Absortion	%		Max 8%
8	Under Layer			Silicone Coated Paper
9	Adhesion at the Adhesive	kg		0.16 - 0.2kg/ 1 roll
10	Tensile Strength	N/cm	ISO 1798 - 1987	≥2.5N/cm
11	Special of Adhesive glue			Japan Style (No die/ no dry)
12	Thickness	mm		5mm
13	Width	mm		25mm;30mm; 35mm; 50mm; 100mm; 200mm
14	Length	m		10m/ roll

Notes : Products specification might be change due to actual manufacturing conditions.

I.3. PE GASKET DUCT - TAPE (type : 3W-GT-PE)

PE Gasket Duct tape are specially designed for sealing the duct joints, eliminating the risk of air leakage through the joints. Excellent compressive strength. It is provided in the form of pre-cut rolls available in various sizes to suit all duct flanges standards. Manufactured from foam rubber materials meeting the fire protection standards, with physical cross-linking, the absolute sealed structure helps to completely prevent the penetration of liquids and moisture, extending the life of the product. .Integrated adhesive layer available at the factory, specially designed can be used in many different temperature conditions, saving maximum costs and time during installation.



Technical Specifications PE Gasket Duct Tape

No	Specification	Unit	Standard Test	Result
1	Cell Structure		ASTM 2856	Close cell
2	Density	kg/m ³	ISO 854:2006	28-35 kg/m ³
3	Color			Black / Gray / White
4	Material			PE Foam



Rubber foam insulation

5	Rate Working Temperature	°C	GT/T8871	-20°C - 85°C
6	Heat Thermal Conductivity	W/mK	ASTM C177	0.033W/mK at 0°C
7	Vacuum water Absortion	%		Max 10%
8	Under Layer			Silicone Coated Paper
9	Adhesion at the Adhesive	kg		0.16 - 0.2kg/ 1 roll
10	Tensile Strength	N/cm	ISO 1798 - 1987	≥2.5N/cm
11	Special of Adhesive glue			Japan Style (No die/ no dry)
12	Thickness	mm		5mm
13	Width	mm		25mm;30mm; 35mm; 50mm; 100mm; 200mm
14	Length	m		10m/ roll

1.4. Fabrics & Fiber glass tape (High Temperature 350°C - 1000°C);(type : 3Wgasket - HT)

① E-glass insulation tape is made of E-glass yarn without wax (Finished with Amino Silame sizing), in the light of the specification like made by international standard for electric insulating material specification IEC 61067:1991 and GE of USA and Nitobo of Japan. It posses of properties of fold durability if need be and then face impregnated processed with sizing wearre sizing and good impregnation.



Features :

Code: 3W-GT-FGT

▲ It has features of good inductivity, good insulation, high - temperatures resistance, and so on.

Application :

▲ Fiberglass tape can be used as and essential insulation, binding material for electric machinery and applicance in difference types of motors and generators, which would achieve reliable insulation performance, long working life and minimum volume and weight.

E-Glass Insulation Series

Foam tape name	Hit - Amid tape	Hit-Kabo tape	Hit glass tape	Hit Cera tape	Hit amid fabrics	Hit Kabo Fabrics
Max Working Temp	350°C	400°C	550°C	650°C - 1000°C	350°C	400°C
Thickness	0.25± 6.5mm	2±6mm	1±3mm	2±5mm	0.3±2.5mm	1.5±3.0mm
Width	4±500mm	25±200mm	25±200mm	20±200mm	1-2m	1-1.5m
Length	30m	30m	30m	30m	30m	30m

1.5.Ceramic Fiber Fine Gasket (High Temperature 1260°C); (type : 3Wgasket - CF - Wa x bT - cL)

Ceramic fiber fine gaskets also have other names such as fireproof ceramic fiber gaskets for EI air duct systems. Specially designed for EI fireproof air duct flanges. This is a type of fireproof insulation material made from ceramic fiber. Ceramic fiber, the main ingredient is silicon dioxide, has lightweight properties, low thermal conductivity, fire resistance and good insulation, can withstand high temperatures up to 1430 degrees Celsius.



Code : 3Wgasket - CF - Wa x bT - cL

Characteristic :

Good oil resistance, good chemical and solvent resistance.
Fireproof, low thermal conductivity, high heat resistance.
Anti-abrasion.
Excellent thermal shock resistance.
Continuous use limit 1260°C.
Melting point 1790°C.
High tensile strength and high elasticity.
Good level of sound insulation.
Can be stored at low temperatures.

Application:

Used for fireproof wind pipes at level EI 30; EI45 ;EI60 ; EI90; EI120.
Air duct for kitchen exhaust.
Insulation materials for tools and heating elements such as furnaces, heaters, etc
Used as insulation, sealing, and anti-corrosion materials for industry.

Sản phẩm		Tiêu chuẩn
Nhiệt độ tối đa (°C)		1430°C
Nhiệt độ làm việc khuyến dùng (°C)		<1260°C
Màu sắc		Trắng/ White
Tỷ trọng (kg/m ³)		200
Thành phần hóa học	Al ₂ O ₃	42-43
	SiO ₂	53
	ZrO ₂	-
	Al ₂ O ₃ + Ti ₂ O ₃	<1.2
	Na ₂ O + K ₂ O	<0.5
	CaO +MgO	<0.3



Rubber foam insulation

I.6 NBR PRESS GASKET DUCT TAPE (Type : 3W -GT-NBRP)

Product introduction:

Pressed rubber air duct gaskets are high quality products, exclusively produced on the most modern technological line today. The product has a very high density compared to conventional gaskets, ensuring absolute tightness of the air duct flange.

- Excellent compressibility, high flexibility and resistance to weather, abrasion, oxidation.
- Outstanding resistance to ozone and ultraviolet rays.
- Able to tolerate some chemicals.
- Closed cell structure helps prevent liquid, dust and air leakage.



Code: 3W-GT-NBRP

Technical Specifications NBRP - Gasket Press Duct Tape

No	Specification	Unit	Standard Test	Result
1	Cell Structure		ASTM 2856	Close cell
2	Density	kg/m3	ISO 854:2006	70 - 120kg/m3
3	Hardness - Shore A		TCVN 1595-1:2013	36
4	Elongation at break		TCVN 4509:2023	103,1%
5	Rate Working Temperature	°C	ASTM E1131	-50°C - 110°C
6	Heat Thermal Conductivity	W/mK	ASTM C518	0.0283 W/m.K at 23°C
7	Fire Retardance		UL 94 & ASTM D635	Class V0 - HB
8	Under Layer			Silicone Coated Paper
9	Adhesion the Adhesive	kg		0.16 - 0.2kg/ 1 roll
10	Tensile Strength	N/cm	TCVN 4509:2023	0.3MPa
11	Special of Adhesive glue			Japan Style (No die/ no dry)
12	Thickness	mm		3mm ; 5mm ; 6mm
13	Width	mm		25mm;30mm; 35mm; 50mm; 100mm; 200mm
14	Length	m		10m/ roll



II.1. PVC Duct Tape For insulation high quality ; Type ; 3Wtape - PVCS

Black PVC Tape insulation is a special adhesive tape used to insulation rubber foam insulation. The product is composed of moisture -resistant black PVC film and high - performance acrylic adhesive. Adhesive layer is protected by easy - release silicon - release paper.

PVC Black tape used in HVAC systems.

Application for connections in civil and industry.



Technical data product /

Code	Thickness	Width	Length	Packing	Flameability
3W tape - PVCS W75x50mL 3W tape - PVCS W50x50mL	110 Microns	75mm 50mm	50.m	16pcs/ box 24pcs/ box	Exitinguishing

Test Results at the Institute of Tropical Technology /

No	Type of test	Test Method	Result
1	Adhesion with foam rubber surface	ASTM D429	0.73
2	Tensile strength MPa	ASTM D412	12.46
3	Service Temperature	ASTM E1131	Temperature resistance of sample < 240°C

II.2 PVC Duct Tape For Insulation - Normal Series ; type 3Wtape - PVC

Black PVC Tape insulation is High-quality plastic PVC foil in combination with an ageing stable solvent-based adhesive, a normal adhesive tape used to insulation rubber foam insulation . The product isn't using silicon paper.



Application :

- ▲ PVC Black tape used in HVAC systems (indoors and outdoors)
- ▲ Application for connections in civil and industry (cars, furniture, etc.)

Technical data product :

Code	Thickness	Width	Length	Packing	Flameability
3W tape - PVC W75x25mL 3W tape - PVC W50x25mL	110 Microns	75mm 50mm	25m	45 pcs/ box 60 pcs/ box	Exitinguishing

Test Results at the Institute of Tropical Technology:

No	Type of test	Test Method	Result
1	Adhension to Steel N/10mm width	1.8N	EN60454-2-1995
2	Tensile strength MPa	15N/cm	EN60454-2-1995
3	Insulation Resistance	1.0x10 ¹¹ ohms	EN60454-2-1995

Rubber foam insulation

II.3. Aluminum Foil MPET Tape Super Sticky ; type : 3Wtape - AL - PET

Products Description /

MPET Aluminium tape is tape with adopting Aluminum Foil-Polyester Laminate as backing, coated with a high performance solvent acrylic adhesive, protected by an easy-release silicone paper.



Code : 3W-AL-PET

Code	Thickness	Width	Length	Packing	Flameability
3W tape - AL-PET-W50x25mL	120 Microns	50mm	50m	24 pcs/ box	Extinguishing
3W tape - AL-PET-W75x50mL		75mm		16 pcs/ box	

Test Results at the Institute of Tropical

No	ITEM	RESULT	TEST METHOD
1	Backing Thickness	20 Micron	PSTC - 133 / ASTM D 3652
2	Total thickness	55 Micron	PSTC - 133 / ASTM D 3652
3	Adhesive with foam rubber surface	0.37	ASTM D429
4	Tensile Strength MPa	10.06	ASTM D412
5	Elongation	20%	PSTC - 131 / ASTM D 3759
6	Service Temperature	-30- 100°C	ASTM E1131

II.4. Aluminium Foil Tape - Normal ; type : 3Wtape - AL - NS Products Description

This is a normally aluminum adhesive tape with a thickness of 36 microns aluminum film, composed of an aluminum film substrate combined with an insoluble pending acrylic adhesive layer protected by a layer of easy silicon release paper, the liner is a layer white silicon. The aluminum foil has a fire resistant, effective flame retardant, and prevents harmful U.V rays.



Featured :

- The aluminum back panel provides excellent reflection of both heat and light.
- The low moisture transmission rate makes silver tape become a very good barrier of moisture.
- Service temperature from -20 ° to + 80 ° C (-4 ° to + 176 ° F).

Technical Data product :

Code	Thickness	Width	Length	Packing	Flameability
3W tape - AL-NS- W50x25mL	120 Microns	50mm	25m	36 pcs/ box	Extinguishing

II.5. Aluminium Foil Glass Tape ; type: 3Wtape - AL - FG

Products Description /

- ▲ Aluminium Glass fiber Tape is the most advanced aluminium adhesive tape, the surface is reinforced by a thin fiberglass film, making the highest strength adhesive tape highly resistant to fire. Acrylic adhesive layer helps to adhere firmly to the surface of the material
- ▲ Low moisture vapor transmission rate makes Tape an excellent vapor barrier.
- ▲ Service Temperature range from -20 ~ +80 °C (-4 ~ +176 °F)
- ▲ Mas Temperature Resistance to broken of aluminum films up to 450°C



Code : 3W-AL-FG

II.4. Aluminium Foil Tape - Normal ; type : 3Wtape - AL - NS Products Description

No	ITEM	RESULT	TEST METHOD
1	Backing Thickness	20 Micron	PSTC - 133 / ASTM D 3652
2	Total thickness	55 Micron	PSTC - 133 / ASTM D 3652
3	Adhesive with foam rubber surface	0.62	ASTM D429
4	Tensile Strength	45.84	ASTM D412
5	Elongation	20%	PSTC - 131 / ASTM D 3759
6	Service Temperature	max 450°C	ASTM E1131

Technical Data product :

Code	Thickness	Width	Length	Packing	Flameability
3W tape - AL-FGC-W50x25mL 3W tape - AL-FGC-W75x50mL	120 Microns	50mm 75mm	50m	24 pcs/ box 16 pcs/ box	Extinguishing

III. OPP Packaging Tape ; type - 3WTape - PT02

3Wtape OPP packing tapes have excellent adhesion. Also it's an Eco-friendly tape which contains no organic solvents. Tapes have both transparent and colors printing style optional, we also provide the design of plate making and printing services.



OPP Packaging Tape :

Code : 3WTape-PT02

Code	Thickness (mm)	Adhesive	Backing	Liner	180°C Peeling Strength	23°C Static Shear Holding Power (hr/kg*inch ²)
3W tape PT 02	0.04-0.05	Water Based Acrylic	BOPP Film	≥ 0.6-1.0	≥ 24	Have Both Transparent & Colors Printing style

Rubber foam insulation

Products Description /

Alu- silver film adhesive tape is made from 2 outer layers of pure aluminum foil and 1 layer of natural kraft paper. These layers are bonded together with F/R glue and reinforced with 3-dimensional fiberglass scrim. It is ideally used as saking and insulation under roofs, in walls behind cladding or under wooden floors, for commercial and residential buildings. Combined with glass wool/mineral wool/insulating foam. Excellent reflective surface layer as a vapor barrier and heat insulator for air ducts, pipes



Technical data product /

Code	Thickness	Width	Length	Packing	Flameability
3Wtape - Alu - Caro W48 x 25met	120 Microns	48mm	25met	36 pcs / box	Extinguishing

Test Results at the Institute of Tropical Technology

No	Physical Properties	Test Method	Value (Eng)	Value (Metric)
1	Basic weight	Scale	22.5 lbs/1000ft2	110gsm
2	Permeance (WVTR)	ASTM E96	0.02 perm	1.15 ng/ N.s
3	Tensile Strength - MD	ASTM D828	35.2 lbs/in	155 N/25mm
4	Tensile Strength - XD	ASTM D828	14..8 ls/in	80 N/25mm
5	Burst Strength	ASTM D774	52.5 psi	36 N/cm2
6	Low Temp Resistance	ASTM D1790 4 hours (-40°C)	Remains Flexible No Delamination	Remains Flexible No Delamination
7	High Temp Resistance	ASTM D1790 4 hours (+116°C)	Remains Flexible No Delamination	Remains Flexible No Delamination
8	Emsivity	ASTM E408	0.03	0.03
9	Fire Rating	BS 476 part 6&7	Class - Passed	Class - Passed

II.7. Self - Bonding tape 35KV

Products Description /

Technical data product /



Code	Thickness	Width	Length	Packing	Flameability
Self - Bonding Tape 35KV 3Wtape - WPRT35KV - J30	0.76mm	5yard	25met	120 pcs / box	Extinguishing

No	Physical Properties	Test Method	Value (Eng)
1	Total Thickness	ASTM D 4325	0.76mm
2	Range Temperature Resistance	ASTM D 4325	-18°C to 105°C
3	Water absorption capacity	ASTM D570	0.56%
4	Ozone resistance	ASTM D4235	Pass
5	Elongation	ASTM D4235	>700%
6	Insulation resistance	ASTM D4325	10 ¹⁵ Ohm - cm
7	Dielectric strength	ASTM D4325	35 kV/mm
8	Dielectric constant	ASTM D4325	32 kV/mm

IV: Vihration rubber harness flat sheet.

Products Decription /

Vibration rubber harness flatsheet is product with high density, smooth surface, high hardness, good strength compared to other types of rubber.

Rubber special classification :

- Thickness : Rubber plate 5mm ; 10mm ; 13mm ; 15mm ; 20mm ; 25mm

- Width : 400mm - 600mm.

- Length : According to customer requirements.

Mechanical properties : Rubber bearing , rubber anti - vibration, shock..

Material : NBR (Nitrile Butadien Rubber)



Technical data product /

No	Physical Properties	Unit	Standard Test	Parametter
1	Color	Table color	ISO 105 - A02: 1993	Black
2	Surface			Smooth
3	Thickness	mm		3mm ~ 5mm
4	Density	g/cm ³	ASTM D1622	1.35g/cm ³ - 2.0g/cm ³
5	Hardness	HB	TCVN 1595 -1 : 2007	7~20 HB
6	Pressure	Mpa	ASTM D1621	1.3 Mpa ~ 6.0 Mpa
7	Tensile Strength	Mpa	ASTM D1622	2 Mpa ~ 3Mpa
8	Elongation	%	TCVN 4509 : 2006	200% -300%
9	Temperature Service	°C	GB/T8871	-30°C to 80°C

Rubber foam insulation



Products Description /

Bitumen adhesive tape line with Polyethylene asphalt components is specialized for protecting underground water, gas, and oil pipes. High glue is made from Polyethylene and strong binder (bitumen asphalt) to increase product durability and longevity.

Features :

It has the characteristics of good insulation, excellent anti-corrosion effects , high mechanical strength, collision resistance, aging resistance, small water absorption, convenient construction, safety and health, wide application range, long service life and so on.

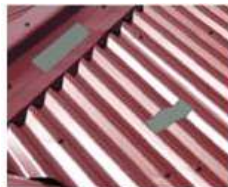
Scope of application :

Widely used in petroleum, natural gas, petrochemical, electric power, metallurgy, urban gas pipe network, water supply and other pipeline projects and facilities in the metal pipeline external anti-corrosion efficiency, long life. It is widely used in the external corrosion protection of buried overhead metal pipelines in petrochemical, natural gas and coal engineering.

Product advantage :

1. The thickness of the rubber layer is uniform, good bonding and sealing performance.
2. The binding force between the substrate and the adhesive layer is large, and there is no degumming phenomenon during storage or construction.
3. Good heat resistance and aging, strong UV resistance.
4. high tensile strength, elongation at break is appropriate, easy to mechanize and manual winding.
5. variety, specifications, color complete, including.
6. anti-corrosion belt (inner belt), protection belt (outer belt), patching belt, anti-corrosion primer and construction equipment.

IV.2 : Self - adhesive flashing tape ; type : 3Wtape BT-20W



I. GLASS WOOL PIPE INSULATION



Pipe normal unface

Code : GW - TKB



Aluminum Foil

Code : GW - TCB



Kraft - paper

Code : GW - TKR

Technical Data

Name of Product	Thickness (mm)	Diameter (mm)	Density (kg)	Thermal Conductivity Coefficient (W/m.K)	Thermal Resistance (m ² .K)/W	Lamination	Reaction to Fire
Glasswool Pipe	30-100	22-324	64	0.034	0.55-2.85	Unfaced	GB/T 13350-2017
						Aluglass	
						Class 0 Alu	
						FSK	

II. GLASSWOOL ROLL/ BLANKET



Glasswool non-foil

Code : GW - KB



Aluminum foil

Code : GW - CB



kraft-paper

Code : GW - KRB



PVC

Code : GW - PVC



Code : GW - KB



Code : GW - KBP



Code : GW - KBG



Code : GW - KBB

Other size can be produce upon request with difference specification.

Rubber foam insulation

I. Rocwool Pipe Insulation



Pipe normal unface

Code : RW - TKB



Aluminum Foil

Code : RW - TCB



Kraft - paper

Code : RW - TKR

Table Specification

Properties	Performance								Test Standard
Thermal conductivity at mean temperature	T_m (°C)	50	100	150	200	250	300	350	GB/T-12095-2008
	λ (W/mK)	0.036	0.046	0.054	0.064	0.077	0.092	0.112	
	350°C								
Maximum service temperature	In case of aluminium facing the outer foil temperature should be limited to 80°C								GB/T-5480-2017
Reaction to fire	Non-combustible Low flame spread characteristics								GB/T 13350-2017
Nominal density (*)	$\geq 100 \text{ kg/m}^3$								
Corrosion resistance	Trace quantity of water leachable chloride ions: $\leq 10 \text{ ppm}$								GB/T 5480-2017
Water absorption	$\leq 0.2 \text{ kg/m}^2$ $\leq 0.2 \text{ kg/m}^2$ (After 24 hrs. pre-heating at 250°C)								
Water vapour diffusion resistance	$\mu = 1$								

II. Rockwool Blanket / Roll



Rockwool blanket normal unface

Code : RW - RKB



Rockwool blanket wire mesh

Code : RW - RCB



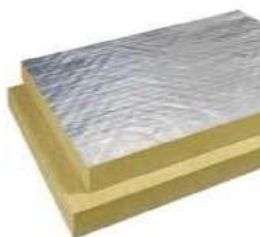
Rockwool blanket with Aluminum foil

Code : RW - RKR



Rockwool blanket normal unface

Code : RW - BKB1



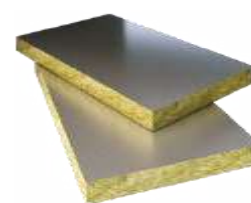
Rockwool blanket normal unface

Code : RW - BCB



Rockwool blanket with paper kraft

Code : RW - BKR



Rockwool blanket with PVC layer

Code : RW - BPVC

Products Description

Nanoflex adhesive is the only insulation adhesive recommended for use with the full range of Nanoflex insulation products. The Nanoflex adhesive is a specially designed adhesive which enables the bonding of insulation. This Nanoflex glue enables split lengths of insulation and sheeting to be bonded quickly and easily. It's also ideal for joining the seams of adjacent lengths of Nanoflex pipe insulation tubes. Sealing the area where the sections "butt" together ensures the whole system maintains the vapour barrier created when the pipes are insulated.

* Features and Benefits:

- Designed for the full range of products including sheets, tubes and coils. Fast drying contact adhesive ideals for hot water systems - stable up to 35 degrees. Adhesive can be used in the Nanoflex Glue master Pump - for



Black glue / yellow



Nanoflex NG02 /NG05 glue
(9kg/box)



Nanoflex NG02 (3kg/box)

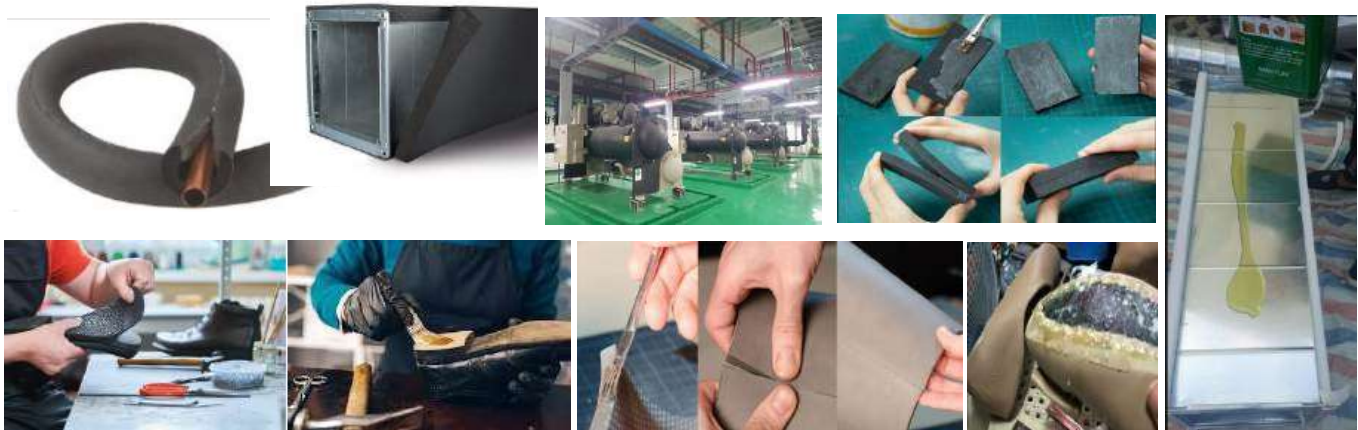


Nanoflex spray form

Technical data product /

No	Content	Unit	Results
1	Appearance		Black
2	Solid Content	%	32%
3	Viscosity (25 degree)	CPS	80-180
4	Density	Kg/l	0.8-1.2kg/1 lit
5	Tack Time	Seconds	10-20 seconds
6	Drying times last 5-10 minutes	Minutes	5-10 minutes
7	Temperature of using glue	Degree	15-35 degre

Image Application



I: TYPICAL PROJECT



I: TYPICAL PROJECT



RESIDENTIAL
Mitsubishi Grand Park



Dự án Nhà máy Mapletree
Tỉnh Bắc Giang



PHÂN VIỆN ĐÀO TẠO CHUYÊN GIA



Dự án Nhà máy LEGO -
Bình Dương



Dự án Nhà máy Meiko
Thạch Thất



Dự án Nhà máy LG Electronics
- Hải Phòng



Dự án Nhà máy Sky Lake-
Nam Từ Liêm Hà Nội



Dự án tổ hợp nhà máy -
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Dự án Vincom Quận 9-
TP Hồ Chí Minh



Dự án Siêu thị Aeon Mall
Hải Phòng



Dự án Siêu thị Aeon Mall
Hà Đông



Dự án Siêu thị Aeon Mall
Thành phố Huế



Dự án Siêu thị Aeon Mall
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Tỉnh Quảng Ninh



Dự án Tòa nhà Bộ TNMT-
Số 10 Tôn Thất Thuyết HN

K: Key Customer and Supply Partner

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SUPPLY PARTNER / NHÀ CUNG CẤP THÂN THIẾT:





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