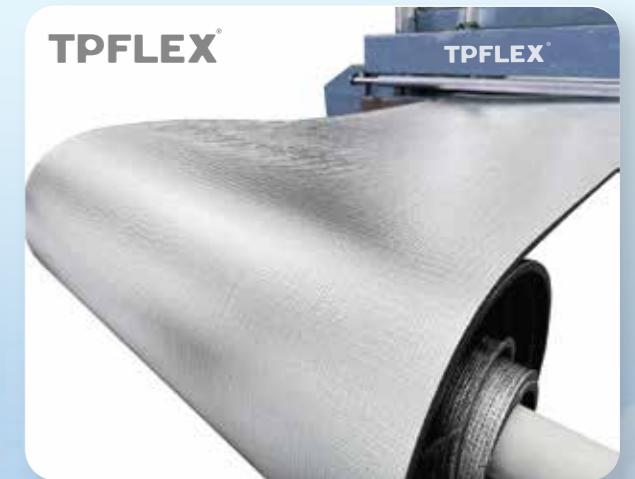
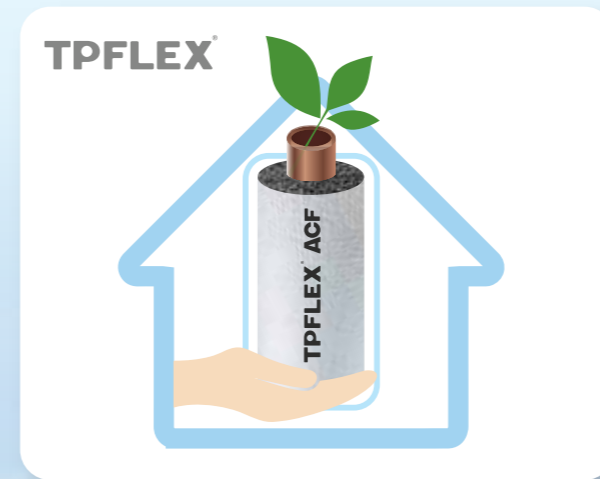


# TPFLEX<sup>®</sup>

Cross-linked closed cell polyolefin foam



**TPTECH International Joint Stock Company**

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- insulation@tptechgroup.com





## INTRODUCTION

TPTECH INTERNATIONAL JOINT STOCK COMPANY would like to send respectful greetings to Customers and Partners. TPTECH is the professional insulation manufacturer in Vietnam providing total solutions for insulation and sound absorption used in HVAC&R industry.

Located in Yen My II Industrial Park, Hung Yen Province with almost 33,000 square meters, TPTECH is integrated place of well-skilled leading experts and technicians, modest European technological machinery, professional production management process guaranteeing to produce products with international standards.

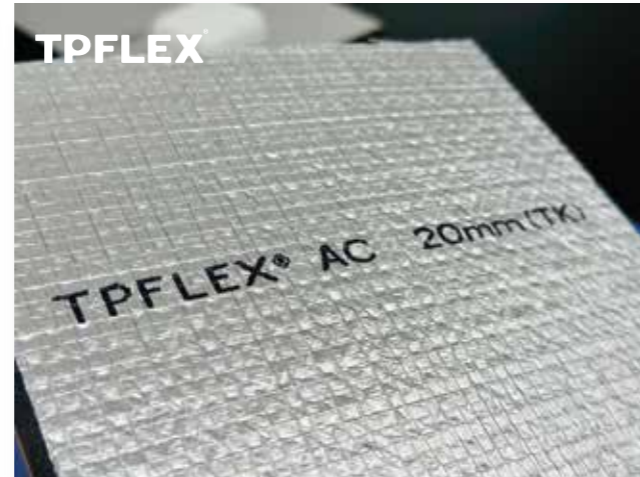
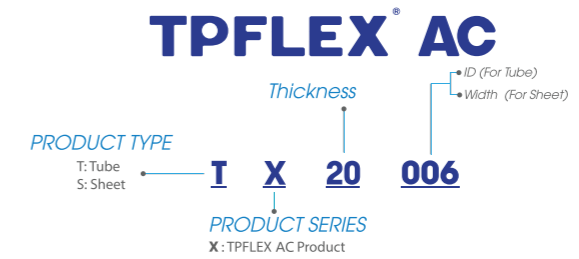
We are sincerely thankful and hope to cooperate with valued customers and partners.



**CERTIFICATE**

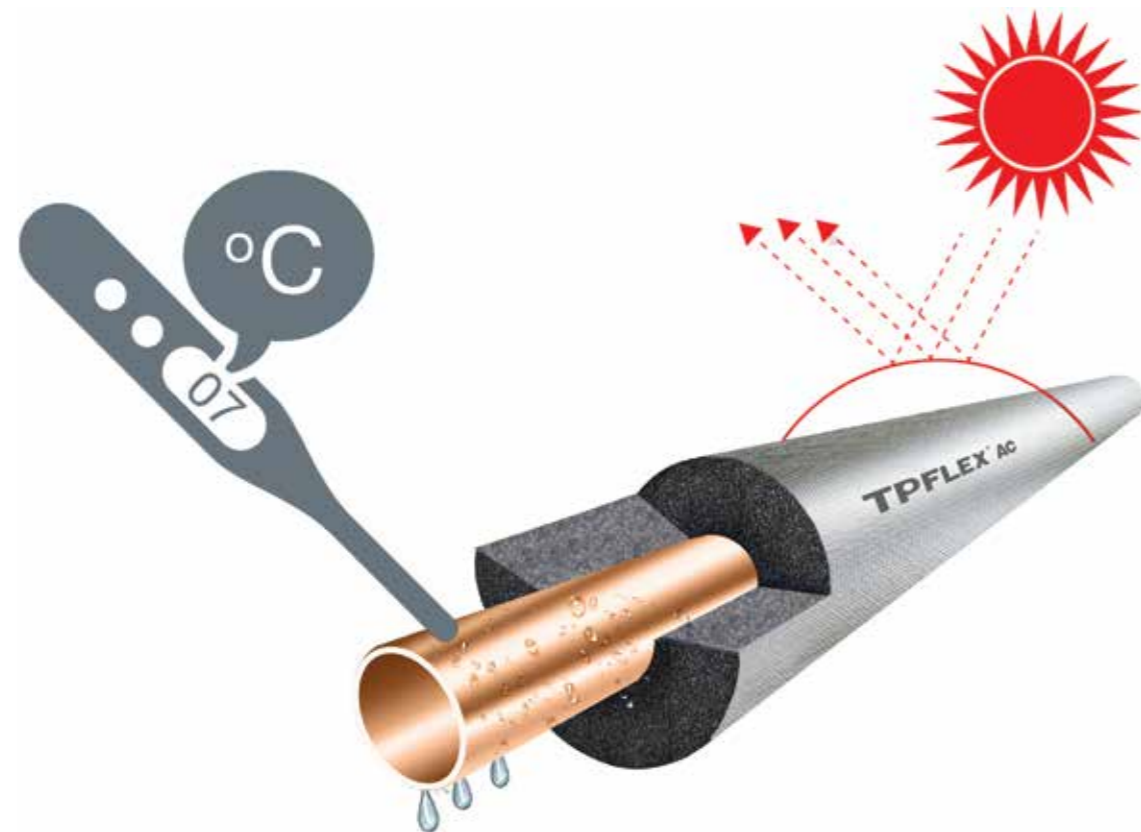
TPFLEX AC fully meets the following standards:

- ▶ ISO 9001: 2015 : Quality management systems
- ▶ ISO 14001: 2015 : Environmental management systems



**TECHNICAL SPECIFICATIONS (Tube & Sheet)**

Key properties	Value / Assessment	Test method / Standard
<b>Physical Properties</b>		
Material	Polyolefin foam with factory applied reinforced aluminium foil and acrylic adhesive backing	
Cell structure	Closed cell	-
Density	25 kg/m <sup>3</sup> (foam core only)	ASTM C518
Service	- 80°C ~ +100°C (no adhesive)	For other temperature, please contact with technical department
<b>Thermal conductivity</b>		
K - Value (W/m.K)	0°C	ASTM C518
	23°C	
	36°C	
	0.031	
	0.032	
	0.036	
<b>Water Vapour Permeability</b>		
Water Vapour Permeability	2.3 x 10 <sup>-15</sup> kg/Pa.s.m	ASTM E96
Water Vapour Resistance	μ > 100,000	
Water Absorption	<0.1% (by volume)	ASTM C209
<b>Fire behavior</b>		
Flammability & Smoke	Ignitability Index: 0	AS 1530.3
	Spread of Flame Index: 0	
	Heat Evolved Index: 0	
	Smoke Developed Index: 1	
	Class B1	GB 8624
	HF - 1	UL - 94
<b>Health</b>		
Formaldehyde Emission Rate	0.1 mg/m <sup>2</sup> /hr	ASTM D5116
Resistance to fungi	Zero Growth	ASTM G21
	REACH	
	RoHS II	IEC 62321
<b>Environment</b>		
Singapore Green Building	Excellent (✓✓✓)	
Greenguard	Gold	
Ozone Resistance	Good	ASTM D1171
UV Resistance	For UV protection, covering system is required	
Ecological	Without CFCs, HCFCs	
<b>Other technical data</b>		
Sound reduction	NRC = 0.4 (25mm)	ASTM C423-17
Tensile Strength	MD 263 N/50mm CD 270 N/50mm	



**PACKING**

**TPFLEX AC Sheet**

Thickness (mm)	Code	Length (m)	Width (m)	Area / Roll (m <sup>2</sup> )	Type
10	SX10120	20	1.20	24.00	Roll
12	SX12120	20	1.20	24.00	Roll
15	SX15120	20	1.20	24.00	Roll
20	SX20120	20	1.20	24.00	Roll
25	SX25120	2.3	1.20	2.76	Sheet
30	SX30120	2.3	1.20	2.76	Sheet
35	SX35120	2.3	1.20	2.76	Sheet
40	SX40120	2.3	1.20	2.76	Sheet
50	SX50120	2.3	1.20	2.76	Sheet



Providing all requirements in a variety of diameters, thicknesses and lengths

**TPFLEX AC Tube: 2M length/pcs**

Providing all requirements in a variety of diameters, thicknesses and lengths

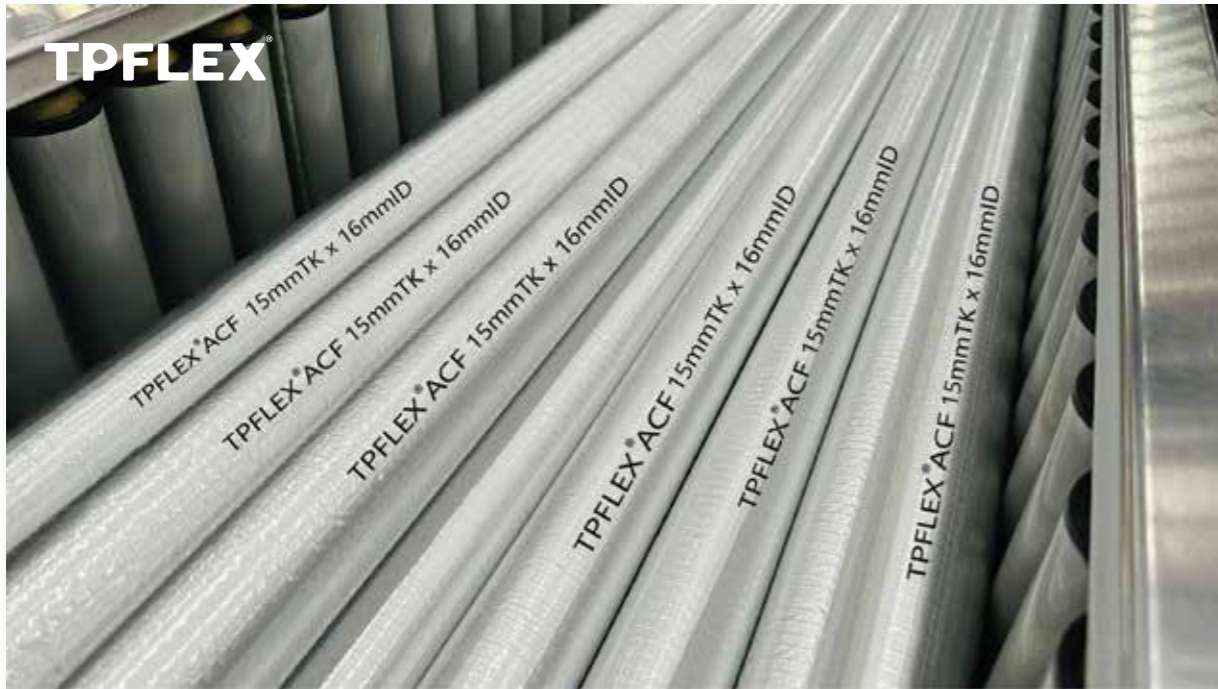
I.D SIZE	Code Number (Quantity: Pieces / Carton)						
	10mm wall	15mm wall	20mm wall	25mm wall	30mm wall	40mm wall	50mm wall
6	TX10006	TX15006	TX20006	TX25006			
10	TX10010	TX15010	TX20010	TX25010			
13	TX10013	TX15013	TX20013	TX25013			
16	TX10016	TX15016	TX20016	TX25016			
19	TX10019	TX15019	TX20019	TX25019	TX30019		
22	TX10022	TX15022	TX20022	TX25022	TX30022	TX40022	TX50022
25	TX10025	TX15025	TX20025	TX25025	TX30025	TX40025	TX50025
28	TX10028	TX15028	TX20028	TX25028	TX30028	TX40028	TX50028
32	TX10032	TX15032	TX20032	TX25032	TX30032	TX40032	TX50032
35	TX10035	TX15035	TX20035	TX25035	TX30035	TX40035	TX50035
38	TX10038	TX15038	TX20038	TX25038	TX30038	TX40038	TX50038
42	TX10042	TX15042	TX20042	TX25042	TX30042	TX40042	TX50042
48	TX10048	TX15048	TX20048	TX25048	TX30048	TX40048	TX50048
51	TX10051	TX15051	TX20051	TX25051	TX30051	TX40051	TX50051
54	TX10054	TX15054	TX20054	TX25054	TX30054	TX40054	TX50054
60	TX10060	TX15060	TX20060	TX25060	TX30060	TX40060	TX50060
67	TX10067	TX15067	TX20067	TX15067	TX30067	TX40067	TX50067
76	TX10076	TX15076	TX20076	TX25076	TX30076	TX40076	TX50076
90	TX10090	TX15090	TX20090	TX25090	TX30090	TX40090	TX50090
114		TX15114	TX20114	TX25114	TX30114	TX40114	TX50114
140		TX15140	TX20140	TX25140	TX30140	TX40140	TX50140
165		TX15165	TX20165	TX25165	TX30165	TX40165	TX50165
168		TX15168	TX20168	TX25168	TX30168	TX40168	TX50168
220			TX20220	TX25220	TX30220	TX40220	TX50220
273			TX20273	TX25273	TX30273	TX40273	TX50273
323			TX20323	TX25323	TX30323	TX40323	TX50323
356			TX20356	TX25356	TX30356	TX40356	TX50356
406			TX20406	TX25406	TX30406	TX40406	TX50406
457			TX20457	TX25457	TX30457	TX40457	TX50457



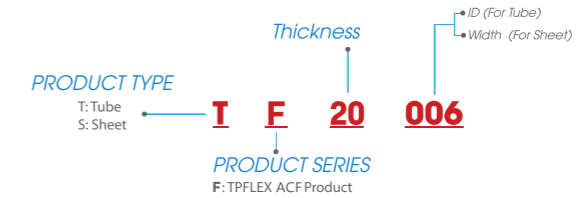
# TECHNICAL SPECIFICATIONS

TPFLEX ACF fully meets the following standards:

- ISO 9001: 2015 : Quality management systems
- ISO 14001: 2015 : Environmental management systems



# TPFLEX ACF



## TECHNICAL SPECIFICATIONS (Tube & Sheet)

Key properties	Value / Assessment	Test method / Standard
<b>Physical Properties</b>		
Material	Polyolefin foam with factory applied reinforced aluminium foil and acrylic adhesive backing	
Cell structure	Closed cell	-
Density	25 kg/m <sup>3</sup> (foam core only)	ASTM C518
Service	- 80°C ~ +100°C (no adhesive)	For other temperature, please contact with technical department
<b>Thermal conductivity</b>		
K - Value (W/m.K)	0°C	ASTM C518
	23°C	
	36°C	
<b>Water Vapour Permeability</b>		
Water Vapour Permeability	2,3 x 10 <sup>-15</sup> kg/Pa.s.m	ASTM E96
Water Vapour Resistance	μ > 100,000	
Water Absorption	<0.1% (by volume)	ASTM C209
<b>Fire behavior</b>		
Flammability & Smoke	Class 0	BS476 Parts 6 & 7
	Class A with: - Flame Spread Index: < 25 - Smoke Developed Index: < 50	ASTM E84
	Ignitability Index: 0 Spread of Flame Index: 0 Heat Evolved Index: 0 Smoke Developed Index: 1	AS 1530.3
	Class B - s1, d0	EN 13501
	HF - 1	UL - 94
Smoke Density	Dm < 200	ISO 5659-2
Smoke Toxicity	Satisfies max allowable concentrations for the following combustion gases: CO, HCL HBr, HF, HCN, NOx, SO2.	
<b>Health</b>		
Formaldehyde Emission Rate	0.1 mg/m <sup>2</sup> /hr	ASTM D5116
Resistance to fungi	Zero Growth	ASTM G21
	REACH	IEC 62321
	RoHS II	
<b>Environment</b>		
Singapore Green Building	Excellent (✓✓✓)	
Greenguard	Gold	
Ozone Resistance	Good	ASTM D1171
UV Resistance	For UV protection, covering system is required	
Ecological	Without CFCs, HCFCs	
<b>Other technical data</b>		
Sound reduction	NRC = 0.4 (25mm)	ASTM C423-17
Tensile Strength	MD 263 N/50mm CD 270 N/50mm	

**PACKING**

**TPFLEX ACF Sheet**

Thickness (mm)	Code	Length (m)	Width (m)	Area / Roll (m <sup>2</sup> )	Type
10	SF10120	20	1.20	24.00	Roll
12	SF12120	20	1.20	24.00	Roll
15	SF15120	20	1.20	24.00	Roll
20	SF20120	20	1.20	24.00	Roll
25	SF25120	2.3	1.20	2.76	Sheet
30	SF30120	2.3	1.20	2.76	Sheet
35	SF35120	2.3	1.20	2.76	Sheet
40	SF40120	2.3	1.20	2.76	Sheet
50	SF50120	2.3	1.20	2.76	Sheet

Providing all requirements in a variety of diameters, thicknesses and lengths



**PACKING**

**TPFLEX ACF Tube: 2M length/pcs**

Providing all requirements in a variety of diameters, thicknesses and lengths

I.D SIZE MM	Code Number (Quantity: Pieces / Carton)						
	10mm wall	15mm wall	20mm wall	25mm wall	30mm wall	40mm wall	50mm wall
6	TF10006	TF15006	TF20006	TF25006			
10	TF10010	TF15010	TF20010	TF25010			
13	TF10013	TF15013	TF20013	TF25013			
16	TF10016	TF15016	TF20016	TF25016			
19	TF10019	TF15019	TF20019	TF25019	TF30019		
22	TF10022	TF15022	TF20022	TF25022	TF30022	TF40022	TF50022
25	TF10025	TF15025	TF20025	TF25025	TF30025	TF40025	TF50025
28	TF10028	TF15028	TF20028	TF25028	TF30028	TF40028	TF50028
32	TF10032	TF15032	TF20032	TF25032	TF30032	TF40032	TF50032
35	TF10035	TF15035	TF20035	TF25035	TF30035	TF40035	TF50035
38	TF10038	TF15038	TF20038	TF25038	TF30038	TF40038	TF50038
42	TF10042	TF15042	TF20042	TF25042	TF30042	TF40042	TF50042
48	TF10048	TF15048	TF20048	TF25048	TF30048	TF40048	TF50048
51	TF10051	TF15051	TF20051	TF25051	TF30051	TF40051	TF50051
54	TF10054	TF15054	TF20054	TF25054	TF30054	TF40054	TF50054
60	TF10060	TF15060	TF20060	TF25060	TF30060	TF40060	TF50060
67	TF10067	TF15067	TF20067	TF25067	TF30067	TF40067	TF50067
76	TF10076	TF15076	TF20076	TF25076	TF30076	TF40076	TF50076
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273			TF20273	TF25273	TF30273	TF40273	TF50273
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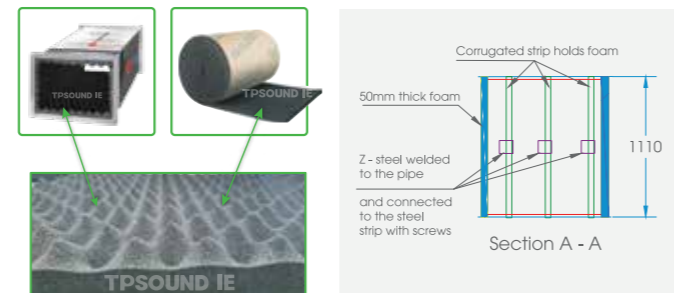
TPSOUND IE: Egg-crate acoustic insulation is a sound-absorbing material made from NBR-based rubber with a semi-open cell structure, specifically designed for sound absorption and noise reduction applications. It is commonly used in Air distribution systems such as FCU and AHU air ducts.

## SPECIFICATIONS

Key Properties	Specifications
Applications	Ventilation duct Waste water pipes
Fire Performance	UL 94 Class V-0 BS 476 part 6,7 Class 0
Material	Elastomeric Foam, NBR
Color	Black colour, built-in adhesive
Cell structure	Semi-open cell
Density	40 - 80 kg/m <sup>3</sup>
K-Value	0.035 W/m.K at 20°C
The Noise Reduction Coefficient (NRC)	min 0,4 (25mm)
Surface Temperature	-50°C -> 105°C
Health	Dust & fibre free Low TVOCs REACH RoHS II Antimicrobial Fungal resistance

## PACKING

Thickness (mm)	Length (mm)	Area / Roll (m <sup>2</sup> )
25	5	1.22m Width IE25122 (6.1)



- ▶ Sheet roll with adhesive side: add "AD" at the end of code
- ▶ Sheet roll with aluminum laminated: add "AL" at the end of code

## NOISE REDUCTION

The Noise Reduction Coefficient (NRC) is a value that represents the amount of sound that is absorbed or dissipated when sound waves strike a surface.

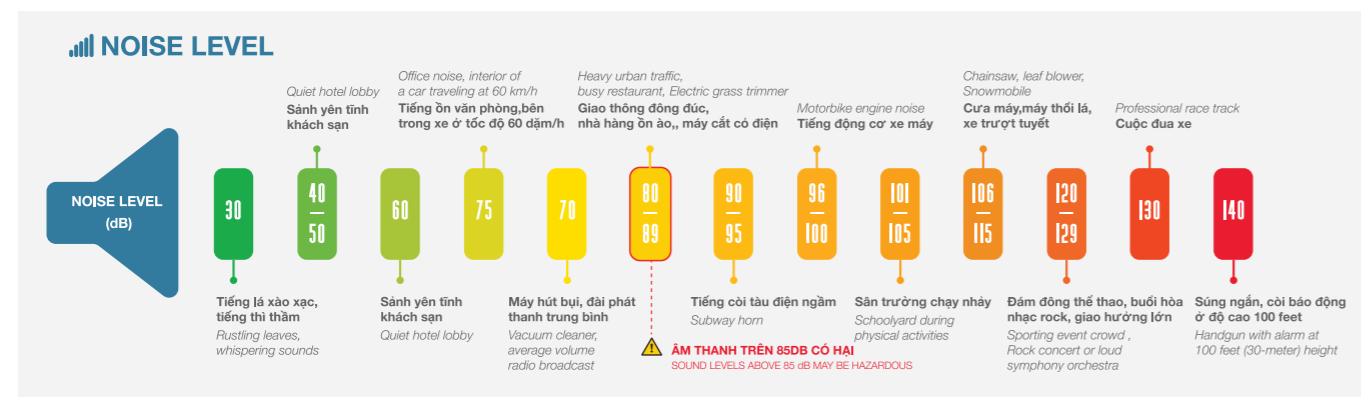
The NRC ranges: 0 < NRC < 1

NRC = 0: The material has no sound absorption capability.

NRC = 1: The material has excellent sound absorption (acoustic dampening) capability.

	NRC	Initial noise	Reduction	Finished noise
25mm thickness	0.4	56dB	23dB	33dB

Example TPFLEX NRC = 0.4 ( thickness 25mm)



## 1. POLYESTER FLEXIBLE DUCT - TDI

TPDUCT flexible air ducts are manufactured from polyester material and are commonly utilized in heating, ventilation, and air conditioning (HVAC) systems for applications such as air distribution, fresh air supply, smoke extraction, and dust collection in both residential and industrial environments.

## Specifications

Key Properties	Specifications
Material	Aluminum Foil / Steel Wire / Polyester Insulation
Aluminum foil thickness	23 Micron
Density	12kg/m <sup>3</sup>
Length	8m
Thickness	25mm
Used Temperature	-30°C to +140°C
Used Pressure	300mm WG
Used Wind Speed	30m/s
Size	Ø 100mm to Ø 450mm x 8m

## Packing

Code Number	ID size (mm)	Length (m)
TDI100	100	8
TDI125	125	8
TDI150	150	8
TDI200	200	8
TDI250	250	8
TDI300	300	8
TDI350	350	8
TDI400	400	8

Providing all requirements in a variety of diameters, thicknesses and lengths

### Layer 1:

A 23-micron PET aluminum film with a galvanized stainless steel core enhances rigidity and prevents distortion.

### Layer 3:

A 23-micron PET aluminum film exterior enhances aesthetics, simplifies cleaning, and extends duct lifespan.



### Layer 2: Polyester insulation

Advantages:

- ▶ Polyester fiber is dust-free, waterproof, non-hygroscopic, and resistant to microorganisms like bacteria and mold.
- ▶ The product is safe for users' health.
- ▶ Polyester fiber is age-resistant, and TPDUCT insulation is highly durable.

## 2. FLEXIBLE DUCT - TDN

## Packing

Code Number	ID size (mm)	Length (m)
TDN100	100	8
TDN125	125	8
TDN150	150	8
TDN200	200	8
TDN250	250	8
TDN300	300	8
TDN350	350	8
TDN400	400	8

## Specifications

- ▶ Material : Aluminum foil / Steel Wire
- ▶ Thickness : 23 Micron
- ▶ Length : 8m
- ▶ Used Temperature : -30°C to +140°C
- ▶ Used Pressure : 300mm WG
- ▶ Used Wind Speed : 30 m/s



Providing all requirements in a variety of diameters, thicknesses and lengths

# TPADT

TPADT adopts black color PVC film as backing, combined with a high performance solvent acrylic adhesive, it is mainly used for rubber foam packaging and sealing.

PROPERTIES	METRIC	TEST METHOD
Backing Thickness	110 Microns	PSTC - 133 / ASTM D 3652
Adhesion to Steel	20 N/25mm	PSTC - 133 / ASTM D 3652
Rolling Tack	10mm	PSTC - 101 / ASTM D 3330
Service Temperature	-20 ~ +60°C	PSTC - 6 / ASTM D 3121
Applying Temperature	+10 ~ +40°C	PSTC - 131 / ASTM D 3759



THICKNESS	WIDTH	LENGTH	ROLL / CARTON
0.11mm	50mm	50m	24
0.11mm	75mm	50m	16

# TPALU

## TPALU - P50: Aluminum Foil Polyester Tape

A laminated foil PET polyester backing, with a 20-micron aluminum foil thickness, offering excellent durability, strength, and superior adhesion.

PROPERTIES	METRIC	ENGLISH	TEST METHOD
Backing Thickness	20 Micron	0.8 Mil	PSTC-133 / ASTM D 3652
Total Thickness	55 Micron	2.2 Mil	PSTC-133 / ASTM D 3652
Adhesion to Steel	15 N/25mm	54 Oz./In.	PSTC-101 / ASTM D 3330
Tack Rolling Ball	5 cm	2.0 In.	PSTC-6 / ASTM D 3121
Tensile Strength	40 N/25mm	9.07 Lb/In	PSTC-131 / ASTM D 3759
Elongation	20.0%	20.0%	PSTC-131 / ASTM D 3759
Service Temperature	-30 ~ +100°C	-22 ~ +212°F	-----
Applying Temperature	+10 ~ 40°C	+50 ~ +105°F	-----



CODE	THICKNESS	WIDTH	LENGTH	ROLL / CARTON
TPALU-P50	20 Micron	48mm	50m	36

## TPALU - G25: Aluminum Glass Cloth Tape

Aluminum - Glass Cloth backing (7u Foil / FR Glue / 12x12 Mesh Glass Cloth), combined with a high performance synthetic rubber-resin adhesive, protected by an easy-release silicone release paper.

PROPERTIES	METRIC	ENGLISH	TEST METHOD
Backing Thickness	120 Micron	4.8 Mil	PSTC-133 / ASTM D 3652
Total Thickness	160 Micron	6.4 Mil	PSTC-133 / ASTM D 3652
Adhesion to Steel	18 N/25mm	64.8 Oz./In.	PSTC-101 / ASTM D 3330
Tack Rolling Ball	20 cm	8 In.	PSTC-6 / ASTM D 3121
Tensile Strength	255 N/25mm	58.0 Lb/In	PSTC-131 / ASTM D 3759
Elongation	3.0%	3.0%	PSTC-131 / ASTM D 3759
Service Temperature	-20 ~ +80°C	-4 ~ +176°F	-----
Applying Temperature	+10 ~ 40°C	+50 ~ +105°F	-----



CODE	THICKNESS	WIDTH	LENGTH	ROLL / CARTON
TPALU-G25	120 Micron	50mm	25m	36

# TPGLUE

Key Properties	Specifications
Material	Polychloroprene
Appearance	Black viscous liquid
Viscosity	2,000 - 3,000 cPs.
Solid content	24.00 - 26.00 %
High heat resistance	Approx. over 100°C
Open tack time	Short
Application temp	Room temp
Coverage (apply adhesive both surfaces)	200 - 220 g/m <sup>2</sup>

## Cautions

- Keep away from inflammable
- Use only in well ventilated areas
- Keep container tightly capped when not in use

# ACCESSORIES

CODE	SIZE	PACKING
TPGLUE 700	700 GR / Can	12 Cans / Carton
TPGLUE 3500	3500 GR / Gallon	6 Gallon / Carton



- Keep in a cool, dry place
- Avoid contact with eyes, skin and clothing wash thoroughly after handling

# TPTAPE

Key Properties	Specifications
Material	Closed cell foam NBR
Color	Black
Density	40 - 60 kg/m <sup>3</sup>
Hardness	40 - 60 shore C2
Water absorption	< 2% by Volume
Compression Deflection	6 - 8 PSI
Tensile strength	More than 60 PSI (4.2 kg / cm <sup>2</sup> )
Elongation at break	More than 200%
Service Temperature	- 40°C to 105°C
Thermal Conductivity	0.04 W/mK at 20°C
Flammability	UL 94 Class V-0
Adhesive type	Acrylic Pressure Sensitive adhesive
Initial tack	3.0 cm

CODE	THICKNESS	WIDTH	LENGTH	PACKING
TPTAPE 525	5mm	25mm	10m	25
TPTAPE 532	5mm	32mm	10m	16
TPTAPE 325	3mm	25mm	10m	30
TPTAPE 350	3mm	50mm	10m	15

