



Submittal Packet & Shop Standards

CUSTOMER

JOB NAME

PURCHASE ORDER #

QUOTE #



2" S.P. Aluminum
Rectangular Duct Construction Standards

Duct Dimension	Duct Gauge	End Treatment Horz/Vert	Pos Mpt/Jnt Reinforcement	Neg Mpt/Jnt Reinforcement
0-10	.032	T-6/T-1	NONE	NONE
11-20	.032	T-11/T-1	NONE	NONE
21-26	.032	T-25b	NONE	NONE
27-30	.040	T-25b	NONE	NONE
31-42	.050	T-25b	NONE	NONE
43-48	.050	T-25b	EMT/EMT	EMT/EMT
49-54	.050	T-25b	EMT/EMT	EMT/EMT
55-60	.050	T-25b	EMT/EMT	EMT/EMT
61-72	.050	T-25b	EMT/EMT	EMT/EMT
73-96	.050	T-25b	2 EMT/2 EMT	2 EMT/2 EMT
97-108	.063	T-25b	2 EMT/2 EMT	2 EMT/2 EMT
109-120	.063	T-25b	2 EMT/2 EMT	2 EMT/2 EMT

T-1: Flat Drive Cleat

T-6: Hemmed Flat Slip

T-11: 1" Standing Slip (Barlock)

T-25b: TDF 4 Bolt Connection

EMT: 3/4" EMT Condu-Lock Tie Rod Reinforcement

*Maximum spacing of tie rods 48" along joins and midpoints. Locate at even dimensions of duct width on or spaced evenly across width of duct for multiple tie rods

*Nominal 5' duct lengths: 59" for S&D and 56" for TDF



2" S.P. Galvanized
Rectangular Duct Construction Standards

Duct Dimension	Duct Gauge	End Treatment Horz/Vert	Pos Mpt/Jnt Reinforcement	Neg Mpt/Jnt Reinforcement
0-10	26	T-6/T-1	NONE	NONE
11-18	26	T-11/T-1	NONE	NONE
19-20	26	T-11/T-1	NONE	NONE
21-26	26	T-25b	NONE	NONE
27-30	24	T-25b	NONE	NONE
31-36	22	T-25b	NONE	NONE
37-42	22	T-25b	NONE	NONE
43-54	22	T-25b	EMT/ --	EMT/ --
55-60	22	T-25b	EMT/EMT	EMT/EMT
61-84	20	T-25b	EMT/EMT	EMT/EMT
85-96	20	T-25b	EMT/EMT	EMT/EMT
97-108	18	T-25b	EMT/EMT	EMT/EMT
109-120	18	T-25b	EMT/EMT	EMT/EMT

T-1: Flat Drive Cleat

T-6: Hemmed Flat Slip

T-11: 1" Standing Slip (Barlock)

T-25b: TDF 4 Bolt Connection

EMT: 3/4" EMT Condu-Lock Tie Rod Reinforcement

*Maximum spacing of tie rods 48" along joins and midpoints. Locate at even dimensions of duct width on or spaced evenly across width of duct for multiple tie rods

*Nominal 5' duct lengths: 59" for S&D and 56" for TDF



2" S.P. Stainless Steel

Rectangular Duct Construction Standards

Duct Dimension	Duct Gauge	End Treatment Horz/Vert	Pos Mpt/Jnt Reinforcement	Neg Mpt/Jnt Reinforcement
0-10	26	T-6/T-1	NONE	NONE
11-18	26	T-11/T-1	NONE	NONE
19-20	26	T-11/T-1	NONE	NONE
21-26	26	T-25b	NONE	NONE
27-30	24	T-25b	NONE	NONE
31-36	22	T-25b	NONE	NONE
37-42	22	T-25b	NONE	NONE
43-54	22	T-25b	EMT/ --	EMT/ --
55-60	22	T-25b	EMT/EMT	EMT/EMT
61-84	20	T-25b	EMT/EMT	EMT/EMT
85-96	20	T-25b	EMT/EMT	EMT/EMT
97-108	18	T-25b	EMT/EMT	EMT/EMT
109-120	18	T-25b	EMT/EMT	EMT/EMT

T-1: Flat Drive Cleat

T-6: Hemmed Flat Slip

T-11: 1" Standing Slip (Barlock)

T-25b: TDF 4 Bolt Connection

EMT: 3/4" EMT Condu-Lock Tie Rod Reinforcement

*Maximum spacing of tie rods 48" along joins and midpoints. Locate at even dimensions of duct width on or spaced evenly across width of duct for multiple tie rods

*Nominal 5' duct lengths: 59" for S&D and 56" for TDF



3" S.P. Galvanized
Rectangular Duct Construction Standards

Duct Dimension	Duct Gauge	End Treatment Horz/Vert	Pos Mpt/Jnt Reinforcement	Neg Mpt/Jnt Reinforcement
0-10	24	T-11/T-1	NONE	NONE
11-18	24	T-11/T-1	NONE	NONE
19-26	24	T-25b	NONE	NONE
27-30	22	T-25b	NONE	NONE
31-36	20	T-25b	NONE	NONE
37-42	20	T-25b	NONE	NONE
43-54	20	T-25b	NONE	NONE
55-60	20	T-25b	NONE	NONE
61-72	20	T-25b	EMT/EMT	EMT/EMT
73-84	20	T-25b	EMT/EMT	EMT/EMT
85-96	18	T-25b	EMT/EMT	EMT/EMT
97-120	18	T-25b	EMT/EMT	EMT/EMT

T-1: Flat Drive Cleat

T-6: Hemmed Flat Slip

T-11: 1" Standing Slip (Barlock)

T-25b: TDF 4 Bolt Connection

EMT: 3/4" EMT Condu-Lock Tie Rod Reinforcement

*Maximum spacing of tie rods 48" along joins and midpoints. Locate at even dimensions of duct width on or spaced evenly across width of duct for multiple tie rods

*Nominal 5' duct lengths: 59" for S&D and 56" for TDF



4" S.P. Galvanized
Rectangular Duct Construction Standards

Duct Dimension	Duct Gauge	End Treatment Horz/Vert	Pos Mpt/Jnt Reinforcement	Neg Mpt/Jnt Reinforcement
0-10	24	T-11/T-1	NONE	NONE
11-16	24	T-11/T-1	NONE	NONE
17-22	24	T-25b	NONE	NONE
23-28	22	T-25b	NONE	NONE
29-30	22	T-25b	NONE	NONE
31-36	22	T-25b	EMT/ --	EMT/ --
37-42	20	T-25b	EMT/ --	EMT/ --
43-54	20	T-25b	EMT/ --	EMT/ --
55-60	20	T-25b	EMT/EMT	EMT/EMT
61-72	20	T-25b	EMT/EMT	EMT/EMT
73-96	18	T-25b	EMT/EMT	EMT/EMT
97-108	18	T-25b	EMT/EMT	EMT/EMT
109-120	18	T-25b	EMT/EMT	EMT/EMT

T-1: Flat Drive Cleat

T-6: Hemmed Flat Slip

T-11: 1" Standing Slip (Barlock)

T-25b: TDF 4 Bolt Connection

EMT: 3/4" EMT Condu-Lock Tie Rod Reinforcement

*Maximum spacing of tie rods 48" along joins and midpoints. Locate at even dimensions of duct width on or spaced evenly across width of duct for multiple tie rods

*Nominal 5' duct lengths: 59" for S&D and 56" for TDF



6" S.P. Galvanized
Rectangular Duct Construction Standards

Duct Dimension	Duct Gauge	End Treatment Horz/Vert	Pos Mpt/Jnt Reinforcement	Neg Mpt/Jnt Reinforcement
0-12	24	T-25b	NONE	NONE
13-16	22	T-25b	NONE	NONE
17-24	22	T-25b	NONE	NONE
25-26	22	T-25b	NONE	NONE
27-30	18	T-25b	NONE	NONE
31-36	20	T-25b	EMT/ --	EMT/ --
37-42	20	T-25b	EMT/ --	EMT/ --
43-48	20	T-25b	EMT/EMT	EMT/EMT
49-54	20	T-25b	EMT/EMT	EMT/EMT
55-72	18	T-25b	EMT/EMT	EMT/EMT
73-96	18	T-25b	EMT/EMT	EMT/EMT
97-108	18	T-25b	EMT/EMT	EMT/EMT
109-120	18	T-25b	EMT/EMT	EMT/EMT

T-1: Flat Drive Cleat

T-6: Hemmed Flat Slip

T-11: 1" Standing Slip (Barlock)

T-25b: TDF 4 Bolt Connection

EMT: 3/4" EMT Condu-Lock Tie Rod Reinforcement

*Maximum spacing of tie rods 48" along joins and midpoints. Locate at even dimensions of duct width on or spaced evenly across width of duct for multiple tie rods

*Nominal 5' duct lengths: 59" for S&D and 56" for TDF



Round Duct Gauge – Positive Pressure

2" W.G.

Diameter	Fittings	Spiral Pipe
6" – 12"	24	26
14" – 18"	24	26
19" – 26"	24	26
27" – 36"	22	24
37" – 50"	20	22
51" – 60"	18	20
61" – 81"	16	18

4" W.G.

Diameter	Fittings	Spiral Pipe
6" – 12"	24	26
14" – 16"	24	26
18"	24	24
19" – 26"	22	24
27" – 36"	20	22
37" – 50"	20	20
51" – 60"	18	18
61" – 81"	16	18



Round Duct Gauge – Positive Pressure

10" W.G.

Diameter	Fittings	Spiral Pipe
6" – 12"	24	26
14"	24	26
16" – 18"	22	24
19" – 26"	22	24
27" – 36"	20	22
37" – 50"	18	20
51" – 60"	16	18
61" – 81"	16	18

ROUND DUCT SEAMS

Standard Spiral Seam Pipe



Corrugated Spiral Seam Pipe



Elbow Lock Seam



Standing Seam

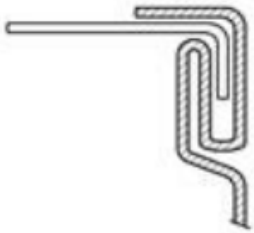


Butt Weld Seam

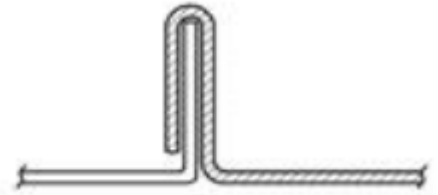


RECTANGULAR DUCT SEAMS

PITTSBURG SEAM
(SMACNA TYPE L-1)



STANDING SEAM
(SMACNA TYPE L-4)
5/8" STANDING SEAM ON ALL PANELS



LAPPED, SPOTWELDED & SEALED
(SMACNA TYPE RL-2 OR RL-3)



SOLID BUTT WELDED
(SMACNA TYPE RL-4 20GA MIN)

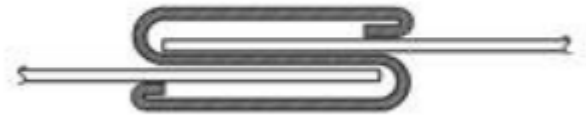


RECTANGULAR DUCT CONNECTORS

FLAT DRIVE – (SMACNA T-1)



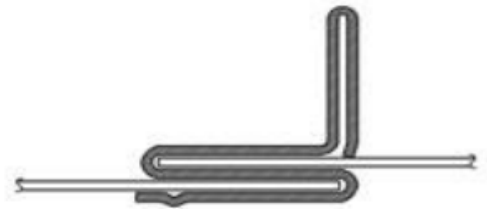
HEMMED "S" SLIP – (SMACNA T-6)



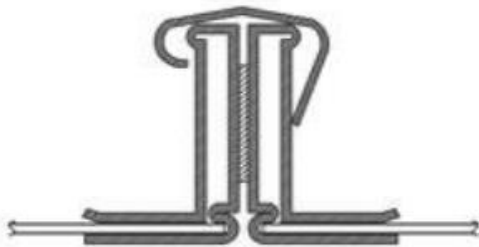
STANDING DRIVE – (SMACNA T-2)



STANDING SLIP – (SMACNA T-11)



DUCTMATE DUCT CONNECTOR
SLIP-ON FLANGE



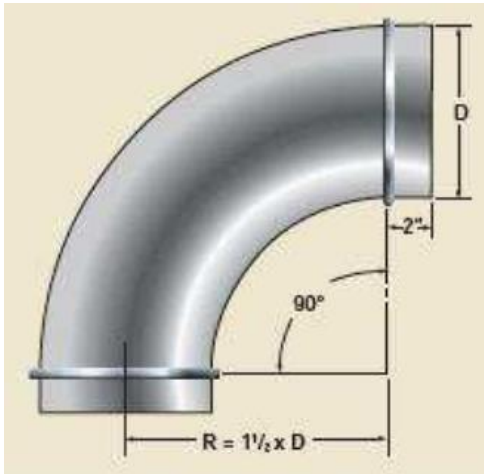
* SPECIFY DM 25, 35, or 45

TDF
(SMACNA T-25B)

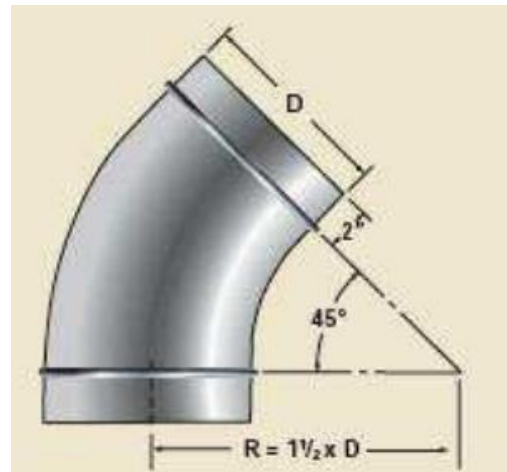


SINGLE WALL ELBOWS

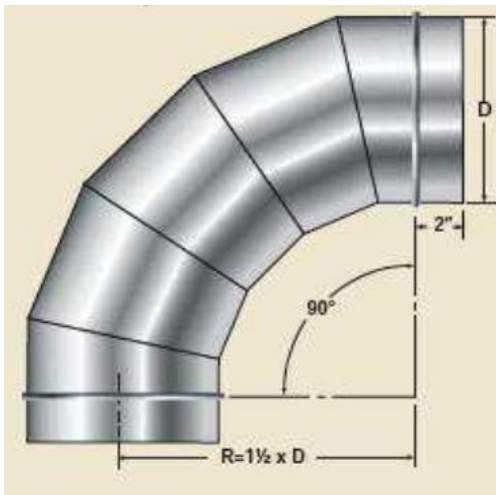
90 Degree Stamped (3"-12")



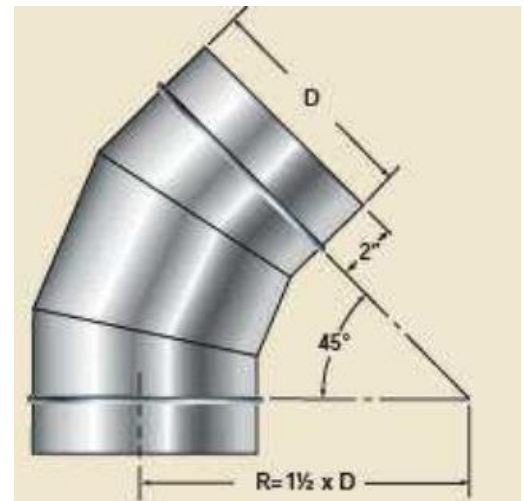
45 Degree Stamped (3"-12")



90 Degree Gored

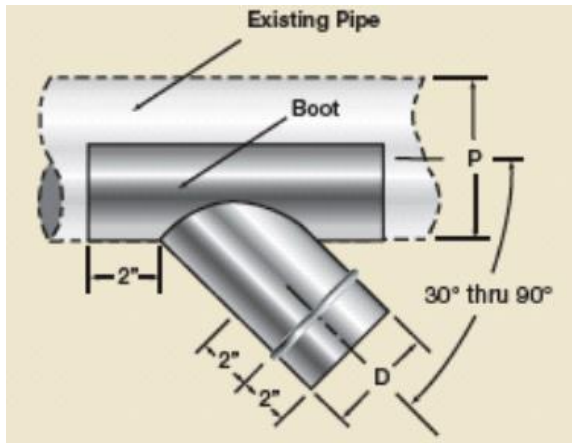


45 Degree Gored



SINGLE WALL RECTANGULAR & ROUND ON ROUND TAPS

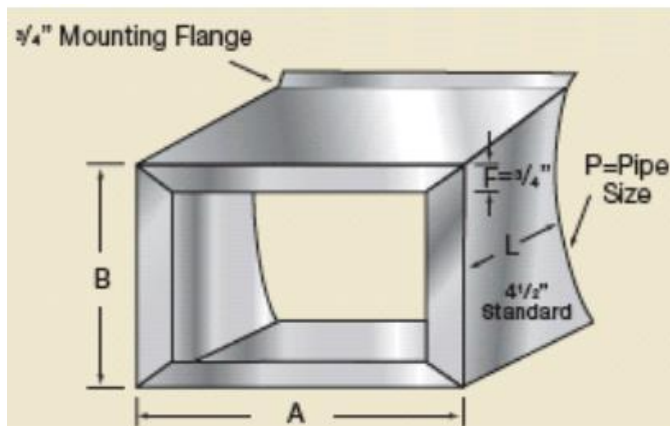
45 Degree Saddle Tap



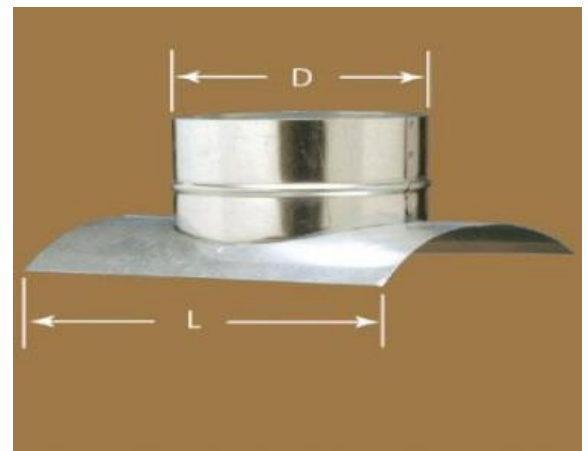
90 Degree Shoe Tap



Register Tap

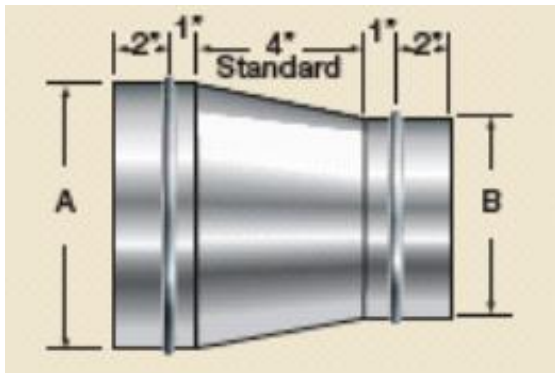


90 Degree Saddle Tap

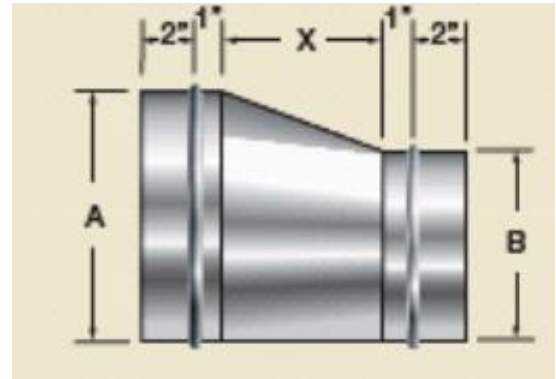


SINGLE WALL ROUND MISCELLANEOUS FITTINGS

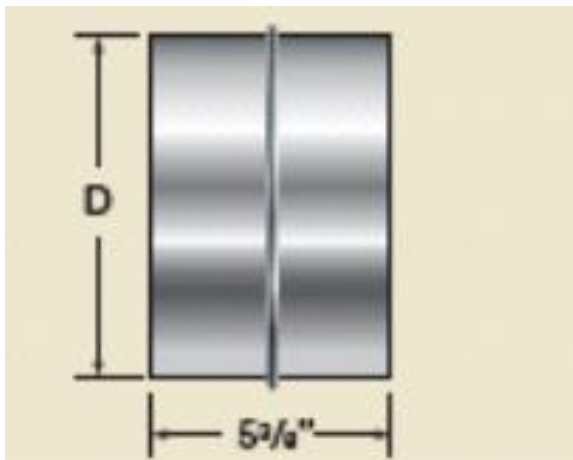
Concentric Reducer



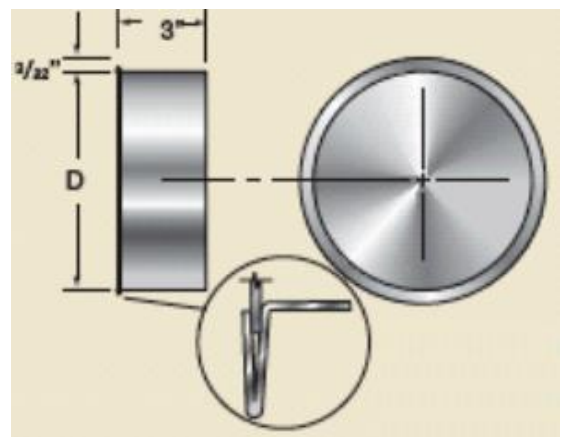
Eccentric Reducer



Coupling

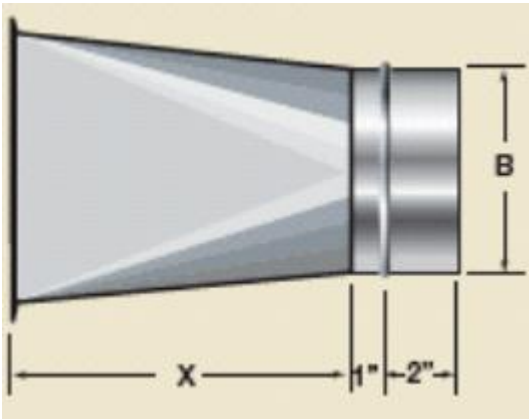


End Cap

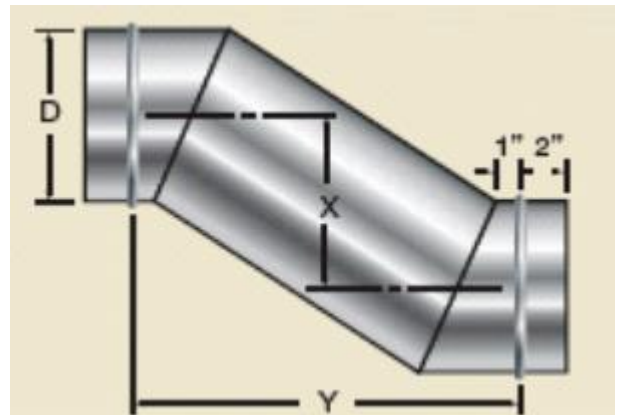


SINGLE WALL ROUND MISCELLANEOUS FITTINGS

Square to Round

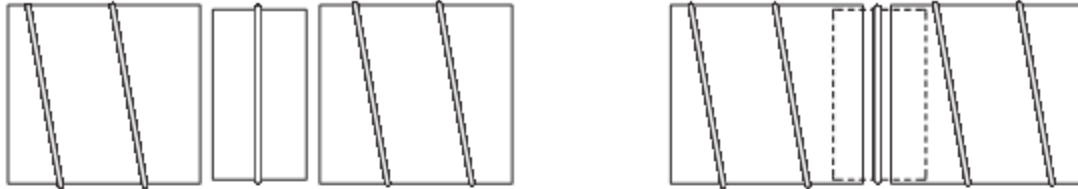


Offset

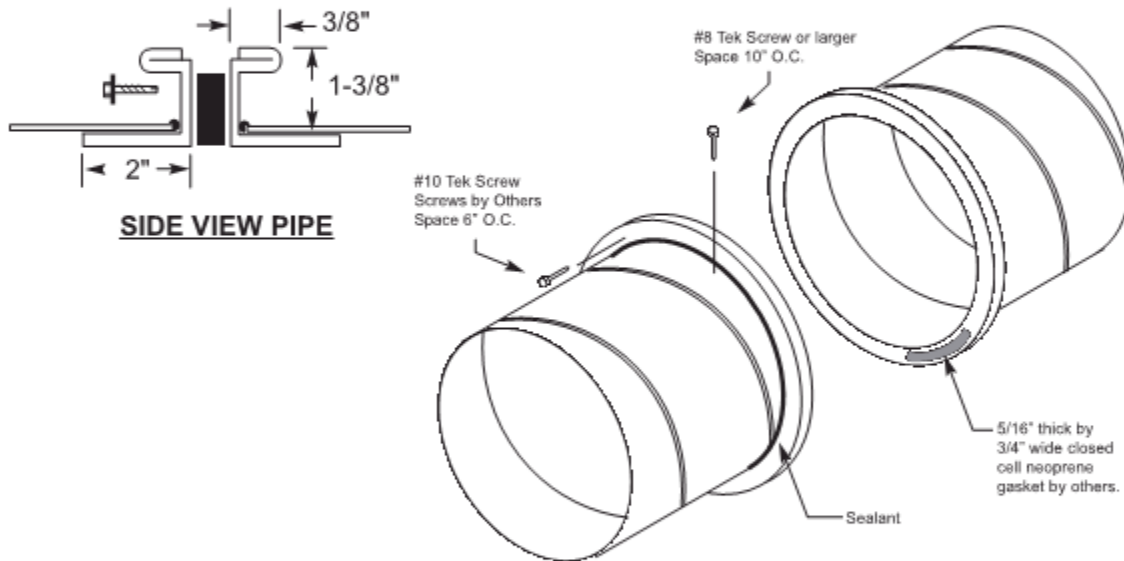


SINGLE WALL ROUND – CONNECTORS

Slip Fit Connection



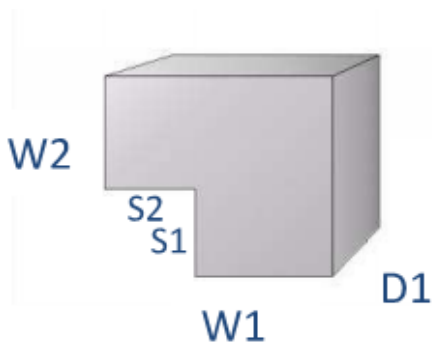
Accuflange® Connection



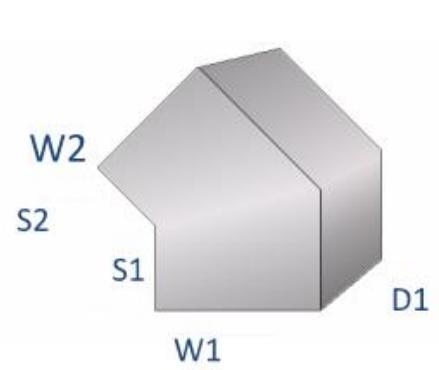
Spiral Pipe - Customer specified duct length shall be flange face to flange face dimension.

RECTANGULAR ELBOWS

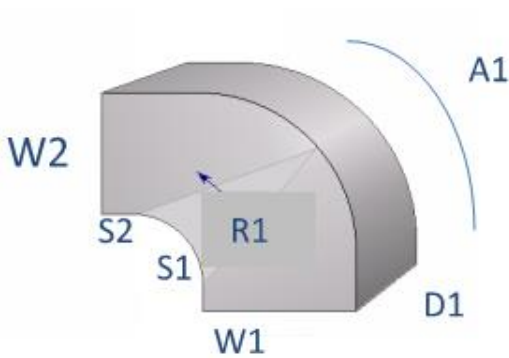
SQUARE ELBOW



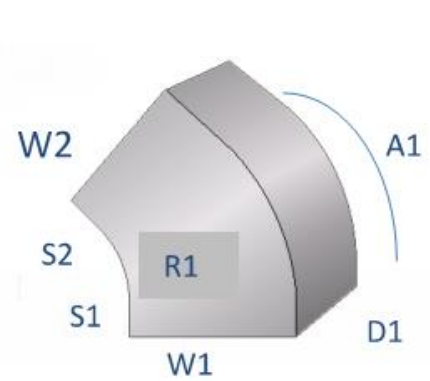
SQUARE 45 DEGREE ELBOW



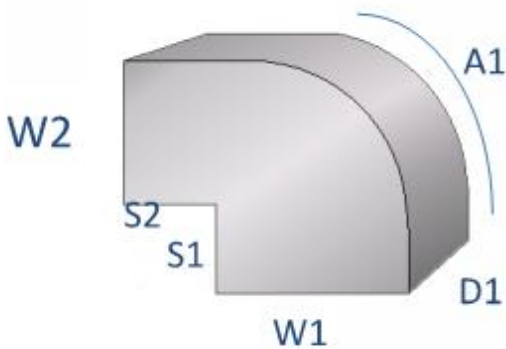
RADIUS ELBOW



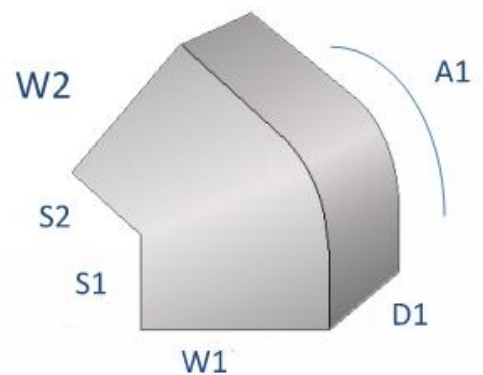
45 DEGREE RADIUS ELBOW



SQUARE THROAT

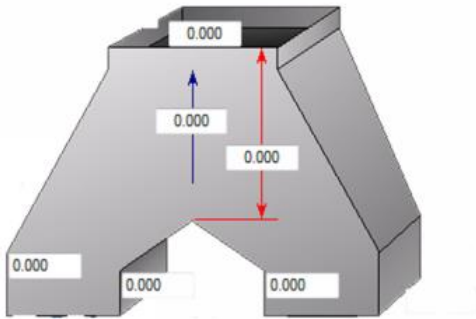


45 DEGREE SQUARE THROAT

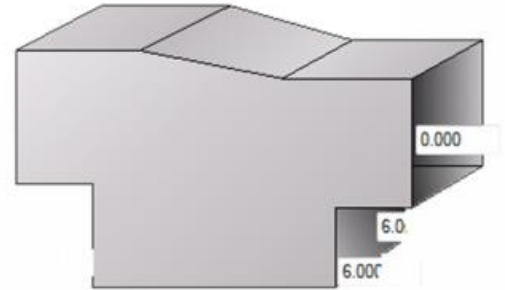


RECTANGULAR TEES, TAPS & END CAPS

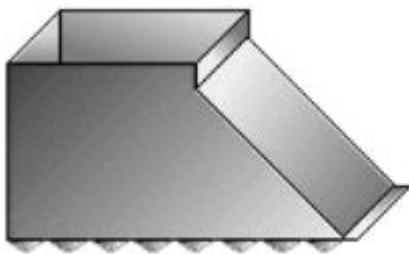
PANTS



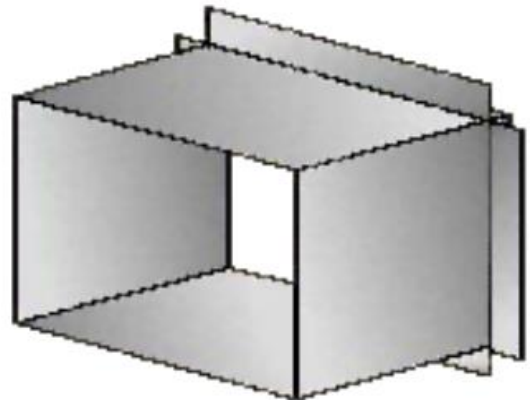
TEE



SHOE TAP

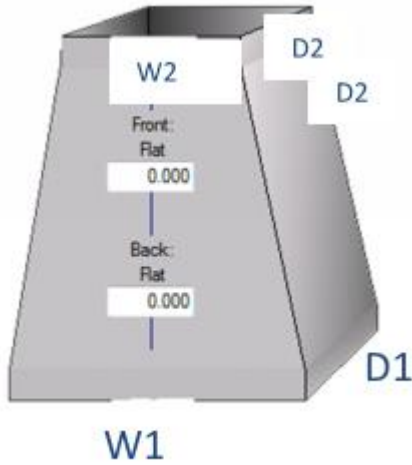


STRAIGHT TAP

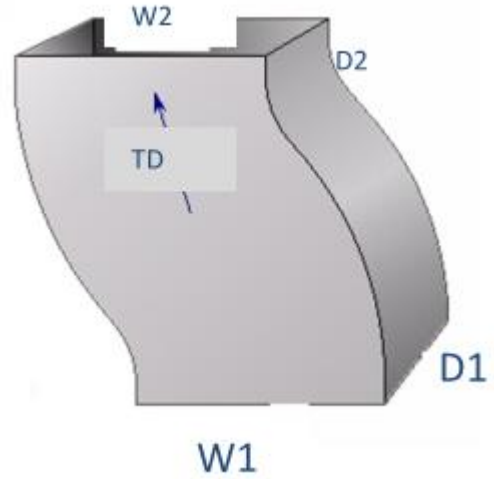


RECTANGULAR TRANSITIONS & OFFSETS

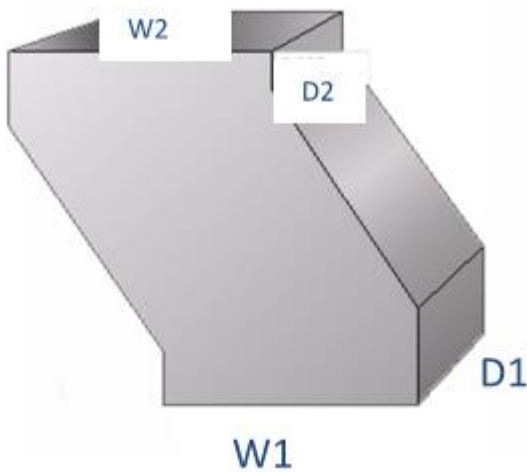
TRANSITION



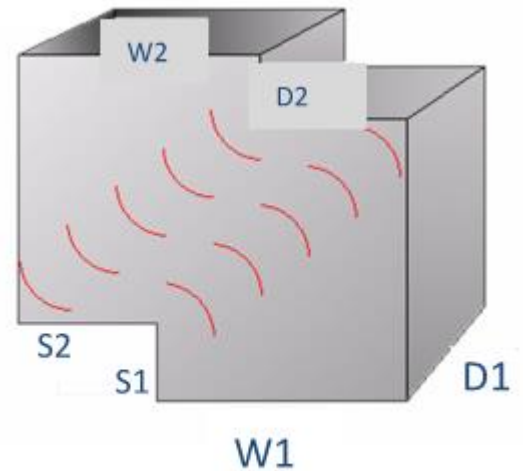
RADIUS OFFSET



RECTANGULAR OFFSET



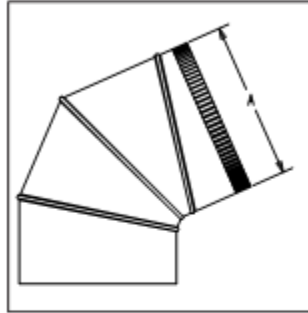
OFFSET



Adjustable Elbow



Product Data Sheet



Description

Elgen's adjustable elbow is used for low pressure applications and can be adjusted to any degree.

Standard Construction

Manufactured using 26 GA ASTM A-653 G60 material

Features

- Meets SMACNA requirements 3rd Edition Section 3.29 Figure 3-4
- Pressure rating (+/- 2 water gauge)
- Adjusts to any degree
- Welded Seam for added strength and low leakage
- Union Made Yellow Label

Optional Construction

- 30 GA & 24 GA Galvanized
- G90 Galvanized
- Stainless Steel 304
- Stainless Steel 316
- Aluminum
- PCD
- Galvanneal (Paint Grip)
- Agion (Antimicrobial Coating)

Packaging

Size (in) A	Tray Qty	Skid Qty	Weight per Skid (lbs)
4	MTO	MTO	N/A
5	MTO	MTO	N/A
6	16	352	390
7	MTO	MTO	N/A
8	9	180	320
9	MTO	MTO	N/A
10	5	90	250
12	4	64	230
14	9	36	160
16	6	24	140

Guarantee

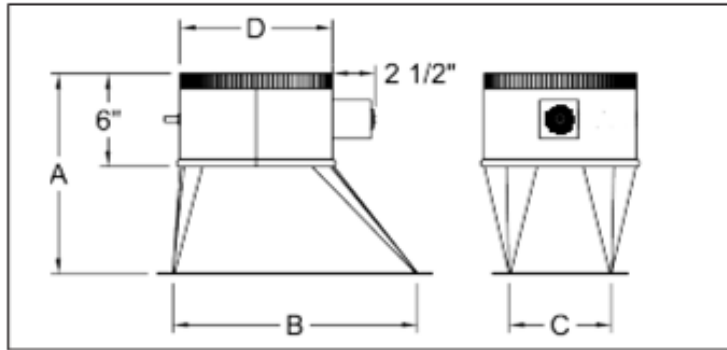
All Elgen products are guaranteed by Elgen Manufacturing against defective material.



HET

with Elgen Super Standoff and 3/8" Square Rod

Product Data Sheet



Description

Elgen's HET (High Efficiency Take Off) with heavy duty standoff is used for low & medium pressure applications.

Elgen HET (High Efficiency Take Off) with heavy duty standoff can be used for high pressure application (up to 10" W.G.) as a low-leakage fitting due to its welded construction.

Standard Construction

- Collar - formed from 24 GA ASTM A-653 G60 material
- Body - formed from 26 GA ASTM A-653 G60 material
- 1/8" x 1" Polyethylene "High Density" Gasket
- 20 GA Heavy Duty Damper Blade for 10" and larger
- 22 GA Heavy Duty Damper Blade for 6"- 8"
- Heavy-duty standoff
- 3/8" aluminum square rod
- Super snap-in bushing

D	B X C	A
4" Round	10"x 5"	11.75"
5" Round	10"x 5"	11.75"
6" Round	12"x 6"	11.75"
7" Round	12"x 6"	11.75"
8" Round	12"x 6"	11.75"
9" Round	15"x 6"	12.75"
10" Round	16"x 6.75"	12.75"
12" Round	18"x 8.5"	12.75"
14" Round	20"x 9.5"	12.75"
16" Round	22"x 14"	13.75"
18" Round	22"x 16"	13.75"
20" Round	24"x 18"	14"

B and C dimensions are "I.D." hole size dimensions
All dimensions +/- 0.25"

Features

- Welded Seams For Added Strength
- Welded Seams Provide Low Leakage
- Many Damper Hardware Options
- Pressure Rating - Designed Per SMACNA 3rd Edition 2005 Section 4.8 4-6 Brand Connections
- Union Made Yellow Label

Optional Construction

- Insulation Guard
- Deep manual bead
- Remote Cable Operated Controls (internal mounted or external mounted)
- 24 GA Galvanized
- 20 GA Collar and 22 GA Boot
- G90 Galvanized
- Stainless Steel 304
- Stainless Steel 316
- Aluminum
- PCD
- Galvanneal (Paint Grip)
- Agion (Antimicrobial Coating)

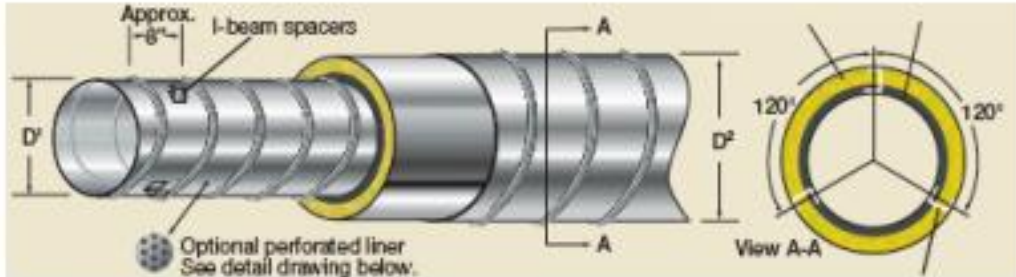
Packaging

Size	Skid Qty	Size	Skid Qty
4"	MTO	10"	72
5"	MTO	12"	54
6"	140	14"	48
7"	MTO	16"	30
8"	140	18"	MTO
9"	MTO	20"	MTO

Guarantee

All Elgen products are guaranteed by Elgen Manufacturing against defective material.

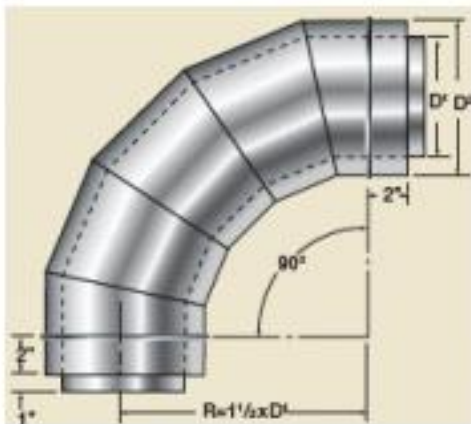
Double Wall Duct and Fittings



3/32" @ 3/16" centers (staggered).
33 holes per sq.
inch. Open area 23%.



Example Fitting



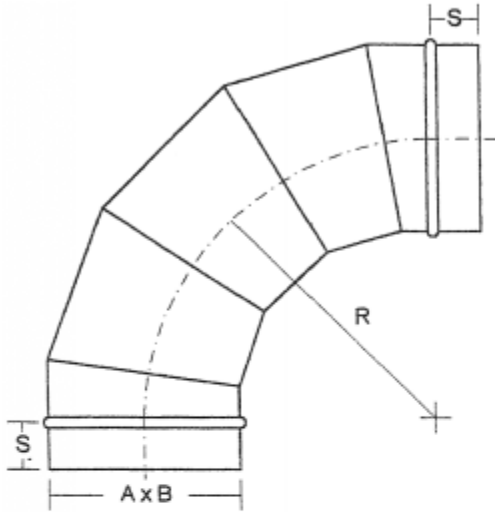
Please note that all single wall fittings can be fabricated in double wall

NORTHERN FABRICATORS SPIRAL FLAT OVAL PIPE SIZES										
		FLAT OVAL MINOR AXIS								
		6	8	10	12	14	16	18	20	
INITIAL SPIRAL PIPE DIAMETER	16	22	21							
	18	25	24	23						
	20	28	27	26	25					
	22	32	30	29	28	27	26			
	24		34	32	31	30	29	28	27	
	26		37	36	34	33	32	31	30	
	28		40	39	38	36	35	34	33	
	30			42	41	40	38	37	36	
	32			45	44	43	42	40	39	
	34			48	47	46	45	44 (43)	42	
	36			51	50	49	48	47	46	
	38				53	52	51	50	49	
	40				56	55	54	53	52	
	42				60 (59)	58	57	56	55	
	44				63	62	60	59	58	
	46					65	64 (63)	62	61	
48					68	67	66	64		
		FLAT OVAL MAJOR AXIS								

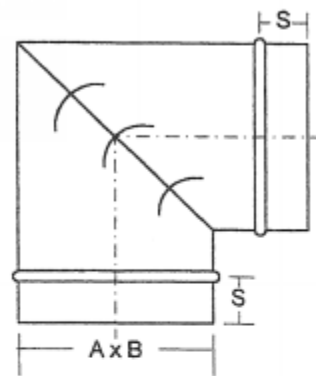
****Sizes with an Initial Pipe Diameter less than 16" will be roll-formed****

SINGLE WALL OVAL FITTINGS

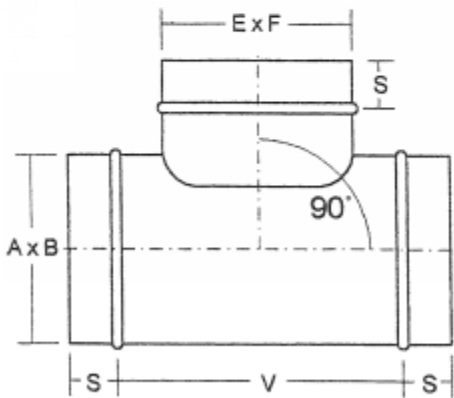
$R = A \times 1.5$



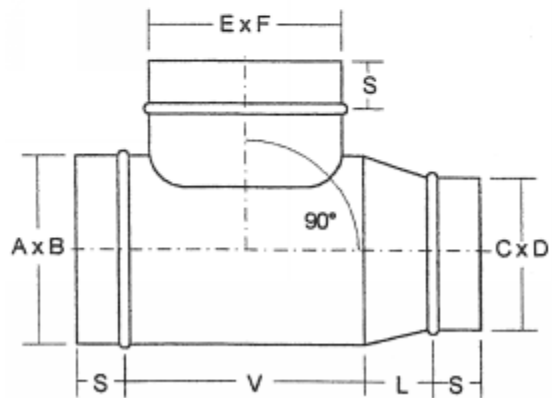
Mitered 90°
Specify with or without vanes



Straight Tee

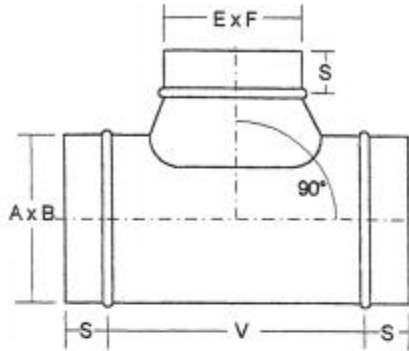


Reducing Tee

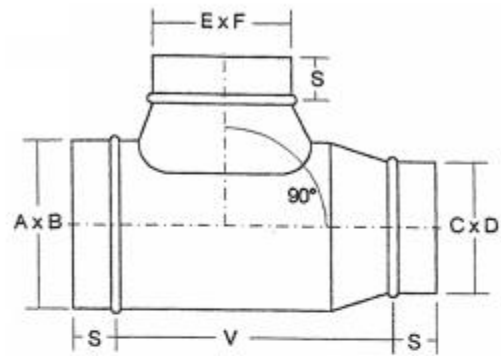


SINGLE WALL OVAL FITTINGS

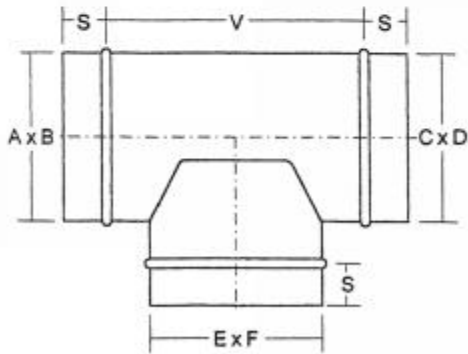
Conical Tee



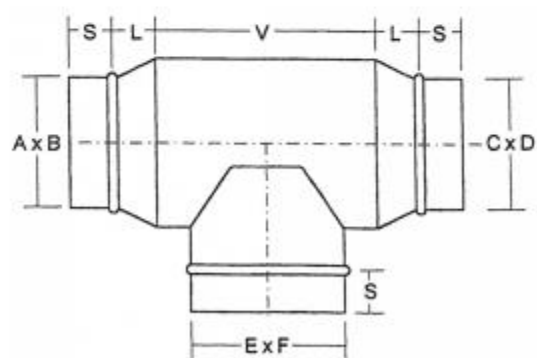
Reducing Conical Tee



Bull Head Tee
Specify With or Without Turning Vanes

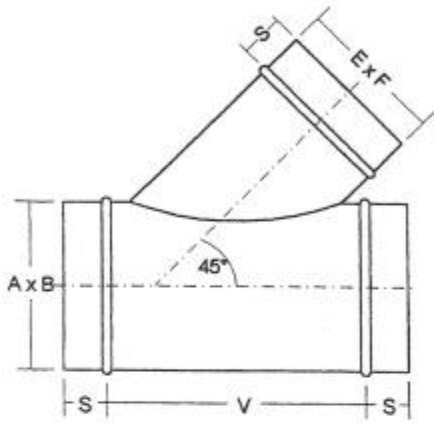


Reducing Bullhead Tee
Specify With or Without Turning Vanes

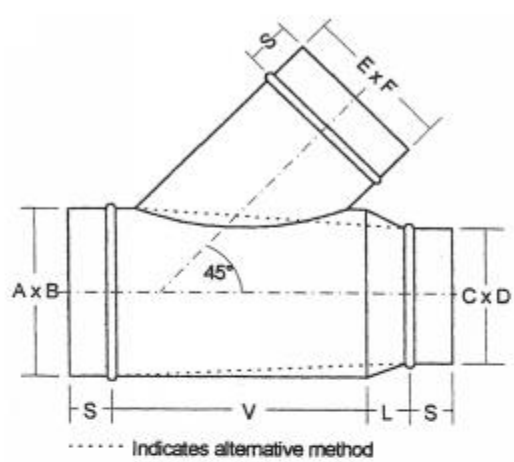


SINGLE WALL OVAL FITTINGS

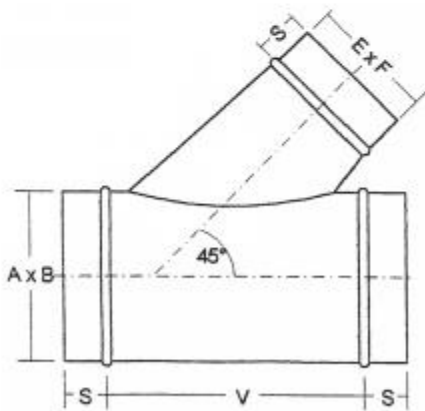
Lateral



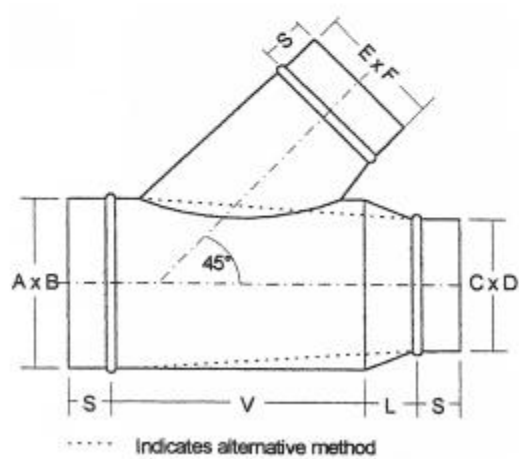
Reducing Lateral



Conical Lateral

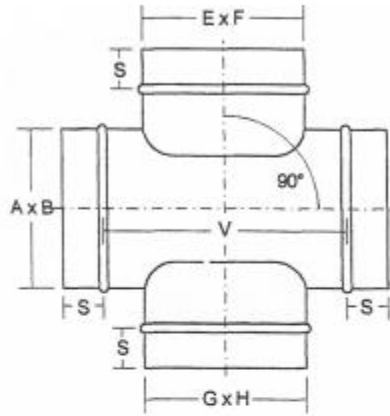


Reducing Conical Lateral

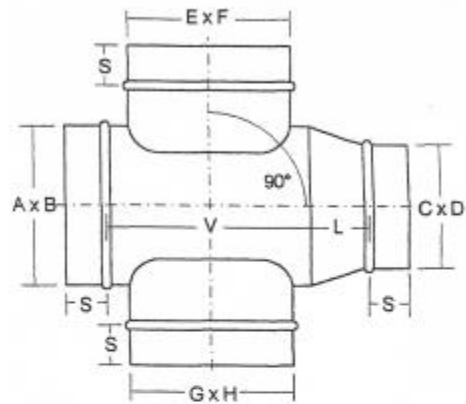


SINGLE WALL OVAL FITTINGS

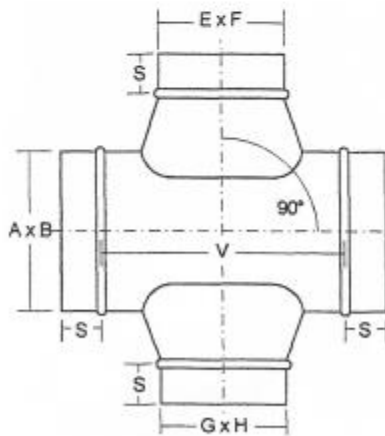
Cross



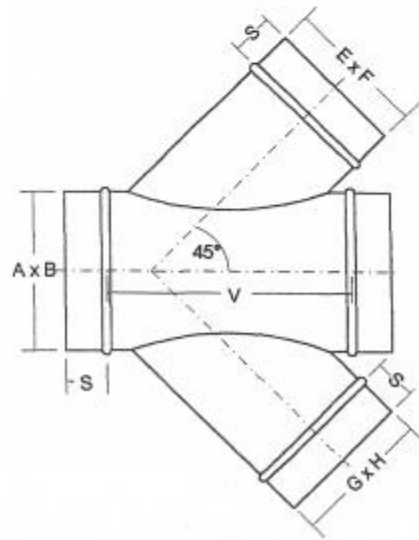
Reducing Cross



Conical Cross

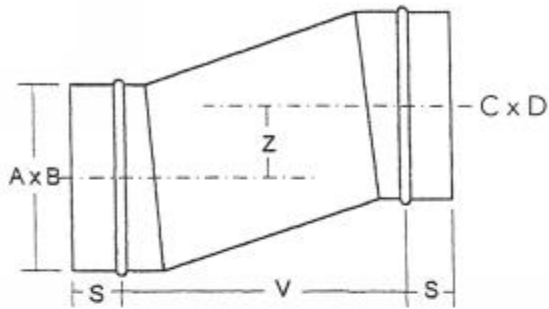


Lateral Cross

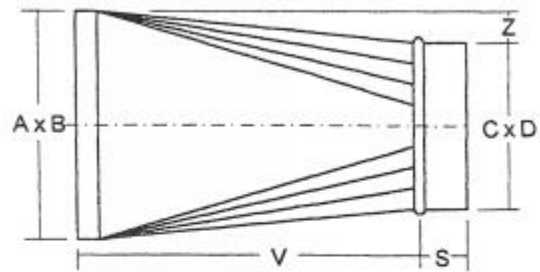


SINGLE WALL OVAL FITTINGS

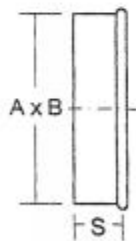
Offset



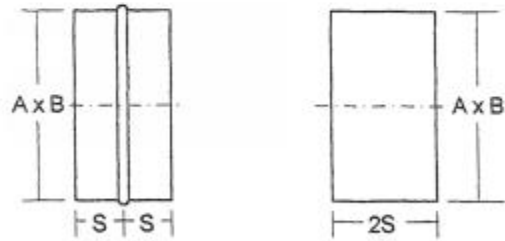
Oval to Rectangular
Oval to Round



End Cap

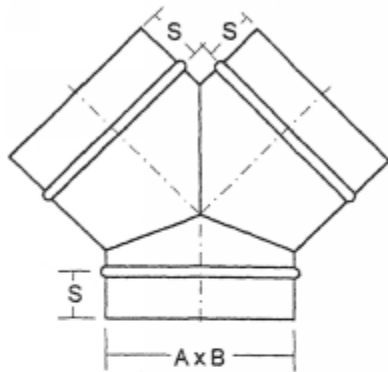


Coupling

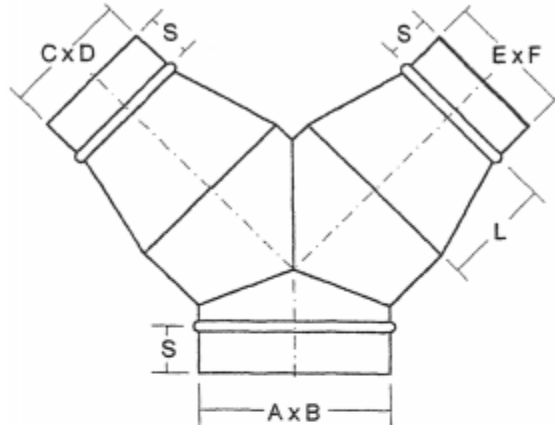


SINGLE WALL OVAL FITTINGS

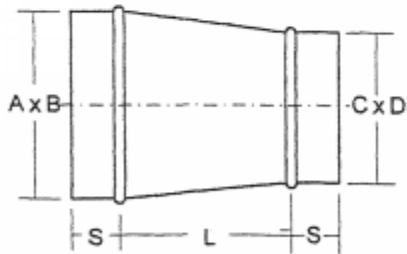
Equal Y Branch



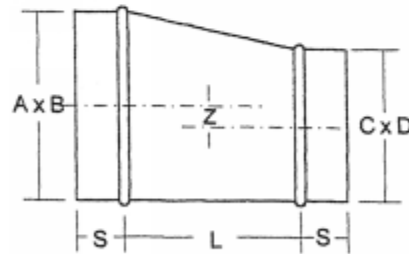
Reducing Y Branch



Concentric Reducer

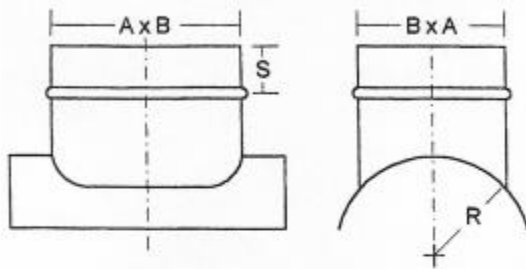


Eccentric Reducer
Specify "Z" Dimension
Specify top up, down or flat

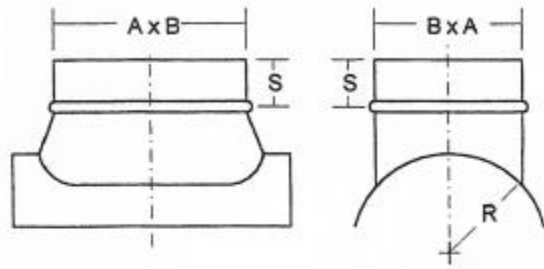


SINGLE WALL OVAL FITTINGS

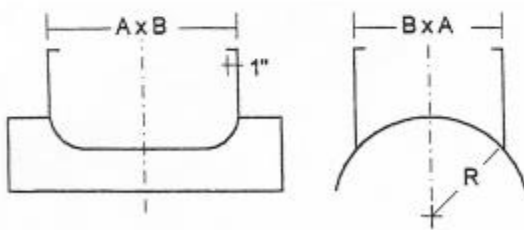
Saddle Tap
Specify Minor Axis (2xR)



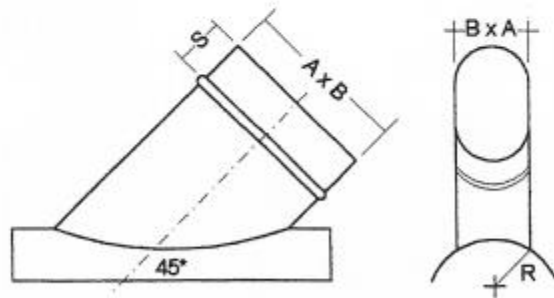
Conical Saddle Tap
Specify Minor Axis (2xR)



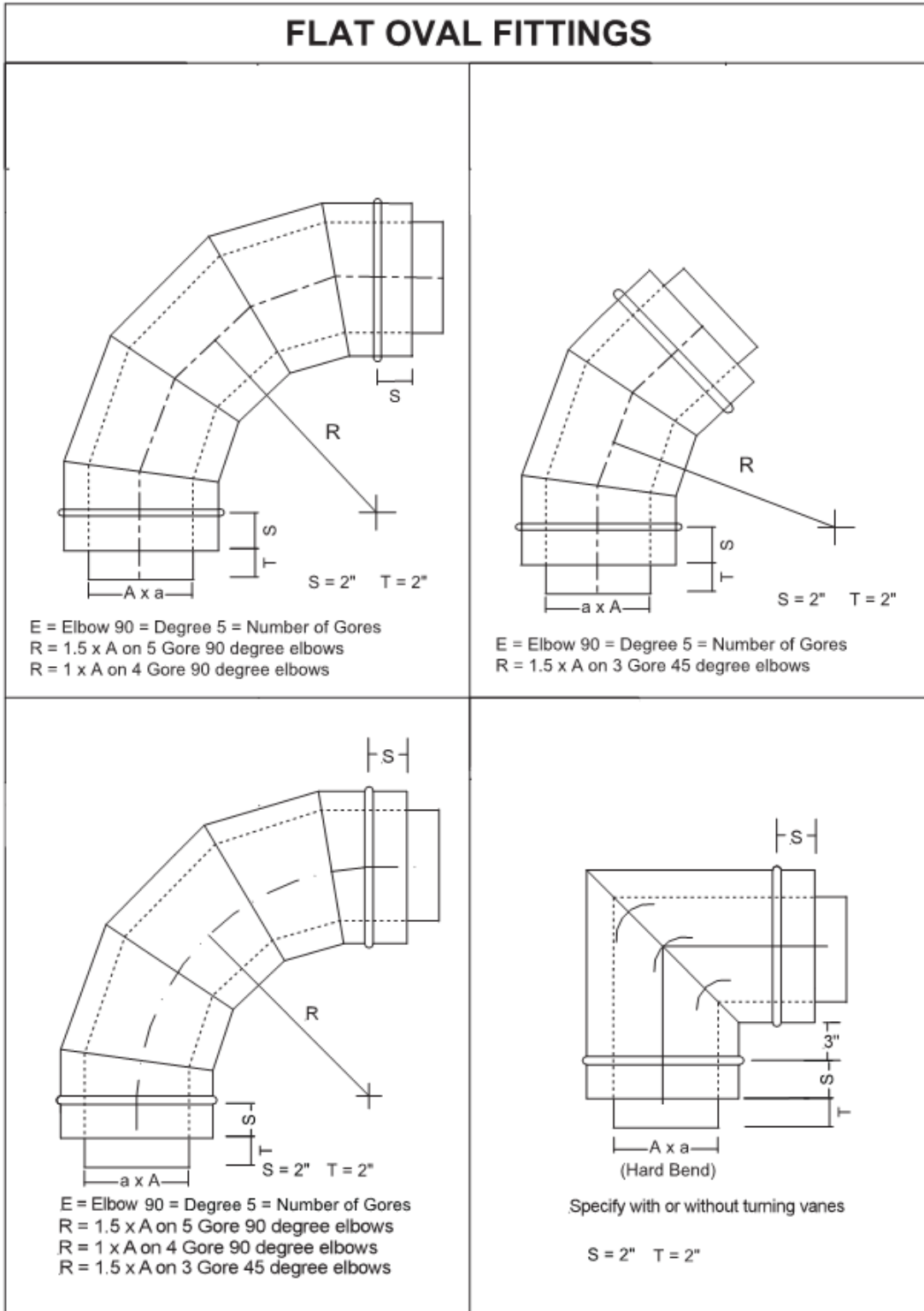
Grille Box Tap
Specify Minor Axis (2xR)



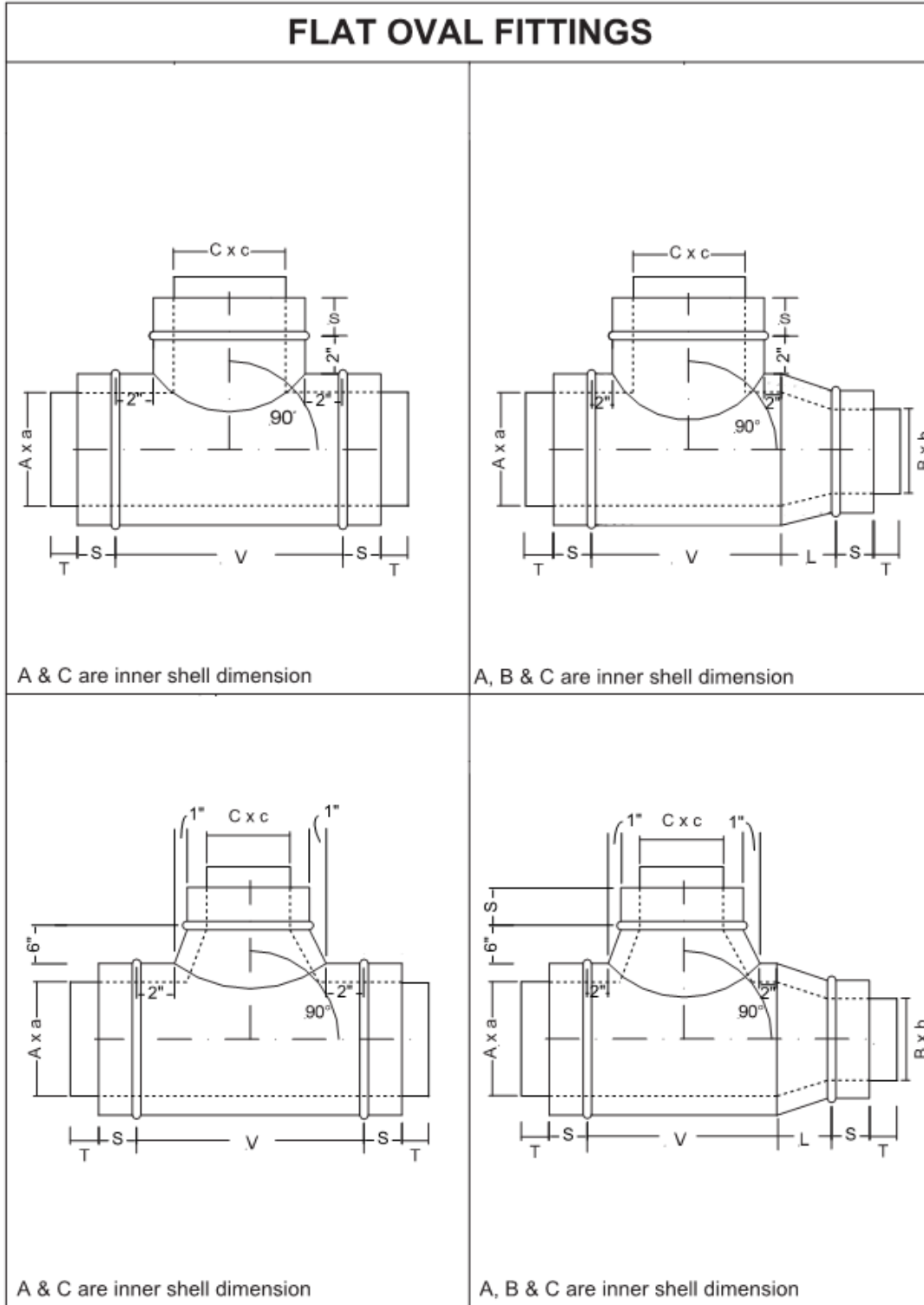
Lateral Saddle Tap
Specify Minor Axis (2xR)



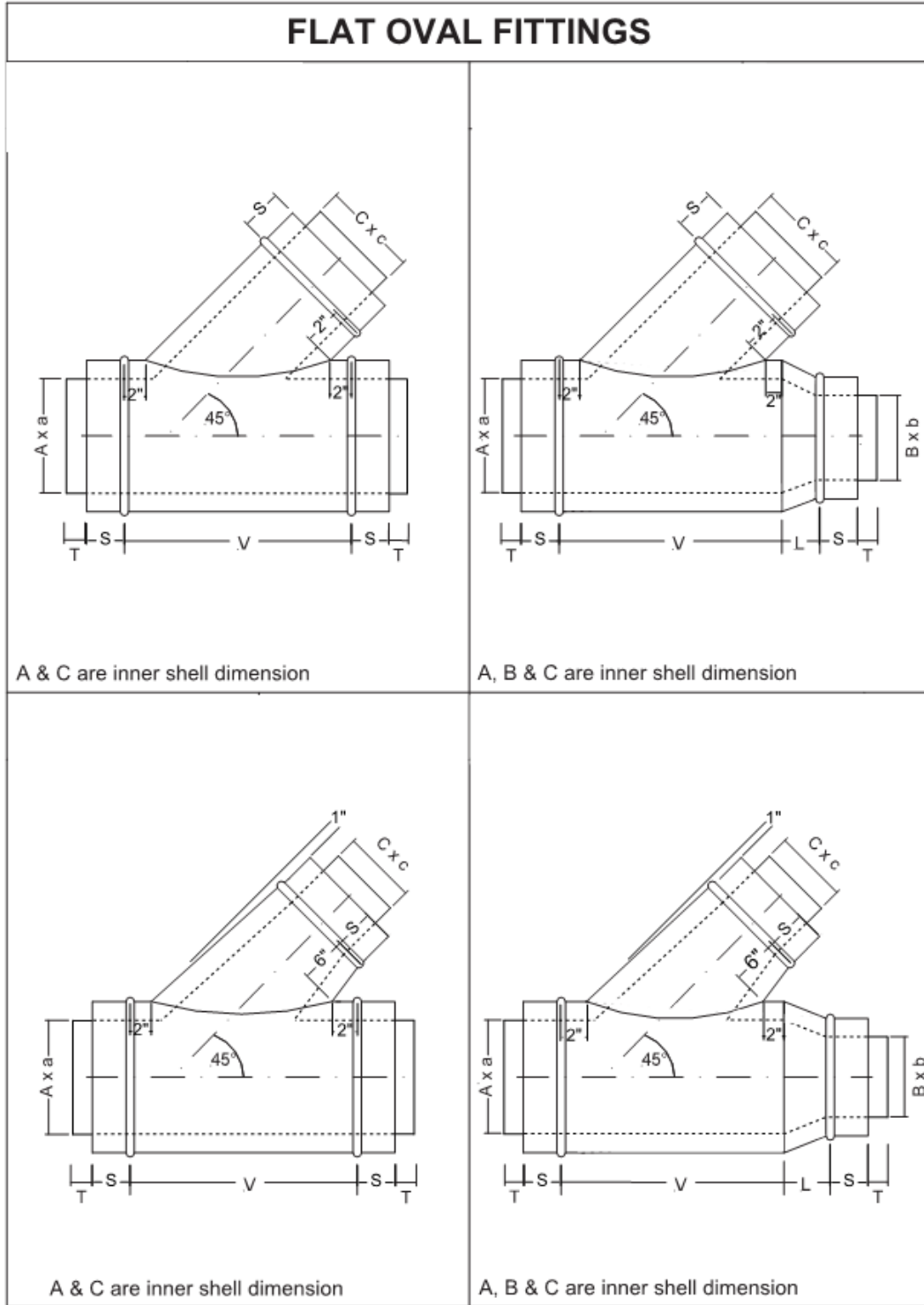
DOUBLE WALL OVAL FITTINGS



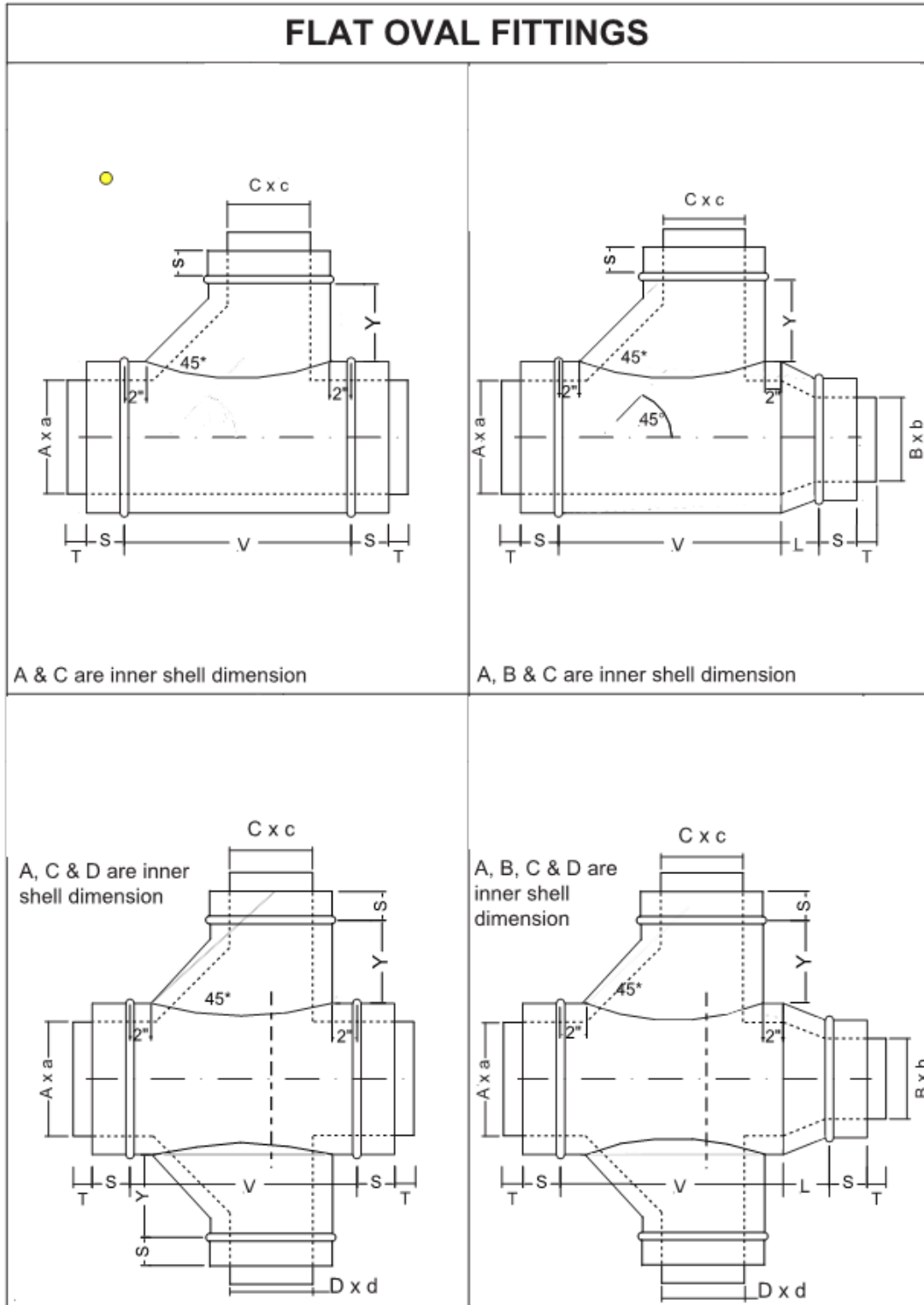
DOUBLE WALL OVAL FITTINGS



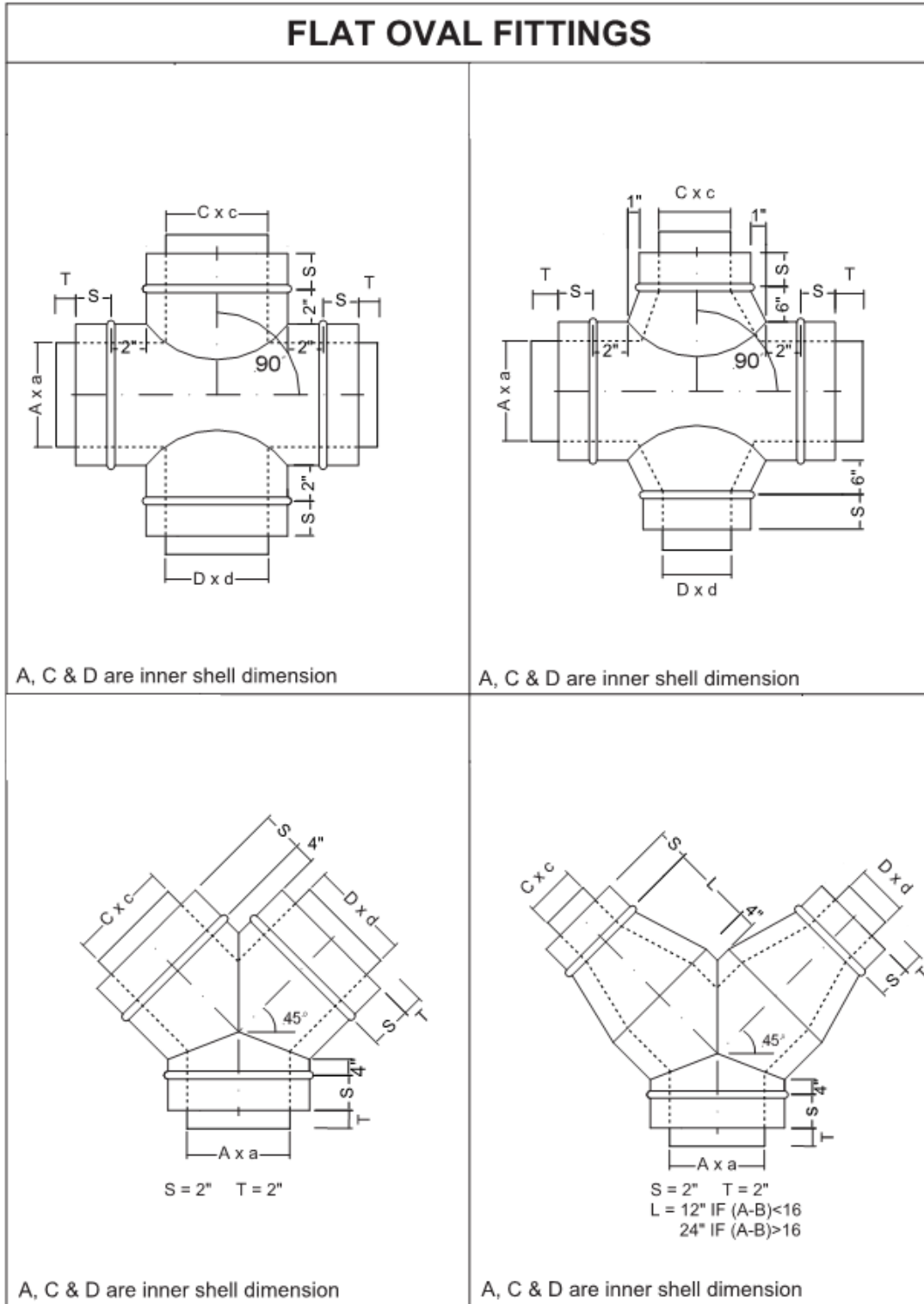
DOUBLE WALL OVAL FITTINGS



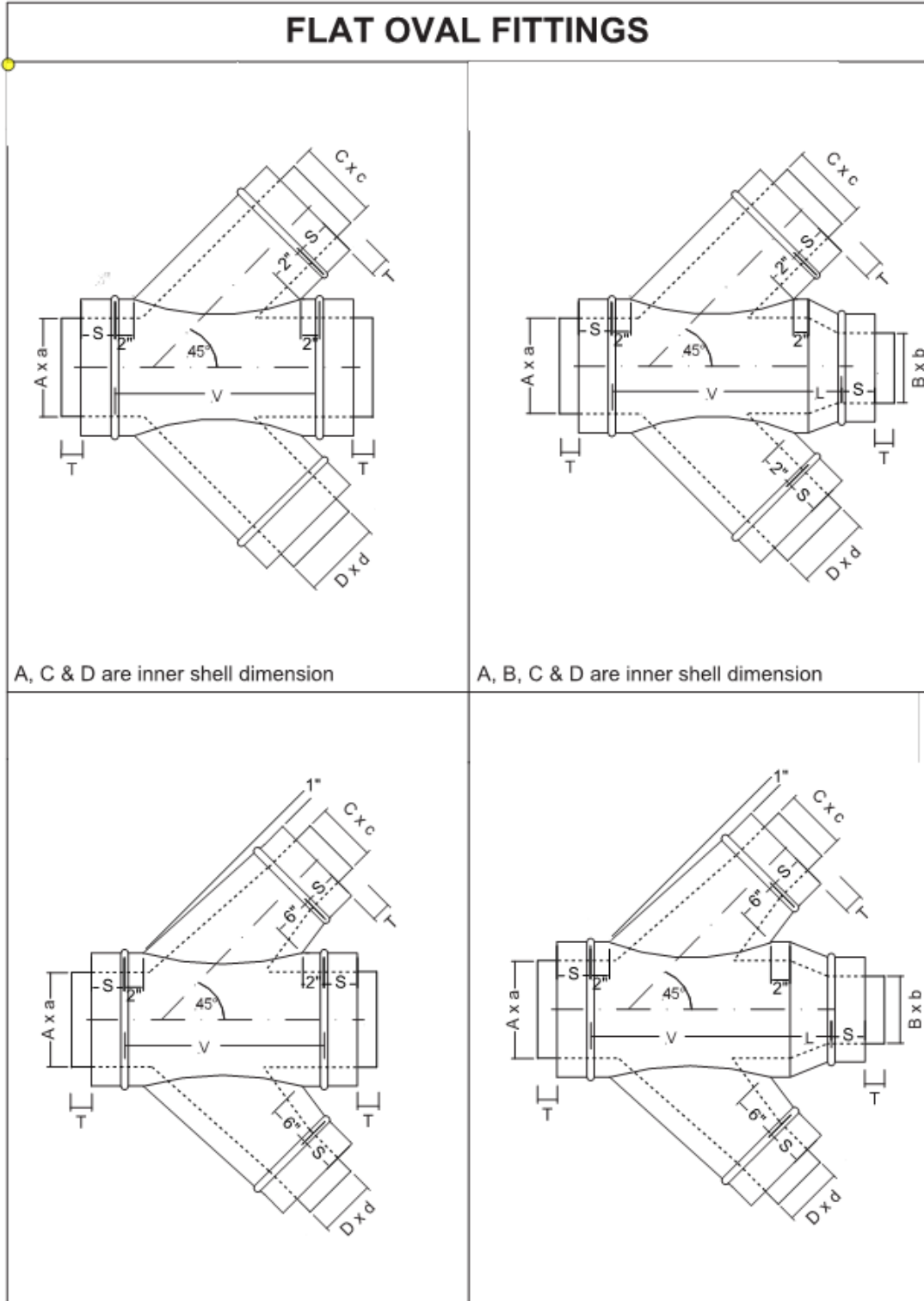
DOUBLE WALL OVAL FITTINGS



DOUBLE WALL OVAL FITTINGS

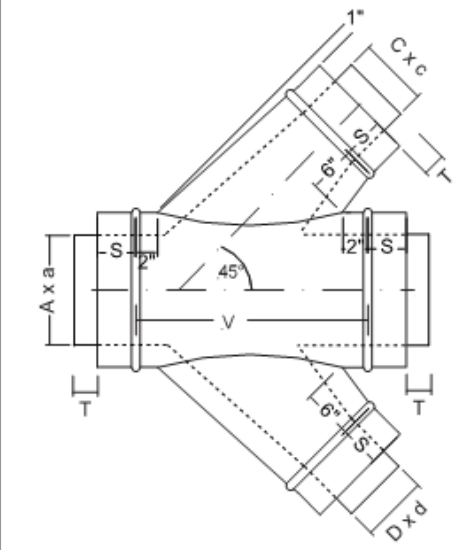


DOUBLE WALL OVAL FITTINGS

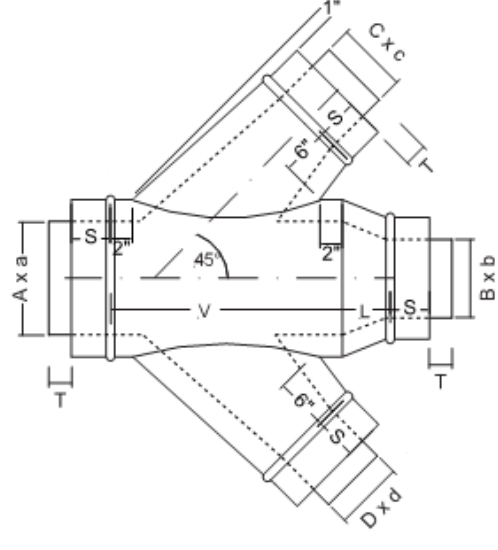


A, C & D are inner shell dimension

A, B, C & D are inner shell dimension

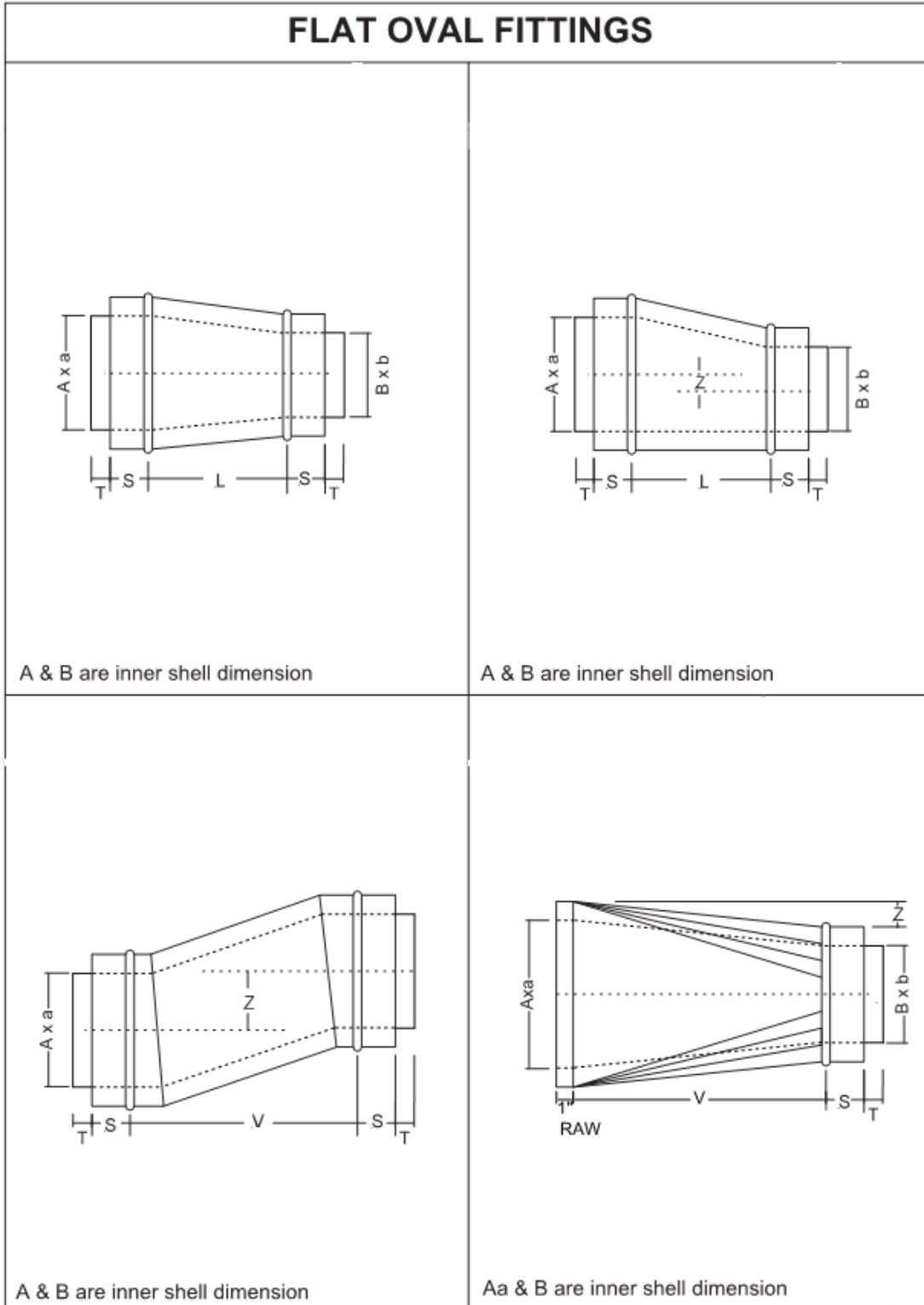


A, C & D are inner shell dimension

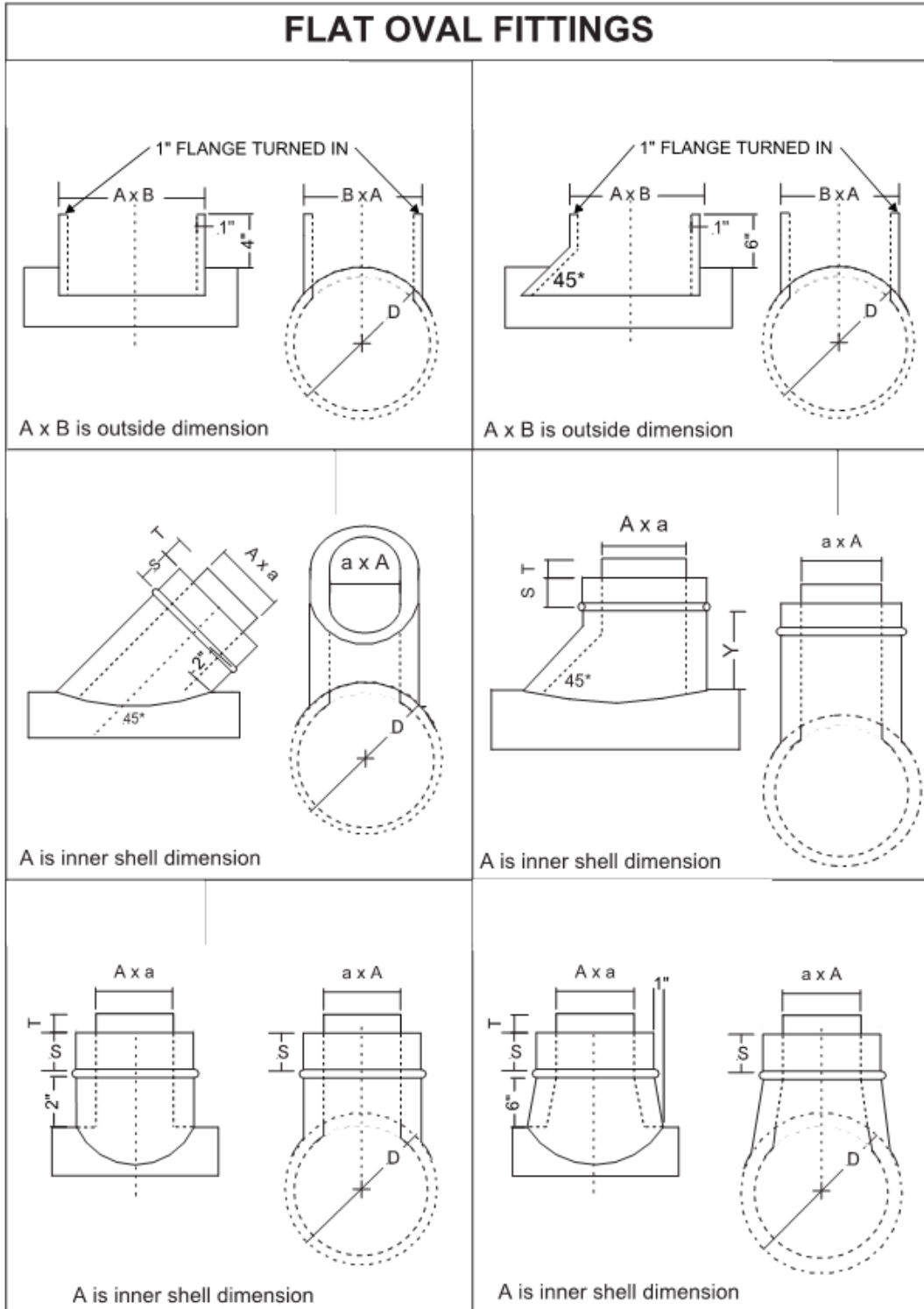


A, B, C & D are inner shell dimension

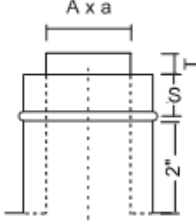
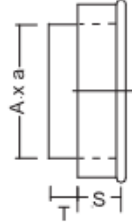
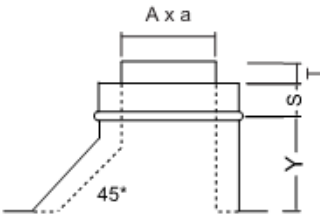
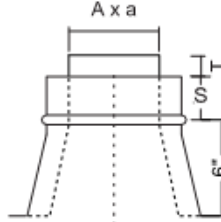
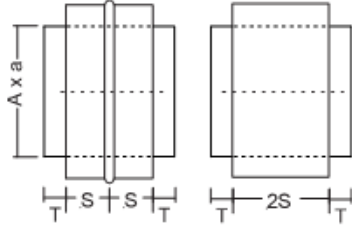
DOUBLE WALL OVAL FITTINGS



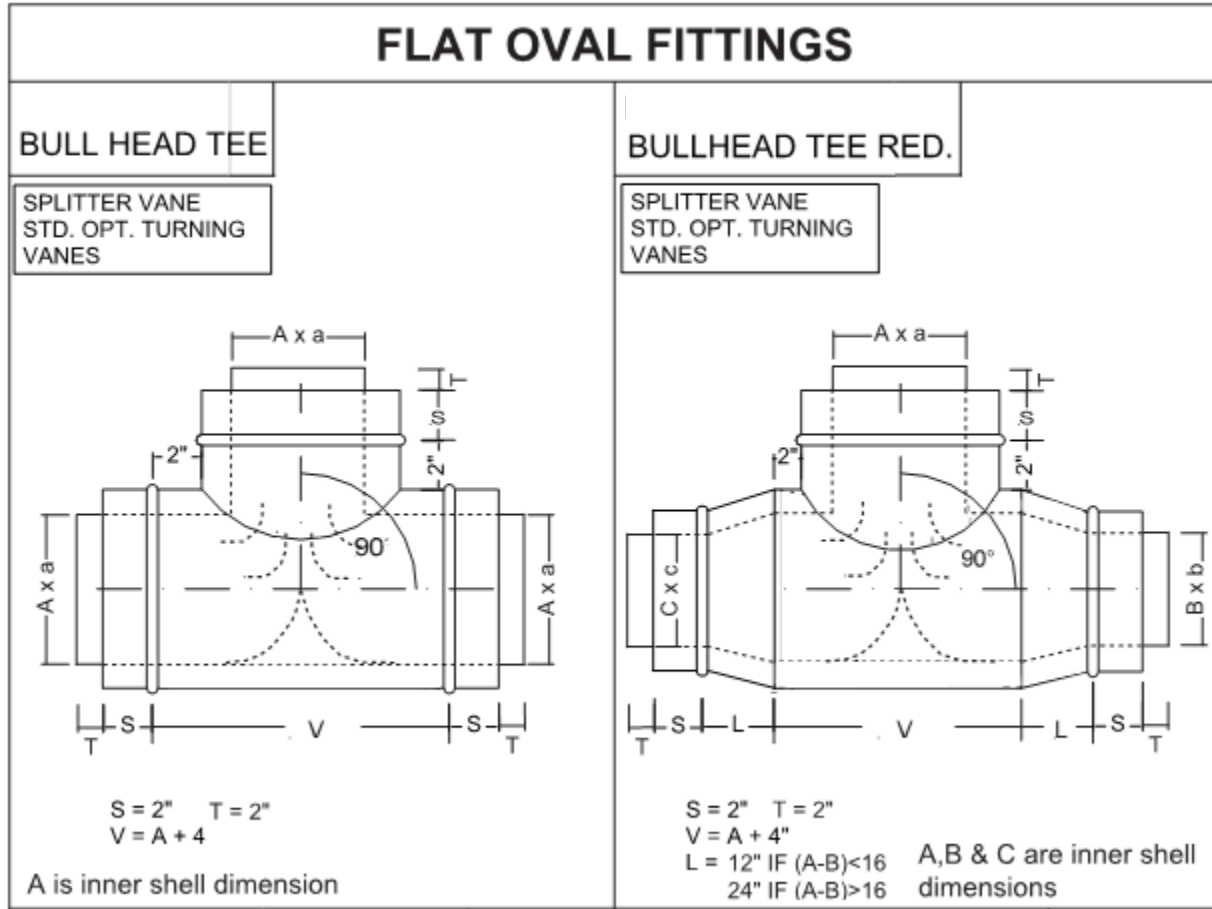
DOUBLE WALL OVAL FITTINGS



DOUBLE WALL OVAL FITTINGS

FLAT OVAL FITTINGS	
 <p>A is inner shell dimension</p>	 <p>A is inner shell dimension</p>
 <p>A is inner shell dimension</p>	 <p>A is inner shell dimension</p>
 <p>S = 2" T = 2"</p> <p>A is inner shell dimension</p>	

DOUBLE WALL OVAL FITTINGS



TDC and TDF Corner

Detail

TDC Corner

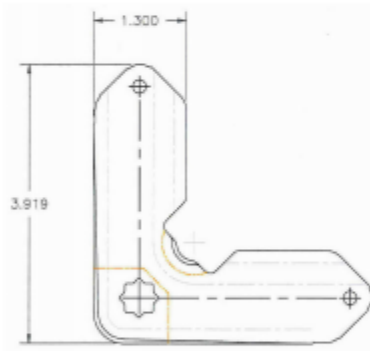
- Stamped from 14 gauge
- Designed for TDC ductwork
- Designed for 3/8" carriage bolt
- "Star" bolt hole for easy fastening
- Available in galvanized, stainless and aluminum



TDF Corner

- Stamped from 14 gauge
- Designed for TDF ductwork
- Designed for 3/8" carriage bolt
- "Star" bolt hole for easy fastening
- Available in galvanized, stainless and aluminum

Profile



Packaging

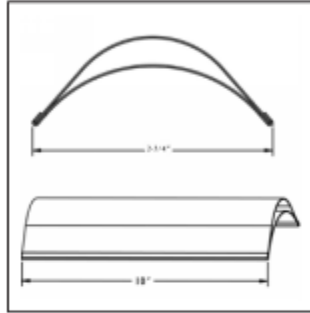
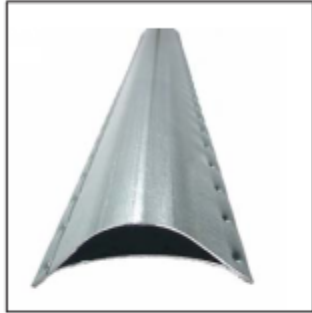
Item Code	Item Description	Packaging	Weight
LWCCGA	TDC Corner	300 pcs/box	55 lbs/box
LWFCGA	TDF Corner	300 pcs/box	55 lbs/box



2" Ultra Vane



Product Data Sheet



Features

- Patented- Made from one piece of metal
- Meets SMACNA requirements
- One Dimple per inch
- Can be used with other rail systems
- Union Made Yellow Label

Description

Elgen's 2" Ultra Vane (Double Wall Turning Vane) is used, in conjunction with Elgen's 2" Double Wall Vane Rail, for directing air flow through a rectangular elbow.

Optional Construction

- 22 or 24 GA ASTM A-653 G60/G90 Material
- Stainless Steel 304
- Stainless Steel 316
- Aluminum
- PCD
- Galvanneal (Paint Grip)
- Agion (Antimicrobial Coating)

Standard Construction

Rollformed using 26 GA ASTM A-653 G60
Material
10' length

Packaging

GA	Length (ft)	Bundle Qty (ft)	Skid Qty (ft)	Weight (lbs)
26	10	100	8500	3600

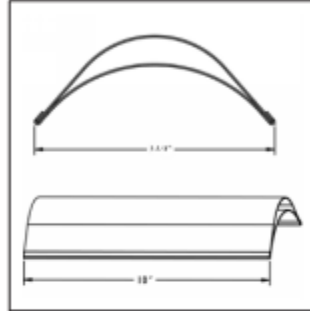
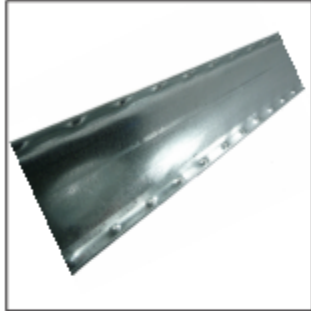
Guarantee

All Elgen products are guaranteed by Elgen Manufacturing against defective material.

4" Turning Vane



Product Data Sheet



Features

- Meets SMACNA requirements
- One Dimple per inch
- Can be used with other rail systems
- Union Made Yellow Label

Description

Elgen's 4" Turning Vane (Double Wall) is used, in conjunction with Elgen's 4" Double Wall Vane Rail, for directing air flow through a rectangular elbow.

Optional Construction

- 20 or 22 GA ASTM A-653 G60/G90 Material
- Stainless Steel 304
- Stainless Steel 316
- Aluminum
- PCD
- Galvanneal (Paint Grip)
- Agion (Antimicrobial Coating)

Standard Construction

Rollformed using 24 GA ASTM A-653 G60
Material
10' length

Packaging

GA	Length (ft)	Bundle Qty (ft)	Skid Qty (ft)	Weight (lbs)
24	10	50	2100	2400

Guarantee

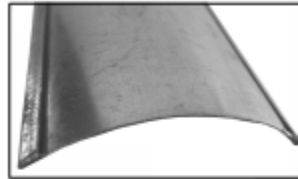
All Elgen products are guaranteed by Elgen Manufacturing against defective material.

Single Wall Vane

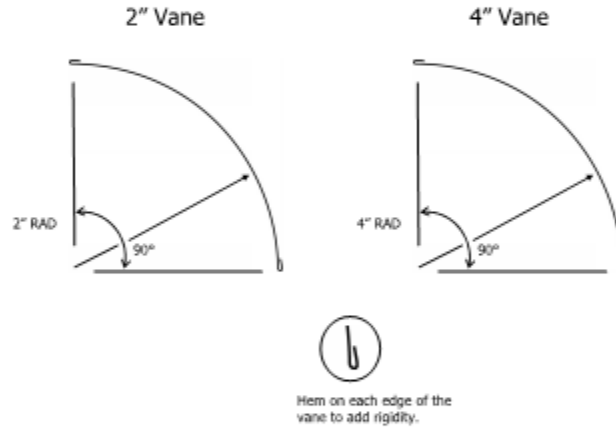
Detail

Single wall turning vane for directing air in duct elbows.

- Available in 2" and 4"
- Available in galvanized, stainless, and aluminum
- Vane conforms to SMACNA Standards
- Union made in the U.S.A.



Profile



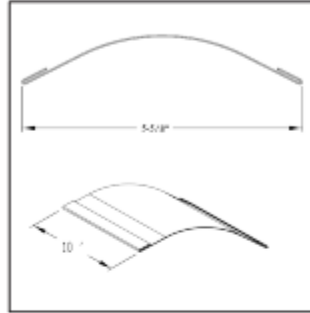
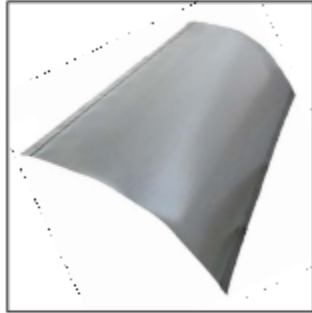
Packaging

Item Code	Item Description	Packaging	Weight
2VGA24SW	2" Vane - Single Wall	100 ft/bundle	22 lbs/bundle
4VGA22SW	4" Vane - Single Wall	100 ft/bundle	65 lbs/bundle

Single Wall 4" Turning Vane



Product Data Sheet



Features

- Meets SMACNA requirements
- One Dimple per inch
- Can be used with other rail systems
- Union Made Yellow Label

Description

Elgen's 4" Turning Vane (Double Wall) is used, in conjunction with Elgen's 4" Double Wall Vane Rail, for directing air flow through a rectangular elbow.

Optional Construction

- 20 or 22 GA ASTM A-653 G60/G90 Material
- Stainless Steel 304
- Stainless Steel 316
- Aluminum
- PCD
- Galvanneal (Paint Grip)
- Agion (Antimicrobial Coating)

Standard Construction

Rollformed using 24 GA ASTM A-653 G60 Material
10' length

Packaging

GA	Length (ft)	Bundle Qty (ft)	Skid Qty (ft)	Weight (lbs)
24	10	50	2100	2400

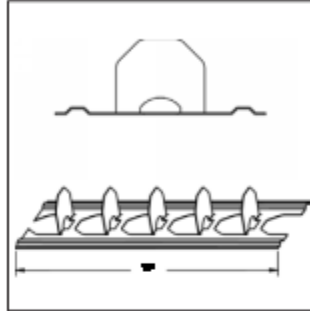
Guarantee

All Elgen products are guaranteed by Elgen Manufacturing against defective material.

Vane Rail (2" & 4")



Product Data Sheet



Features

- Conforms to SMACNA spacing requirements. Refer to 2005 SMACNA-Figure 4-3.
- Holes provide for easy alignment
- Can be used with other vane systems
- Union Made Yellow Label

Description

Elgen's 2" & 4" Double Wall Turning Vane Rail is used in conjunction with Elgen's 2" & 4" Double Wall Turning Vane. Elgen's 2" & 4" Double Wall Turning Vane Rail is used for securing and aligning Elgen's 2" & 4" Turning Vanes. This process directs the airflow through rectangular elbows.

Optional Construction

- Stainless Steel 304
- Stainless Steel 316
- Aluminum
- PCD
- Galvanneal (Paint Grip)
- Agion (Antimicrobial Coating)

Standard Construction

Stamped using 22 GA ASTM A-653 G60/G90
Material
10' length

Packaging

Size (in)	GA	Box Qty (ft)	Skid Qty (ft)	Weight (lbs)
2	22	200	7000	3100
4	22	100	3500	2300

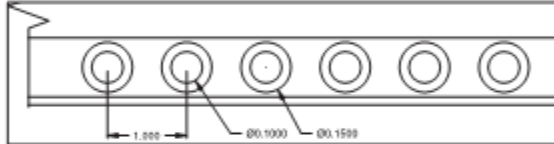
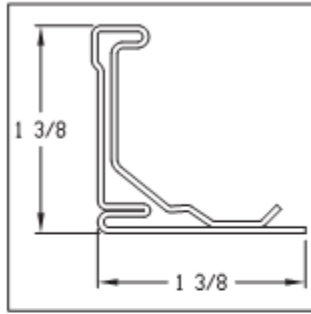
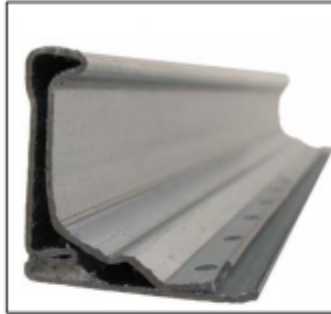
Guarantee

All Elgen products are guaranteed by Elgen Manufacturing against defective material.

J FLANGE



Product Data Sheet



Description

The Elgen J Flange is designed with two purposes in mind. The first is to provide external duct reinforcement, and the second is to provide a joining system between two similar size joints of duct.

Please refer to Elgen's 4-Corner Connection System document for fabrication, and assembly instructions.

*U.S. Patent 9,212,770;
Canadian Patent 2,638,806;
U.S. Patent Pending - Application No. 14/947,743*

Standard Construction

Roll formed 20GA galvanized steel that comes with a butyl sealant inside of the pocket to ensure an energy efficient seal.

Product comes standard in 10 and 20 foot lengths.

Duct Wall Size (in)	Pressure (in WG)	
	0-4	6-10
0-24	1 Screw each corner and center	1 Screw each corner and center
25-48	1 Screw each corner, plus 1 at center	2 Screws each corner, plus 1 screw every 12"
49 & over	1 Screw each corner, plus 1 every 12"	2 Screws each corner, plus 1 screw every 8"

Features

- Union Made Yellow Label
- Butyl in pocket for an energy efficient seal.
- Sealing Materials meet NFPA 90A & B Class 1 requirements.

Optional Construction

- Stainless Steel 304
- Stainless Steel 316
- Aluminum
- PCD
- Galvanneal (Paint Grip)
- Agion (Antimicrobial Coating)

Technical Information

The Elgen J Flange is tested in accordance with SMACNA testing procedures.

No external sealant was employed and the test results reveal: The Elgen J Flange System is comparable to the SMACNA Class "J" transverse joint.

The Elgen J Flange in stainless steel exhibits the same performance as galvanized.

The Elgen J Flange in Aluminum is comparable to a SMACNA H connection.

Do not notch the corners when fabricating duct work for the Elgen J Flange System.

Packaging

Bundled in 10 and 20 foot lengths protected on 4 sides with corner board. Every bundle is banded using spring steel securing it to wooden blocks.

Length (ft)	Bundle Qty (ft)	Weight (lbs)
10	750	560
20	1,500	1120

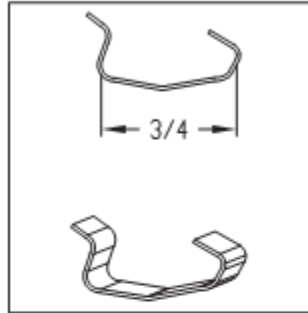
Guarantee

All Elgen products are guaranteed by Elgen Manufacturing against defective material.

J & C CLEAT



Product Data Sheet



Features

Can also be used for Transverse Duct Connection
Union Made Yellow Label
Meets SMACNA Requirements for 6" length

Description

The Elgen J & C Cleat is used in conjunction with the Elgen J Flange.

The Elgen J & C Cleat is used on the perimeter of the Elgen J Flange, four bolt rectangular system.

The use of the Elgen J Flange Cleat provides uniform compression for the 440 Butyl Gasket between the Elgen Flange's.

Standard Construction

Stamped from 20 GA ASTM A-653 G60/G90 material

Weight(per box): 46 lbs

Optional Construction

Stainless Steel 304
Stainless Steel 316
Aluminum
PCD
Galvanneal (Paint Grip)

Packaging

Box Qty	Skid Qty
500	48,000

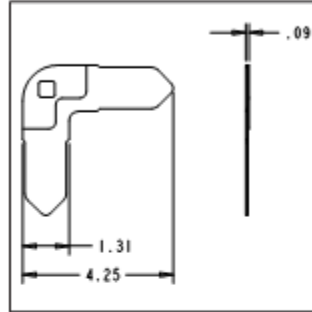
Guarantee

All Elgen products are guaranteed by Elgen Manufacturing against defective material.

J CORNER



Product Data Sheet



Features

- Tapered ends for easy insertion into flange
- Holds ductwork together in conjunction with the Elgen Flange.
- Provides a sealing surface for the Elgen 440 Butyl Gasket
- Union Made-Yellow Label

Description

The Elgen J Corner is designed to be used with the Elgen J Flange System for rectangular ductwork.

Optional Construction

- Stainless Steel 304
- Stainless Steel 316
- Aluminum
- PCD
- Galvanneal (Paint Grip)
- Agion (Antimicrobial Coating)

Standard Construction

Stamped from 12 GA ASTM A-653 G60 material
Accepts 3/8" carriage bolt
Weight(per box): 78 lbs

Packaging

Box Qty	Skid Qty
250	24,000

Guarantee

All Elgen products are guaranteed by Elgen Manufacturing against defective material.

Ventglas® Recommended for Conventional HVAC Systems

Description:

Ventglas®, a heavy glass fabric, double-coated with duPont's Neoprene® (polychloroprene), is air-tight, water-tight, and fire retardant. In addition, Ventglas® is resistant to abrasion and damage from flexing.

Ventglas® is accepted by the National Fire Protection Association for vibration isolation connectors in duct systems, in accordance with ANSI/NFPA 701.

Physical Characteristics:

Weight:	30oz./sq.yd ± 3oz.
Thickness:	.024"
Tensile Strength:	475 lbs/inch in the warp; 375 lbs/inch in the fill.
Heat Resistance:	up to 200°F E.I. duPont's brochure #E-41875 states that Neoprene can be used continuously at temperatures up to 200°. It also states that at this temperature it displays good physical characteristics and resists long-term degradation.
Cold Resistance:	down to -40°F The cold resistance of the fabric was tested by placing specimens in a bath of isopropyl alcohol at -40°F for a period of 24 hours. There were no changes detected in the fabric after the cold exposure, and it remained fully flexible.
Flame Retardancy:	Flame spread 20; Smoke development 40. The flame-retardant qualities of this fabric were determined by the Underwriters Laboratories, in accordance with their test procedures outlined in their NFPA 701 Standard.
Air-Tight and Waterproof:	10" ± Static Pressure In this test, the fabric was subjected to a column of water 48" high and 4 1/2" wide. No leakage occurred after a 24-hour period.
Bonding Agent:	Ventfabrics #655 Adhesive

Ventflex Recommended for Conventional HVAC Systems

Description:

Ventflex, a heavy woven fabric with a double coating of polymer, is air-tight, water-tight, and fire retardant. In addition, Ventflex is resistant to abrasion and damage from flexing.

Ventflex is accepted by the National Fire Protection Association for vibration isolation connectors in duct systems, in accordance with ANSI/NFPA 701.

Physical Characteristics:

Weight:	22oz./sq.yd ± 2oz.
Thickness:	.023"
Tensile Strength:	260 lbs/inch in the warp; 300 lbs/inch in the filling
Heat Resistance:	up to 180°F Continuous exposure; 200°F Intermittent exposure E.I. duPont's brochure #E-41875 states that polymer can be used continuously at temperatures up to 180°, and up to 200° intermittent. It also states that at this temperature it displays good physical characteristics and resists long-term degradation.
Cold Resistance:	down to -40°F The cold resistance of the fabric was tested by placing specimens in a bath of isopropyl alcohol at -40°F for a period of 24 hours. There were no changes detected in the fabric after the cold exposure, and it remained fully flexible.
Flame Retardancy:	2 Second flame out. The flame-retardant qualities of this fabric were determined by the Underwriters Laboratories, in accordance with their test procedures outlined in their Standard #701.
Air-Tight and Waterproof:	10" ± Static Pressure In this test, the fabric was subjected to a column of water 48" high and 4 1/2" wide. No leakage occurred after a 24-hour period.
Bonding Agent:	Urethane based adhesive

VENTFABRICS FLEXIBLE CONNECTIONS

Our fabrics for flexible connections are available with or without metal attached.

Plain Fabrics

All of our fabrics are available for immediate shipment in widths of 6, 8, 10 or 12 inches. They can also be furnished in other widths up to 36 inches, but only in full rolls of 150 feet.



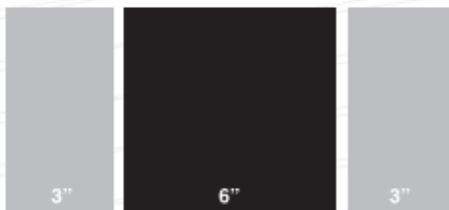
Standard Metaledge Fabrics

Standard Metaledge Fabrics

All of our fabrics, with the exception of Ventel™ are available in 100 foot rolls with metal attached.

This standard form of connection is commonly known as 3-3-3, stretching out to approximately 9 inches.

Available in 24ga. galvanized steel, .032 ga. aluminum, and 304 stainless steel.



Extra-wide Metaledge Fabrics

Extra-wide Metaledge Fabrics

Ventglas® and Ventlon® are available in extra-wide form known as 3-6-3. The overall width is approximately 12 inches.

Available in 24ga. galvanized steel, .032 ga. aluminum, and 304 stainless steel.



Transverse Metaledge Fabrics

Transverse Metaledge Fabrics

Ventglas®, Ventflex, Ventlon® and Ventsil™ are available with a wide metal form for use on roll-forming machines made by Lockformer and Engel. These are commonly known as TDC and TDF. The metal is approximately 4 1/2 inches, and the fabric is 4 1/4 inches wide for an overall width of approximately 13 inches.

Available in 24ga. galvanized steel and 304 stainless steel.



Transverse Extra-Wide Metaledge Fabrics

Transverse Extra Wide Metaledge Fabrics

Ventglas®, Ventlon® and Ventsil™ are available in a transversed extra-wide metal form. The metal is 4 1/2 inches and the fabric is 6 inches wide for an overall width of approximately 15 inches.

Available in 24ga. galvanized steel and 304 stainless steel.

Ventglas® - registered trademark of Ventfabrics, Inc.
 Ventlon® - registered trademark of Ventfabrics, Inc.
 Ventsil™ - registered trademark of Ventfabrics, Inc.
 Ventel™ - registered trademark of Ventfabrics, Inc.

Neoprene® - registered U.S. trademark of E.I. duPont de Nemours & Co. (Inc.)
 Hypalon® - registered U.S. trademark of E.I. duPont de Nemours & Co. (Inc.)
 Teflon® - registered U.S. trademark of E.I. duPont de Nemours & Co. (Inc.)

VENTFABRICS, INC. CHICAGO, ILLINOIS 800.621.1207 www.ventfabrics.com

440 Butyl Gasket



Product Data Sheet



Description

Elgen's UL 723 listed 440 Butyl Gasket is a high quality gray butyl gasket tape. It is designed for use with 4 bolt duct connection systems. It is non-curing and adheres extremely well to metal surfaces.

Standard Construction

3/16" x 5/8" x 25' of gray butyl tape extruded onto smooth silicone release paper and rolled onto a cardboard core.

Basic Use

Apply in normal dry working conditions. All surfaces need be free of dust, dirt, oil, moisture, grease, etc.

Apply directly from roll or cut to size with knife or scissors. Press 440 Butyl Gasket firmly into place with hand. Intimate contact must be made between tape and subsurface to assure a air-tight seal. Gently peel off silicone release paper. When lapping tape, allow at least 1/4" (6.4 mm) overlap.

Features

- UL 723 Listed - **R27308**
- Meets USDA and FDA Regulations and Standards.
- Superior Adhesion
- Provides Air-Tight Seal
- Shelf And Service Life: 20 Years Minimum
- Application Temp: Above 40° F
- Minimum 30% recycled material, which meets LEEDS requirements
- Contains no Solvent- Zero VOC's

Test Results

Test Method	Test	Typical Results
GSTM 10*	Color	Grey
ASTM C-771-74	Nonvolatile, % Weight @ 212± 3°F/100±2°C	99+
ASTM D-217	Needle Penetration @ 7 7°F/25°C, 100 g/5 sec, 1/10 mm	60
ASTM D 792-66	Weight/Gallon @ 77°F Weight/Liter @ 25°C	14 lbs 1,68 kg
ASTM D 792-66	Specific Gravity @ 7 7°F/25°C	1.65
GSTM 11*	Service Temperature - Range	-30° to +180°F 34° to +82°C
ASTM D1833	Odor	No Unpleasant Odor
GSTM 13*	Elongation, % @ 7 7°F/25°C	400%+
GSTM 7*	Staining	No Migratory Staining
GSTM 16*	Sag (3 weeks @ 160°F/71°C)	None
ASTM C-765-73	Cold Temperature Flexibility 1/2" (12.7 mm) Mandrel Bend @ -60°F/-51°C	No Cracking Or Loss Of Adhesion
GSTM 21*	Water Absorption, % Wt. Gain, 7 Days @ 160°F/71°C	0.75

UL 723 Listed (ASTM-E84)
Flame Spread 0/Smoke Density 1.8

Packaging

Box Qty(ft)	Skid Qty(ft)	Weight per Skid(lbs)
500	30,000	2800

Guarantee

All Elgen products are guaranteed by Elgen Manufacturing against defective material.

DAMPER BLADE (Heavy Duty)



Product Data Sheet



Description

Elgen's Damper Blade is designed for controlling the airflow inside smoke-fittings and round ductwork.

Features

Accommodates 3/8" Square Rod

Standard Construction

For size 6" - 8":
Manufactured from 22 GA ASTM A-653 G60 material

For size 10" and larger:
Manufactured from 20 GA ASTM A-653 G60 material

Optional Construction

Pre-assembled with 3/8" aluminum Square Rod

Stainless Steel 304
Stainless Steel 316
Aluminum
PCD
Galvanneal (Paint Grip)
Agion (Antimicrobial Coating)

Item#	Size (In)
6-HD	6
8-HD	8
10-HD	10
12-HD	12
14-HD	14
16-HD	16

Packaging

Size	Box Qty
All sizes	Each

Guarantee

All Elgen products are guaranteed by Elgen Manufacturing against defective material.

ELGEN SUPER STANDOFF



Product Data Sheet



Features

- One Hand Operation - No wing-nut to loosen
- All Metal Construction
- Patent Pending Design
- Push-and-turn locking mechanism holds the rod firm to eliminate rattle noises
- Indicator shows the position of the damper blade

Description

Elgen's patented Super Standoffs are used on rectangular and round duct work.

US PATENT #9,835,354
 AUSTRALIAN PATENT #2013266436

Optional Construction

3/8" square x 2" high standoff available in EE-126R design in:

- Stainless steel 304
- Stainless steel 316
- Aluminum

Standard Construction

3/8" Square Hole

- Base is stamped from 20 GA ASTM A-653 Galvanized Steel
- Knob and Sprocket are manufactured from Zamac material
- Spring is made from 14GA Galvanized Steel

Packaging

Box Quantity	Height
240	2"

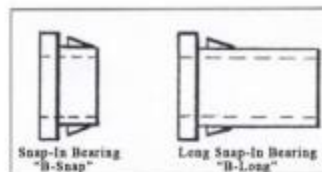
Guarantee

All Elgen products are guaranteed by Elgen Manufacturing against defective material.

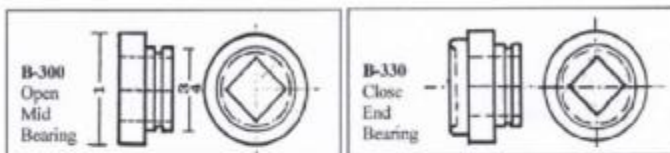
PRODUCT DATA SHEET / SUBMITTAL Snap-In Bearings™ / Clip-On Bearings™

Rossi products adhere to all UL requirements, Plenum ratings and SMACNA standards for manual dampers; and comply with NFPA 90A & 90B.

SNAP-IN BEARINGS (*patent pending*): These bearings simply snap into a 3/4" hole and automatically lock into place, dramatically cutting down assembly time. SNAP-IN Bearings also come in longer size (1.5") (B-Long) for use with inside-insulated (lined) duct & fittings. B-Longs are recommended for all pressure class applications. B-Snaps are recommended for Low or Medium pressure systems.



CLIP-ON BEARINGS (*patent pending*): These bearings also snap into a 3/4" hole with an E-Clip securing the bearing from the opposite side in seconds, greatly reducing assembly time.



B-300s are open-mid bearings & B-330s are closed-end. Recommended for high or negative pressure jobs.

1) BEARINGS

MATERIAL: Polyamide 66 (PA66), Flame Retardant, Glass Reinforced Engineering Polymer, (PA66) or equivalent. This is the material outlined for use in all Non-Metallic Components as specified in the UL 1995 Standards Code for Heating & Cooling (CSA-C22.2 No. 238 UL 1995) with the required flammability rating of 5VA.

Polyamide 66 (PA66), Flame Retardant, Glass Reinforced, designated "Zytel" furnished as pellets.

Material Dsg	Color	Thk mm	Flame Class	H		RTI		V	4	C	
				W	A	Elec	Mech				
				I	I	Imp	Str				R
FR50+(fl)	ALL	0.35	V-0	—	—	—	—	—	—	—	
		0.75	V-0	0	0	130	105	105	—	—	—
	NC	1.5	5VA	0	0	130	115	115	—	—	—
	BK	3.0	5VA	0	0	130	115	120	1	6	2

Tensile Modulus, psi	Tensile Strength @ Break, psi	Deflection Temp, °F	Impact Strength, Ft-Lb/In	Flexural Modulus, psi	Flexural Strength @ Break, psi	Elongation @ Yield
480,000	9,500	450° @ 66 psi 380° @ 264 psi	Notched IZOD: 4.00 Unnotched IZOD: 16.00	330,000	12,000	7%

2) 0-RING: **MATERIAL:** (Vulcanized Fiber) ASTM D710 (also avail. in Phenolic, Kapton & Spring Steel)

Compressive Strength, psi	Resistance to Cont. Heat, °F	Shear Strength, psi	Tension Strength, psi	Hardness	Water Absorption
20,000-30,000	212	11,000-15,000	6,000-12,000	R60-R100	11%



3) E-CLIP: SE-74ST or E-75ST (Retaining Ring)

High Carbon Spring Steel	Rockwell Hardness	Scale
SAE 1060-1090	47-52 (HRC)	C



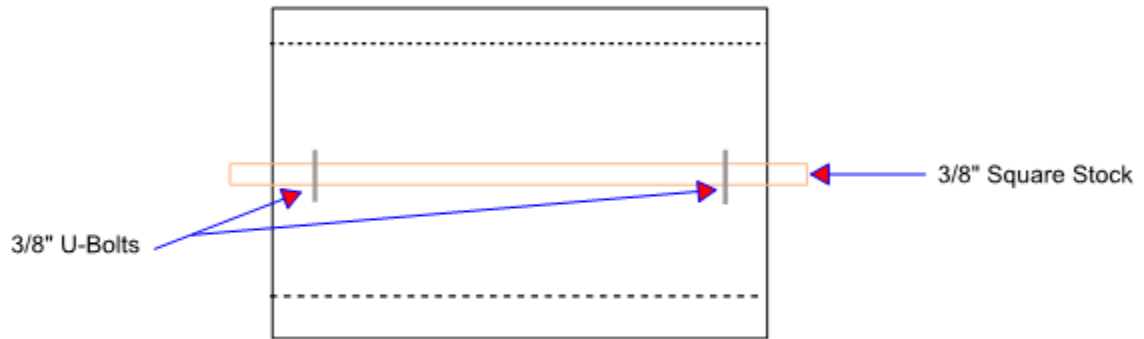
Finish: Zinc Plated + Dichromate Dip, Salt spray Test: 96 Hours/ (240 Hours with Addl Lacquer Dip)



Proudly made in the USA.

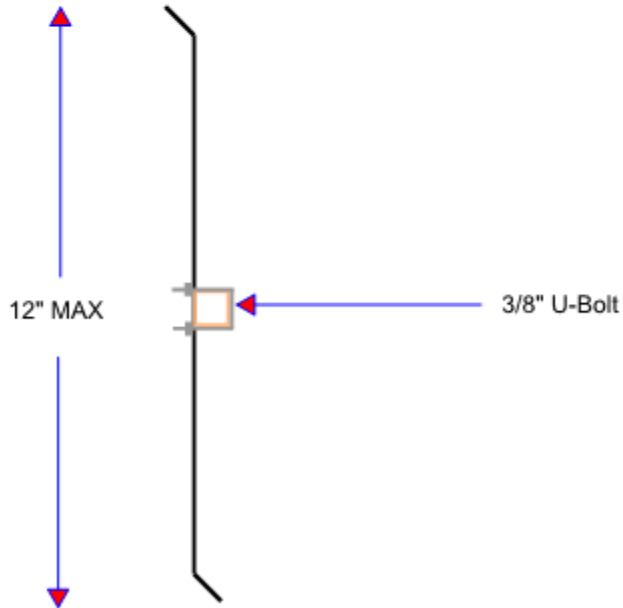
www.RossiHardware.com

SHOP FABRICATED SINGLE BLADE MANUAL VOLUME DAMPERS



Notes:

1. Material to match parent duct.
2. Gage to be 2 times more of parent duct.
3. Dampers in ducts of 2" wg or more will have bushings at both ends of shaft.



AIRSEAL[®] 22

WATER BASED DUCT SEALANT



FEATURES

- LEED EQ Credit 4.1
- Cures to a tough, flexible film
- Formulated Indoor and Outdoor use
- Seals High Pressure HVAC Duct Systems
- Exceeds all SMACNA Pressure and Sealing Classes.
- Has excellent mold and mildew resistance.

TECHNICAL SPECIFICATIONS	
Packaging	(24) 10.5 oz. tubes, (12) 29 oz. tubes, (4) 1 gal./case, 2 gal. pail, 5 gal. pail, 55/53 gal. drum
Shelf Life	18 months in unopened containers
Pressure Rating	Maximum 12" water column pressure
Coverage Rate	Approximately 80 sq. feet per gallon @ 20 mils. wet film thickness.
Solids Content	70% ± 2% by weight
Weight per gal.	10.8 lbs. ± 0.3 lbs.
Color	Gray, White
Temperature Limits	Storage and application... 35°F to 115°F Service..... -40°F to 200°F Protect From Freezing. If frozen, completely thaw prior to use. Passes 5 Freeze-Thaw Cycles.
Class 1 Smoke and Flame Rating	UNDERWRITERS LABORATORIES INC. CLASSIFIED CAULKING AND SEALANTS Applied to organic, Reinforced Cement Board. Flame Spread5 Smoke Developed0 10YF Tested in accordance with UL 725, and ASTM E-84. Satisfies the requirements of NFPA 90A, 90B, and 225.
LEED COMPLIANT SCAQMD Rule 1168	
Clean Up	Use warm soap and water

RECOMMENDED USES

AIRSEAL 22 is a UL 181 A-M & B-M listed fast drying water based duct sealant with excellent adhesion, formulated to pressure seal all types of HVAC duct systems, including sheet metal, fiberglass duct board and flexible duct.

APPLICATION INSTRUCTIONS

Apply to clean, dry surfaces, free from oils, dirt, and foreign matter. Spread at a minimum 20 mils. wet film thickness with a brush, or pump into well fitted joints. Seal all joints, seams, and penetrations in the ductwork to ensure an airtight system. Dries to touch in one (1) hour. Prior to pressure testing, allow 12 - 24 hours dry time depending on temperature, humidity and application thickness. Do not apply on outdoor surfaces within 5 hours of possibility of rain or freezing temperatures.

UL 181 A-M & B-M APPLICATION INSTRUCTIONS:

Materials must be applied in strict accordance with the following instructions in order to meet the requirements of UL 181. Allow 48 hours dry time minimum for UL 181 applications.

UL 181 A-M DUCT BOARD:

1. Fold grooved duct board to form the module, making certain that both ends are flush and the shiplaps are properly sealed.
2. Staple the duct board flap on 2" centers using outward clinching staples.
3. Spread mastic base coat onto the surface at a minimum rate of 10 mils. wet film thickness, 3" wide over stapled joint.
4. Embed fiberglass scrim tape (5 mils thick, 20 x 10 plain weave) into base coat.
5. Finish with a top coat of mastic, applied at 10 mils. minimum wet film thickness.

UL 181 B-M FLEXIBLE DUCT / METAL DUCT:

1. Coat around the collar fitting with mastic at 20 mils. wet film thickness, 3" wide.
2. Pull back jacket and insulation from the inner core. Slide 2" of the inner core over the mastic and collar. Secure with a mechanical fastener.
3. Pull the jacket and insulation back over core. Secure jacket in accordance with Flexible duct installation instructions.

Polymer Adhesives Sealant Systems Inc., is proud to be affiliated with the following organizations:



LISTED
UL 181A-M
UL 181B-M
10YF



POLYMER ADHESIVES
SEALANT SYSTEMS, INC.

www.polymeradhesives.com

501 Garrett Morris Parkway, Mineral Wells, TX 76067 (888) 721-SEAL Fax (888) 921-SEAL

REV 11.06

NORTHERN

FABRICATORS



Air Handling Systems

Duct Liner PM Fiber Glass Duct Liner

Description

Duct Liner PM is a flexible duct liner insulation made from strong, glass fibers bonded with a thermosetting resin. The airstream surface is protected using a durable glass mat facing that contains an EPA-registered antimicrobial agent. The flexible glass mat also provides a smooth airstream surface.

Factory-Applied Edge Coating

Edge coating is factory applied to the edges of the liner core, ensuring coverage of the leading edges per NAIMA/SMACNA requirements. Shop fabrication cuts may be coated with SuperSeal® edge treatment (refer to publication AHS-202).

Uses

Duct Liner PM is specifically designed for lining sheet metal ducts in air conditioning, heating and ventilating systems, providing superior acoustical and thermal performance.

General Properties

Operating temperature (max.) – ASTM C411	250°F (121°C)
Air velocity (max.) – ASTM C1071	6,000 fpm (30.5 m/sec)
Fungi resistance – ASTM C1338	Does not breed or promote
Fungi resistance – ASTM G21	No growth
Bacteria resistance – ASTM G22	No growth

Standard Thicknesses and Packaging

Thickness	Roll Length		Roll Widths for All Thicknesses*			
	in	mm	lineal feet	lineal meters	in	mm
½	13	100, 150, 200	31, 46, 61	34 to 36	864 to 914	
1	25	50, 100, 150, 200	15, 31, 46, 61	44 to 48	1118 to 1219	
1½	38	50, 100	15, 31	56 to 60	1422 to 1524	
2	51	50	15	66 to 72	1676 to 1829	

*Available in ¼" (6.4 mm) increments.

Contact your Regional Sales Office for stock items and availability of special sizes.

Surface Burning Characteristics

Duct Liner PM meets the Surface Burning Characteristics and Limited Combustibility of the following standards:

Standard/Test Method

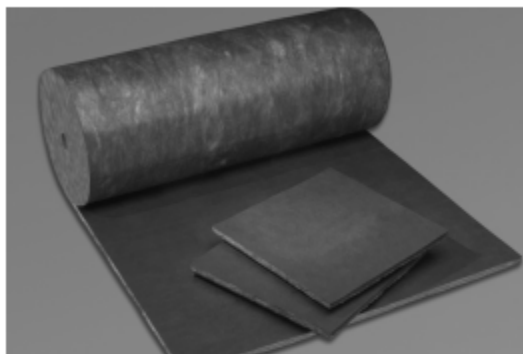
- ASTM E84
- UL 723
- NFPA 255
- NFPA 90A and 90B
- NFPA 259
- CAN/ULC S102-M88

Maximum Flame Spread Index	25
Maximum Smoke Developed Index	50

UL labels supplied on packages when requested on order.

Specification Compliance

- ASTM C1071, Type I
- ICC Compliant
- California Title 24
- ASHRAE 62
- MEA 353-93-M
- SMACNA Application Standards for Duct Liners
- NAIMA Fibrous Glass Duct Liner Installation Standard
- Canada: CGSB 51-GP-11M and CAN/CGSB 51.11



Advantages

Improves Indoor Building Environment. Duct Liner PM improves indoor environmental quality by helping to control both temperature and sound.

Will Not Support Microbial Growth. The airstream surface of Duct Liner PM is treated with an antimicrobial agent specifically registered with the EPA for HVAC applications to resist potential growth of fungus or bacteria on the airstream surface.

Duct Liner PM duct liner meets all requirements for fungi and bacterial resistance. Tests were conducted in accordance with ASTM C1338 and ASTM G21 (fungi testing) and ASTM G22 (bacteria resistance testing). Detailed information is available in Johns Manville fact sheet HSE-103FS.

Note: As with any type of surface, microbial growth may occur in accumulated duct system dirt, given certain conditions. This risk is minimized with proper design, filtration, maintenance and operation of the HVAC system.

Cleanability. If HVAC system cleaning is required, the airstream surface may be cleaned with industry-recognized dry methods. See the North American Insulation Manufacturers Association (NAIMA) "Cleaning Fibrous Glass Insulated Air Duct Systems."

Green Building Attributes

GREENGUARD® certification is not intended for residential environments. Instead, the certification is intended only for buildings meeting ASHRAE 62.1-2007 commercial building ventilation rates. This certification is proof that the product meets the GREENGUARD Environmental Institute's indoor air quality standards and product emission standards for VOCs.



NORTHERN

FABRICATORS

Duct Liner PM

Fiber Glass Duct Liner

Installation

Duct Liner PM installation must be performed in accordance with the requirements of the NAIMA Fibrous Glass Duct Liner Standards or SMACNA HVAC Duct Construction Standard. All transverse edges, or any edges exposed to airflow, must be coated with an approved duct liner coating material, such as Johns Manville SuperSeal products.

Minimizes Pre-installation Damage. Duct Liner PM's durable glass mat facing is resistant to damage that can occur during in-shop handling, fabrication, jobsite shipping and installation.

Easy to Fabricate. Duct Liner PM is lightweight and easy to handle. Clean, even edges can be accurately cut with regular shop tools.

Thermal Performance

Thickness in	mm	R-value		Conductance	
		(hr•ft ² •°F)/Btu	m ² •°C/W	Btu/(hr•ft ² •°F)	W/m ² •°C
½	13	2.2	0.39	0.46	2.61
1	25	4.2	0.74	0.24	1.36
1½	38	6.3	1.11	0.16	0.91
2	51	8.0	1.41	0.13	0.74

R-value and conductance are calculated from the material thermal conductivity tested in accordance with ASTM C518 at 75°F (24°C) mean temperature.

Sound Absorption Coefficients (Type "A" Mounting)

Thickness in	mm	Sound Absorption Coefficient at Frequency (Cycles per Second) of						
		125	250	500	1000	2000	4000	NRC
½	13	0.08	0.17	0.42	0.63	0.77	0.89	0.50
1	25	0.14	0.28	0.64	0.85	0.97	1.09	0.70
1½	38	0.24	0.51	0.90	0.99	1.01	1.10	0.85
2	51	0.26	0.69	1.02	1.08	1.03	1.10	0.95

Coefficients were tested in accordance with ASTM C423 and ASTM E795.

ISO 9000 Certification

Johns Manville mechanical insulation products are designed, manufactured and tested in our own facilities, which are certified and registered to stringent ISO 9000 (ANSI/ASQC 90) series quality standards. This certification, along with regular, independent third-party auditing for compliance, is your assurance that Johns Manville products deliver consistent high quality.



717 17th St.
Denver, CO 80202
1-800-654-3103
specJM.com

AHS-424 10/13 (Replaces 2/03)

North American Sales Offices, Insulation Systems

Eastern Region
P.O. Box 158
Defiance, OH 43512
(800) 334-2399
Fax: (419) 784-7866

Western Region and Canada
P.O. Box 5108
Denver, CO 80217
(800) 368-4431
Fax: (303) 978-4661

The physical and chemical properties of Duct Liner PM listed herein represent typical, average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice. Numerical flame spread and smoke developed ratings are not intended to reflect hazards presented by these or any other materials under actual fire conditions. Check with the Regional Sales Office nearest you to assure current information.

All Johns Manville products are sold subject to Johns Manville's standard Terms and Conditions, including Limited Warranty and Limitation of Remedy. For a copy of the Johns Manville standard Terms and Conditions, Limited Warranty and Limitation of Remedy, and information on other Johns Manville thermal insulation and systems, call (800) 654-3103.

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NORTHERN

FABRICATORS

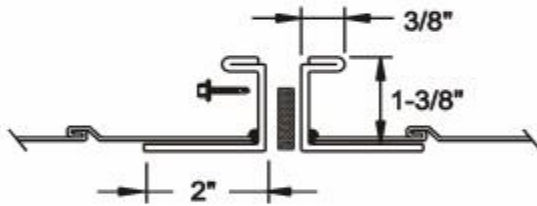
ACCUFLANGE



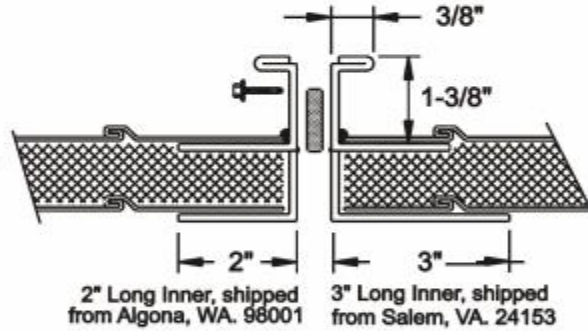
ROUND AF

OVAL AF

ITEM CODE	WALL CODE	A OR A ₂ (Oval Minor)	MATERIAL	GAUGE	SEAM	PRESSURE CLASS
AF	SW, 1DW, 2DW, 3DW	5" - 28" (Even & Odd Sizes)	Galvanized, Galvaneal, 304 SS, 316 SS, Aluminum & PVC Coated	18	SWB	+10" W.G. to -10" W.G. SMACNA HVAC D.C.S.
		30" - 58" (Even Sizes)		18		
		60" - 74" (Even Sizes)		16		
		76" - 96" (Even Sizes)		14		



SINGLEWALL (SW)



DOUBLEWALL (Specify 1DW, 2DW or 3DW)



U.S. Patent No. 5,983,496

AccuFlange patented connecting system, installed and sealed per AccuDuct Manufacturing's recommendations, is suitable for use on all systems across a range of internal duct pressures from 10" W.G. positive to 10" W.G. negative.

SHRINK WRAP with PSA



Product Data Sheet



Description

Elgen's Shrink Wrap with PSA is a polyethylene film with adhesive. Elgen's Shrink Wrap with PSA is used as an alternative to a polyethylene film that is secured to the duct wall with tape.

Elgen's Shrink Wrap with PSA is used on any exposed sections of the duct work. It prevents outside debris from entering the ductwork and contaminating the duct work.

Standard Construction

Designed to adhere to the following metals:

Galvanized, stainless steel, aluminum, aluminized, galvaneal (paint grip), PCD coated, black iron.

Thickness (mil)	Minimum Elongation (%)
2	400
3	600
4.5	800

Features

- No need to tape
- No loose ends flapping
- The product is easy to put on and easy to take off
- Does not leave any residue
- Resists tearing due to its high rubber content
- No VOC's - Meets LEEDS® Requirements
- UV Resistant
- Waterproof

Optional Construction

Available Roll Sizes:
2' - 3' - 4' - 5'

Available Thickness:
2mil - 3mil - 4.5 mil

Available Colors:
Blue - Clear - Black - Green - Orange - Red - Brown - Purple - Yellow

Packaging

Roll Sizes (ft)	Length per Roll (ft)	Skid Qty (roll)
2	200	300
3	200	200
4	200	150
5	200	125

Guarantee

All Elgen products are guaranteed by Elgen Manufacturing against defective material.