

Rectangle Pipe and Fittings Construction Standards

Positive and Negative Pressure

Gauge selection for G60/G90 galvanized steel (ASTM A653), paint grip (A40) steel, type 304 stainless steel, and poly coated steel (PCS/PVC). Adjustments must be made for the use of 3003 aluminum. Standard seams are Pittsburgh lock, type L-1, for both pipe and fittings. All seams are factory sealed.

Legend: Corken Steel offers two types of intermediate reinforcement for rectangular ductwork: external reinforcement and mid panel tie rods. Tie rods at the duct joints will be provided where required in addition to the intermediate reinforcement. Two construction tables for each pressure class are provided, corresponding to each reinforcement method.

EXTERIOR REINFORCEMENT

Maximum Duct Dimension	Gauge	Conn	Joint Tie Rods #	Center Rein. #	Rein. Tie Rods #
0 to 8	26	FS/D	N/R	N/R	N/R
9 to 10	26	FS/D	N/R	N/R	N/R
11 to 12	26	FS/D	N/R	N/R	N/R
13 to 14	26	FS/D	N/R	N/R	N/R
15 to 16	26	FS/D	N/R	N/R	N/R
17 to 18	26	FS/D	N/R	N/R	N/R
19 to 20	26	FS/D	N/R	N/R	N/R
21 to 22	26	SS/D	N/R	N/R	N/R
23 to 24	26	SS/D	N/R	N/R	N/R
25 to 26	26	SS/D	N/R	N/R	N/R
27 to 28	24	TDC	N/R	N/R	N/R
29 to 30	24	TDC	N/R	N/R	N/R
31 to 36	26	TDC	N/R	N/R	N/R
37 to 42	24	TDC	N/R	1	N/R
43 to 48	22	TDC	N/R	1	N/R
49 to 54	26	TDC	N/R	1	N/R
55 to 60	26	TDC	1	1	N/R
61 to 72	20	TDC	1	1	N/R
73 to 84	20	TDC	1	1	1
85 to 96	20	TDC	1	1	1
97 to 108	18	TDC	2	1	2
109 to 120	18	TDC	2	1	2

MID PANEL TIE ROD REINFORCEMENT

Maximum Duct Dimension	Gauge	Conn	Joint Tie Rods #	Mid Panel Tie Rods#
0 to 8	26	FS/D	N/R	N/R
9 to 10	26	FS/D	N/R	N/R
11 to 12	26	FS/D	N/R	N/R
13 to 14	26	FS/D	N/R	N/R
15 to 16	26	FS/D	N/R	N/R
17 to 18	26	FS/D	N/R	N/R
19 to 20	26	FS/D	N/R	N/R
21 to 22	26	SS/D	N/R	N/R
23 to 24	26	SS/D	N/R	N/R
25 to 26	26	SS/D	N/R	N/R
27 to 28	24	TDC	N/R	N/R
29 to 30	24	TDC	N/R	N/R
31 to 36	26	TDC	N/R	N/R
37 to 42	24	TDC	N/R	1
43 to 48	22	TDC	N/R	1
49 to 54	26	TDC	N/R	1
55 to 60	26	TDC	1	1
61 to 72	20	TDC	1	1
73 to 84	20	TDC	1	1
85 to 96	20	TDC	1	1
97 to 108	18	TDC	2	EXT
109 to 120	18	TDC	2	EXT

FS/D = Flat Slip (T-6) and Drive (T-1)

SS/D = Standing Slip (T-10) and Drive (T-1)

TDC = 4 Bolt Connection (T-25b)

N/R = Not Required

EXT = Use External Reinforcement

Corken Steel will fabricate to any specified construction or shop standard. Please see page 6 for available seams and connections.

MATERIAL AND GAUGE AVAILABILITY

Galvanized Steel	26 to 16 gauge
Paint Grip Steel	26 to 16 gauge
<i>Material sold as Paint Grip is not "ready to paint" - It will require cleaning.</i>	
304 Stainless	24 and 22 gauge
PCS/PVC	24 gauge
<i>PCS/PVC is not recommended for use in high visibility applications.</i>	
Aluminum	.032, .040, .063, .080, .090
Carbon Steel	16 gauge

ALUMINUM (3003) DUCT THICKNESS ADJUSTMENTS

Steel Gauge	Aluminum Thickness
26	.025"
24	.032"
22	.040"
20	.050"
18	.065"
16	.080"
14	.109"

Rectangle Pipe and Fittings Construction Standard

1/2" WG - 5ft. Duct Gauge and Reinforcement Selection - Maximum Drive: 18"

EXTERIOR REINFORCEMENT

Maximum Duct Dimension	Gauge	Conn	Joint Tie Rods #	Center Rein. #	Rein. Tie Rods #
0 to 8	26	FS/D	N/R	N/R	N/R
9 to 10	26	FS/D	N/R	N/R	N/R
11 to 12	26	FS/D	N/R	N/R	N/R
13 to 14	26	FS/D	N/R	N/R	N/R
15 to 16	26	FS/D	N/R	N/R	N/R
17 to 18	26	FS/D	N/R	N/R	N/R
19 to 20	26	FS/D	N/R	N/R	N/R
21 to 22	26	SS/D	N/R	N/R	N/R
23 to 24	26	SS/D	N/R	N/R	N/R
25 to 26	26	SS/D	N/R	N/R	N/R
27 to 28	26	TDC	N/R	N/R	N/R
29 to 30	26	TDC	N/R	N/R	N/R
31 to 36	26	TDC	N/R	N/R	N/R
37 to 42	26	TDC	N/R	1	N/R
43 to 48	24	TDC	N/R	1	N/R
49 to 54	24	TDC	1	1	N/R
55 to 60	24	TDC	1	1	N/R
61 to 72	22	TDC	1	1	N/R
73 to 84	22	TDC	1	1	N/R
85 to 96	22	TDC	1	1	N/R
97 to 108	18	TDC	1	1	N/R
109 to 120	18	TDC	1	1	N/R

MID PANEL TIE ROD REINFORCEMENT

Maximum Duct Dimension	Gauge	Conn	Joint Tie Rods #	Mid Panel Tie Rods#
0 to 8	26	FS/D	N/R	N/R
9 to 10	26	FS/D	N/R	N/R
11 to 12	26	FS/D	N/R	N/R
13 to 14	26	FS/D	N/R	N/R
15 to 16	26	FS/D	N/R	N/R
17 to 18	26	FS/D	N/R	N/R
19 to 20	26	FS/D	N/R	N/R
21 to 22	26	SS/D	N/R	N/R
23 to 24	26	SS/D	N/R	N/R
25 to 26	26	SS/D	N/R	N/R
27 to 28	26	TDC	N/R	N/R
29 to 30	26	TDC	N/R	N/R
31 to 36	26	TDC	N/R	N/R
37 to 42	26	TDC	N/R	N/R
43 to 48	24	TDC	N/R	N/R
49 to 54	24	TDC	N/R	1
55 to 60	24	TDC	N/R	1
61 to 72	22	TDC	N/R	1
73 to 84	22	TDC	N/R	1
85 to 96	22	TDC	N/R	1
97 to 108	18	TDC	N/R	EXT
109 to 120	18	TDC	N/R	EXT

1" WG - 5ft. Duct Gauge and Reinforcement Selection - Maximum Drive: 18"

EXTERIOR REINFORCEMENT

Maximum Duct Dimension	Gauge	Conn	Joint Tie Rods #	Center Rein. #	Rein. Tie Rods #
0 to 8	26	FS/D	N/R	N/R	N/R
9 to 10	26	FS/D	N/R	N/R	N/R
11 to 12	26	FS/D	N/R	N/R	N/R
13 to 14	26	FS/D	N/R	N/R	N/R
15 to 16	26	FS/D	N/R	N/R	N/R
17 to 18	26	FS/D	N/R	N/R	N/R
19 to 20	26	FS/D	N/R	N/R	N/R
21 to 22	26	SS/D	N/R	N/R	N/R
23 to 24	26	SS/D	N/R	N/R	N/R
25 to 26	26	SS/D	N/R	N/R	N/R
27 to 28	26	TDC	N/R	N/R	N/R
29 to 30	26	TDC	N/R	N/R	N/R
31 to 36	24	TDC	N/R	N/R	N/R
37 to 42	24	TDC	N/R	N/R	N/R
43 to 48	22	TDC	N/R	N/R	N/R
49 to 54	22	TDC	N/R	N/R	N/R
55 to 60	24	TDC	N/R	1	N/R
61 to 72	24	TDC	N/R	1	N/R
73 to 84	22	TDC	1	1	N/R
85 to 96	20	TDC	1	1	N/R
97 to 108	18	TDC	2	1	2
109 to 120	18	TDC	2	1	2

MID PANEL TIE ROD REINFORCEMENT

Maximum Duct Dimension	Gauge	Conn	Joint Tie Rods #	Mid Panel Tie Rods#
0 to 8	26	FS/D	N/R	N/R
9 to 10	26	FS/D	N/R	N/R
11 to 12	26	FS/D	N/R	N/R
13 to 14	26	FS/D	N/R	N/R
15 to 16	26	FS/D	N/R	N/R
17 to 18	26	FS/D	N/R	N/R
19 to 20	26	FS/D	N/R	N/R
21 to 22	26	SS/D	N/R	N/R
23 to 24	26	SS/D	N/R	N/R
25 to 26	26	SS/D	N/R	N/R
27 to 28	26	TDC	N/R	N/R
29 to 30	26	TDC	N/R	N/R
31 to 36	24	TDC	N/R	N/R
37 to 42	24	TDC	N/R	N/R
43 to 48	22	TDC	N/R	N/R
49 to 54	22	TDC	N/R	N/R
55 to 60	24	TDC	N/R	1
61 to 72	24	TDC	N/R	2
73 to 84	22	TDC	1	2
85 to 96	20	TDC	1	2
97 to 108	18	TDC	2	EXT
109 to 120	18	TDC	2	EXT

Rectangle Pipe and Fittings Construction Standard

2" WG - 5ft. Duct Gauge and Reinforcement Selection - Maximum Drive: 18"

EXTERIOR REINFORCEMENT

Maximum Duct Dimension	Gauge	Conn	Joint Tie Rods #	Center Rein. #	Rein. Tie Rods #
0 to 8	26	FS/D	N/R	N/R	N/R
9 to 10	26	FS/D	N/R	N/R	N/R
11 to 12	26	FS/D	N/R	N/R	N/R
13 to 14	26	FS/D	N/R	N/R	N/R
15 to 16	26	FS/D	N/R	N/R	N/R
17 to 18	26	FS/D	N/R	N/R	N/R
19 to 20	26	FS/D	N/R	N/R	N/R
21 to 22	26	SS/D	N/R	N/R	N/R
23 to 24	26	SS/D	N/R	N/R	N/R
25 to 26	26	SS/D	N/R	N/R	N/R
27 to 28	24	TDC	N/R	N/R	N/R
29 to 30	24	TDC	N/R	N/R	N/R
31 to 36	22	TDC	N/R	N/R	N/R
37 to 42	22	TDC	N/R	1	N/R
43 to 48	22	TDC	N/R	1	N/R
49 to 54	22	TDC	N/R	1	N/R
55 to 60	22	TDC	1	1	N/R
61 to 72	20	TDC	1	1	N/R
73 to 84	20	TDC	1	1	1
85 to 96	20	TDC	1	1	1
97 to 108	18	TDC	2	1	2
109 to 120	18	TDC	2	1	2

MID PANEL TIE ROD REINFORCEMENT

Maximum Duct Dimension	Gauge	Conn	Joint Tie Rods #	Mid Panel Tie Rods#
0 to 8	26	FS/D	N/R	N/R
9 to 10	26	FS/D	N/R	N/R
11 to 12	26	FS/D	N/R	N/R
13 to 14	26	FS/D	N/R	N/R
15 to 16	26	FS/D	N/R	N/R
17 to 18	26	FS/D	N/R	N/R
19 to 20	26	FS/D	N/R	N/R
21 to 22	26	SS/D	N/R	N/R
23 to 24	26	SS/D	N/R	N/R
25 to 26	26	SS/D	N/R	N/R
27 to 28	24	TDC	N/R	N/R
29 to 30	24	TDC	N/R	N/R
31 to 36	22	TDC	N/R	N/R
37 to 42	22	TDC	N/R	1
43 to 48	22	TDC	N/R	1
49 to 54	22	TDC	N/R	1
55 to 60	22	TDC	1	1
61 to 72	20	TDC	1	1
73 to 84	20	TDC	1	2
85 to 96	20	TDC	1	2
97 to 108	18	TDC	2	EXT
109 to 120	18	TDC	2	EXT

3" WG - 5ft. Duct Gauge and Reinforcement Selection - Maximum Drive: 18"

EXTERIOR REINFORCEMENT

Maximum Duct Dimension	Gauge	Conn	Joint Tie Rods #	Center Rein. #	Rein. Tie Rods #
0 to 8	26	TDC	N/R	N/R	N/R
9 to 10	26	TDC	N/R	N/R	N/R
11 to 12	26	TDC	N/R	N/R	N/R
13 to 14	24	TDC	N/R	N/R	N/R
15 to 16	24	TDC	N/R	N/R	N/R
17 to 18	24	TDC	N/R	N/R	N/R
19 to 20	24	TDC	N/R	N/R	N/R
21 to 22	24	TDC	N/R	N/R	N/R
23 to 24	24	TDC	N/R	N/R	N/R
25 to 26	24	TDC	N/R	N/R	N/R
27 to 28	22	TDC	N/R	N/R	N/R
29 to 30	22	TDC	N/R	N/R	N/R
31 to 36	22	TDC	N/R	1	N/R
37 to 42	22	TDC	N/R	1	N/R
43 to 48	22	TDC	1	1	N/R
49 to 54	22	TDC	1	1	N/R
55 to 60	20	TDC	1	1	N/R
61 to 72	20	TDC	1	1	1
73 to 84	20	TDC	1	1	1
85 to 96	18	TDC	1	1	1
97 to 108	18	TDC	2	1	2
109 to 120	18	TDC	2	1	2

MID PANEL TIE ROD REINFORCEMENT

Maximum Duct Dimension	Gauge	Conn	Joint Tie Rods #	Mid Panel Tie Rods#
0 to 8	26	TDC	N/R	N/R
9 to 10	26	TDC	N/R	N/R
11 to 12	26	TDC	N/R	N/R
13 to 14	24	TDC	N/R	N/R
15 to 16	24	TDC	N/R	N/R
17 to 18	24	TDC	N/R	N/R
19 to 20	24	TDC	N/R	N/R
21 to 22	24	TDC	N/R	N/R
23 to 24	24	TDC	N/R	N/R
25 to 26	24	TDC	N/R	N/R
27 to 28	22	TDC	N/R	N/R
29 to 30	22	TDC	N/R	N/R
31 to 36	22	TDC	N/R	1
37 to 42	22	TDC	N/R	1
43 to 48	22	TDC	1	1
49 to 54	22	TDC	1	1
55 to 60	20	TDC	1	1
61 to 72	20	TDC	1	2
73 to 84	20	TDC	1	2
85 to 96	18	TDC	1	2
97 to 108	18	TDC	2	EXT
109 to 120	18	TDC	2	EXT

Rectangle Pipe and Fittings Construction Standard

4" WG - 5ft. Duct Gauge and Reinforcement Selection - Maximum Drive: 18"

EXTERIOR REINFORCEMENT

Maximum Duct Dimension	Gauge	Conn	Joint Tie Rods #	Center Rein. #	Rein. Tie Rods #
0 to 8	26	TDC	N/R	N/R	N/R
9 to 10	26	TDC	N/R	N/R	N/R
11 to 12	26	TDC	N/R	N/R	N/R
13 to 14	24	TDC	N/R	N/R	N/R
15 to 16	24	TDC	N/R	N/R	N/R
17 to 18	24	TDC	N/R	N/R	N/R
19 to 20	24	TDC	N/R	N/R	N/R
21 to 22	24	TDC	N/R	N/R	N/R
23 to 24	22	TDC	N/R	N/R	N/R
25 to 26	22	TDC	N/R	N/R	N/R
27 to 28	22	TDC	N/R	N/R	N/R
29 to 30	22	TDC	N/R	1	N/R
31 to 36	22	TDC	N/R	1	N/R
37 to 42	22	TDC	1	1	N/R
43 to 48	20	TDC	1	1	N/R
49 to 54	20	TDC	1	1	N/R
55 to 60	20	TDC	1	1	1
61 to 72	20	TDC	1	1	1
73 to 84	18	TDC	1	1	1
85 to 96	18	TDC	1	1	1
97 to 108	18	TDC	2	1	2
109 to 120	18	TDC	2	1	2

MID PANEL TIE ROD REINFORCEMENT

Maximum Duct Dimension	Gauge	Conn	Joint Tie Rods #	Mid Panel Tie Rods#
0 to 8	26	TDC	N/R	N/R
9 to 10	26	TDC	N/R	N/R
11 to 12	26	TDC	N/R	N/R
13 to 14	26	TDC	N/R	N/R
15 to 16	26	TDC	N/R	N/R
17 to 18	26	TDC	N/R	N/R
19 to 20	26	TDC	N/R	N/R
21 to 22	26	TDC	N/R	N/R
23 to 24	26	TDC	N/R	N/R
25 to 26	26	TDC	N/R	N/R
27 to 28	26	TDC	N/R	N/R
29 to 30	26	TDC	N/R	N/R
31 to 36	26	TDC	N/R	N/R
37 to 42	26	TDC	N/R	N/R
43 to 48	24	TDC	N/R	N/R
49 to 54	24	TDC	N/R	1
55 to 60	24	TDC	N/R	1
61 to 72	22	TDC	N/R	1
73 to 84	22	TDC	N/R	1
85 to 96	22	TDC	N/R	1
97 to 108	18	TDC	N/R	EXT
109 to 120	18	TDC	N/R	EXT

6" WG - 5ft. Duct Gauge and Reinforcement Selection - Maximum Drive: 18"

EXTERIOR REINFORCEMENT

Maximum Duct Dimension	Gauge	Conn	Joint Tie Rods #	Center Rein. #	Rein. Tie Rods #
0 to 8	24	TDC	N/R	N/R	N/R
9 to 10	24	TDC	N/R	N/R	N/R
11 to 12	24	TDC	N/R	N/R	N/R
13 to 14	26	TDC	N/R	1	N/R
15 to 16	26	TDC	N/R	1	N/R
17 to 18	26	TDC	N/R	1	N/R
19 to 20	26	TDC	N/R	1	N/R
21 to 22	24	TDC	N/R	1	N/R
23 to 24	24	TDC	N/R	1	N/R
25 to 26	24	TDC	N/R	1	N/R
27 to 28	22	TDC	N/R	1	N/R
29 to 30	22	TDC	N/R	1	N/R
31 to 36	20	TDC	N/R	1	N/R
37 to 42	20	TDC	1	1	N/R
43 to 48	20	TDC	1	1	1
49 to 54	20	TDC	1	1	1
55 to 60	20	TDC	1	1	1
61 to 72	18	TDC	1	1	1
73 to 84	18	TDC	1	1	1
85 to 96	16	TDC	1	1	1
97 to 108	16	TDC	2	1	2
109 to 120	16	TDC	2	1	2

MID PANEL TIE ROD REINFORCEMENT

Maximum Duct Dimension	Gauge	Conn	Joint Tie Rods #	Mid Panel Tie Rods#
0 to 8	26	TDC	N/R	N/R
9 to 10	26	TDC	N/R	N/R
11 to 12	26	TDC	N/R	N/R
13 to 14	26	TDC	N/R	N/R
15 to 16	26	TDC	N/R	N/R
17 to 18	26	TDC	N/R	N/R
19 to 20	26	TDC	N/R	N/R
21 to 22	26	TDC	N/R	N/R
23 to 24	26	TDC	N/R	N/R
25 to 26	26	TDC	N/R	N/R
27 to 28	26	TDC	N/R	N/R
29 to 30	26	TDC	N/R	N/R
31 to 36	26	TDC	N/R	N/R
37 to 42	26	TDC	N/R	N/R
43 to 48	24	TDC	N/R	N/R
49 to 54	24	TDC	N/R	1
55 to 60	24	TDC	N/R	1
61 to 72	22	TDC	N/R	1
73 to 84	22	TDC	N/R	1
85 to 96	22	TDC	N/R	1
97 to 108	18	TDC	N/R	EXT
109 to 120	18	TDC	N/R	EXT

Seams & Connections

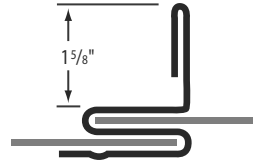
Connector Types



T-1 Drive Slip



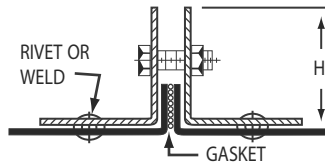
T-6 Hemmed "S" Slip



T-10 Standing S



T-21 Weld Flange



T-22 Companion Angles



T-25b Flanged

Seam Types (Fig. 1-5)



L-1 Pittsburgh
Lock



L-2 Button Punch
Snap Lock



L-4 Standing Seam



L-5 Single
Corner Seam

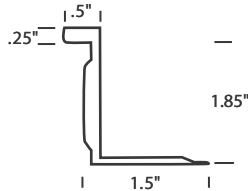


Corner Weld

Immediate Reinforcement

H REINFORCEMENT

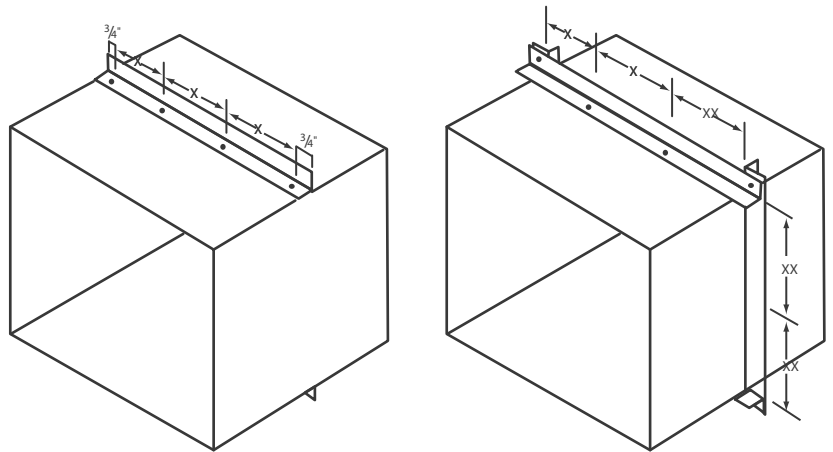
Rollformed from 24 gauge galvanized steel. Conforms to SMACNA "H" equivalent.



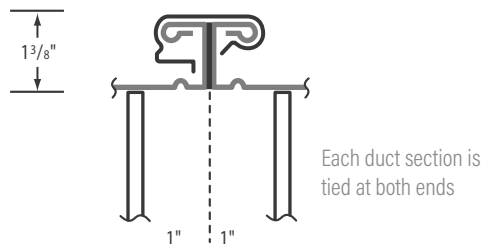
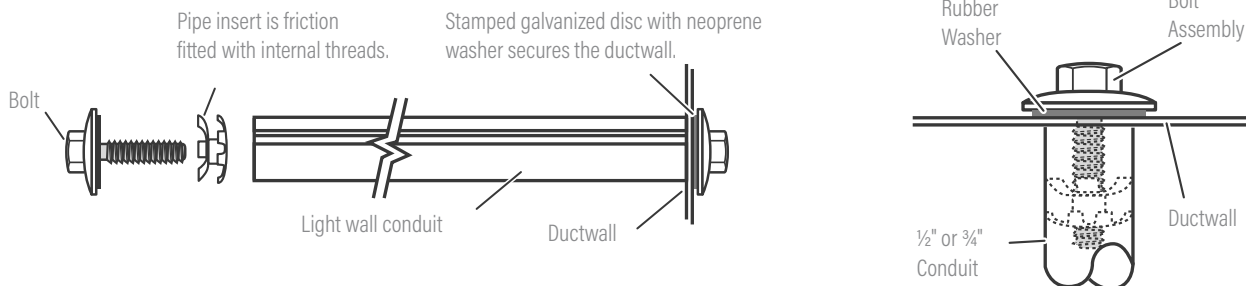
X = 8" Maximum fastener (tack weld, spotweld, bolt, screw, or rivet) spacing when ends are tied, the 3/4" interval may be omitted.

When reinforcements occur at the same location on adjacent sides at 4" WG (1000 Pa) static and over, tie the ends.

For duct $\geq 4"$ WG, ends of reinforcement must be tied together.



Tie Rods



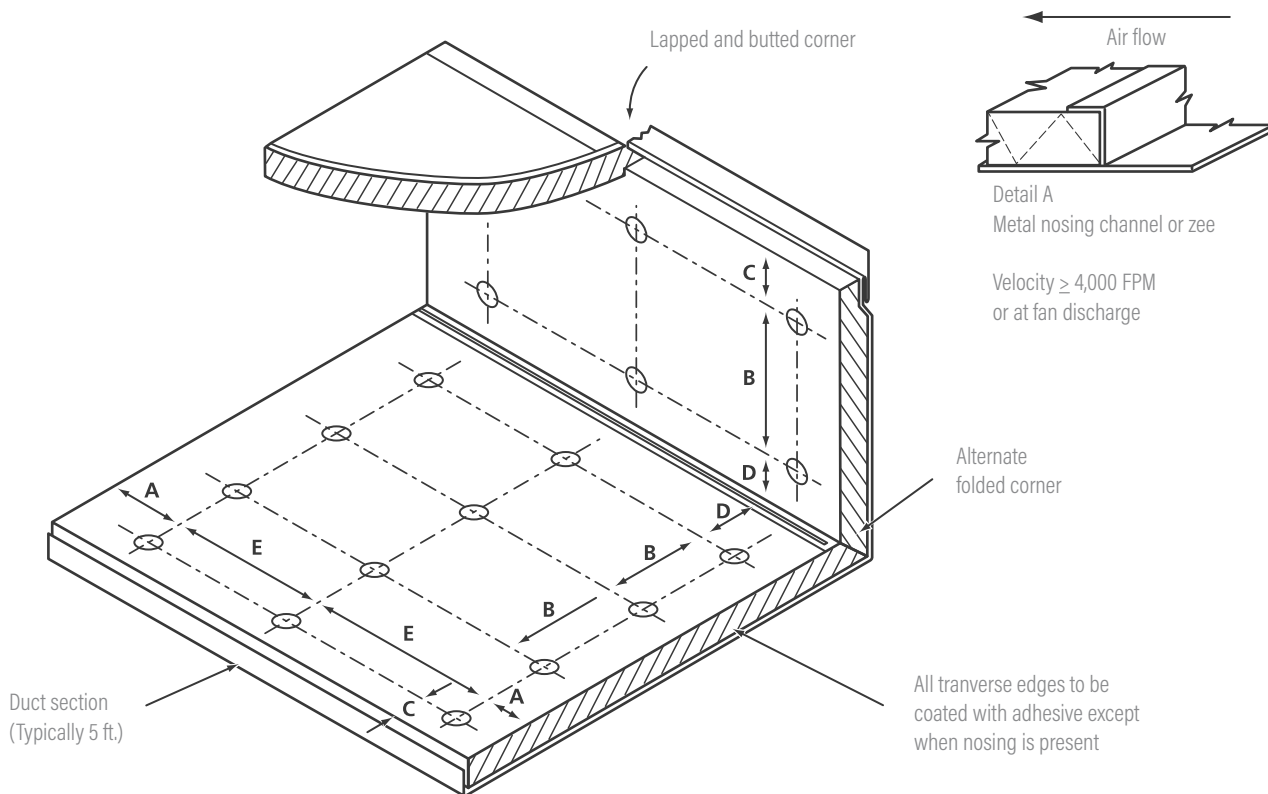
Stock Liner

½" - 2 lb. density liner

1" - 1½ lb. density liner

Other thicknesses and densities available upon request.

Liner Installation



Technical Data

Fire Resistance: Meets NFPA 90A and NFPA 90B Standards for fire safety.

Temperature Range: ASTM C 411. Up to +250° (+121°C)

Air Velocity: ASTM C 1071

Maximum 6000 fpm (1829 mpm)

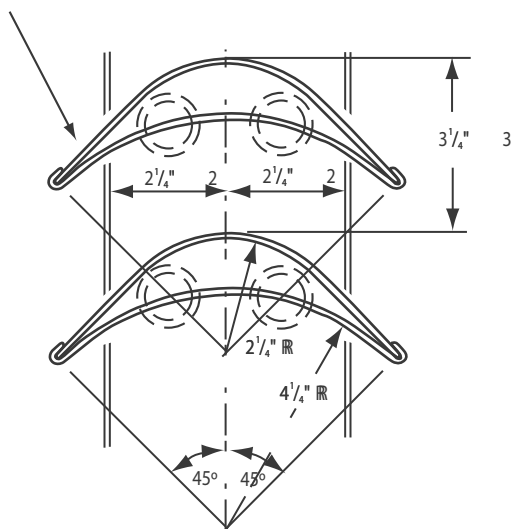
Water Vapor Sorption: ASTM C 2204. Less than 3% by weight.

Surface Burning Characteristics: UL/ULC Listed. When tested in accordance with ASTM E 84, UL 723, CAN 4-S102, and NFPA-255, Johns-Manville Linacoustic® RC does not exceed: 25 Flame spread, 50 Smoke developed.

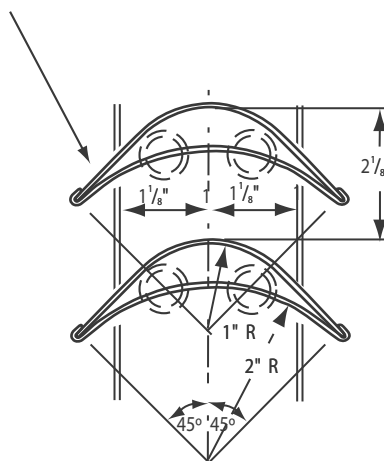
Microbial Growth: ASTM C1338, G21, G22. The airstream surface mat facing is treated with an EPA registered antimicrobial agent to aid in the prevention of fungal and bacterial growth.

Dual Vanes

24 ga MIN.

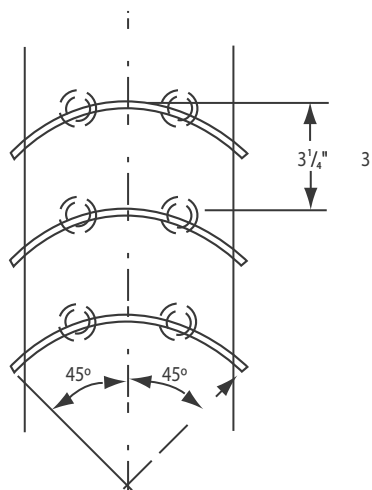


25 ga MIN.

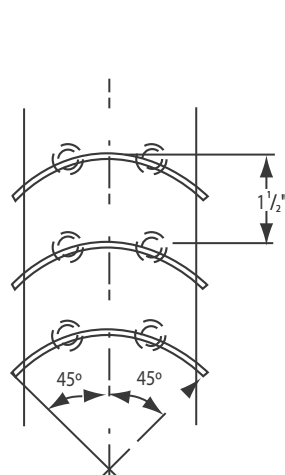


Single Vanes

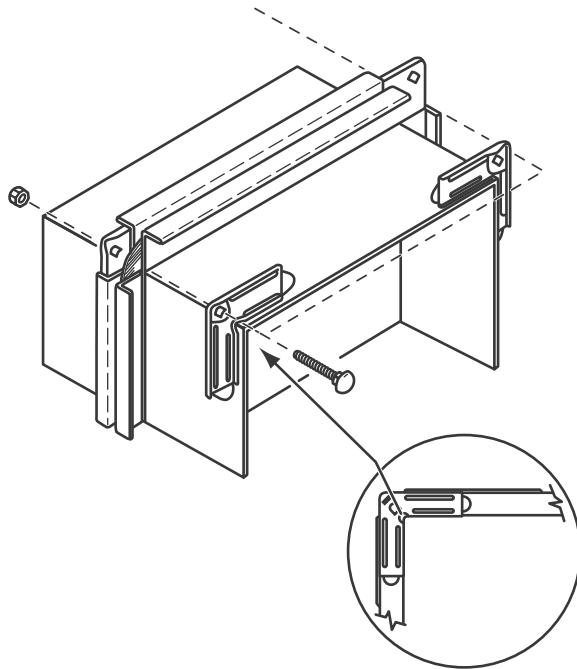
22 ga MIN.



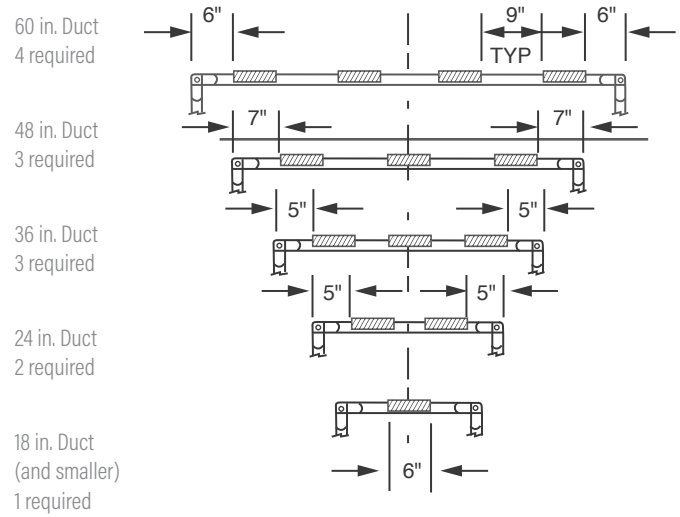
25 ga MIN.



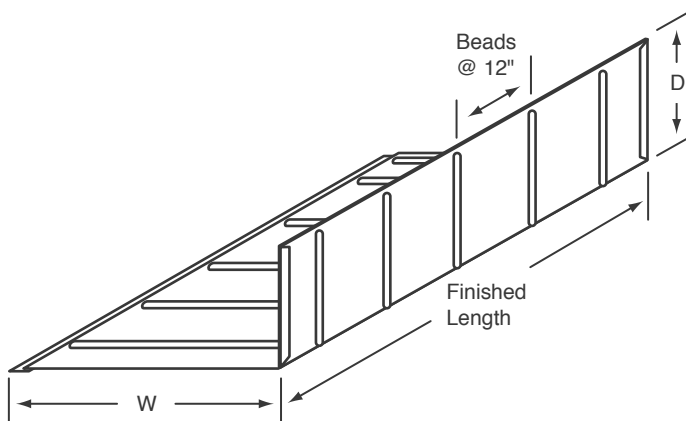
TDC Connection



Recommended Clip Spacing



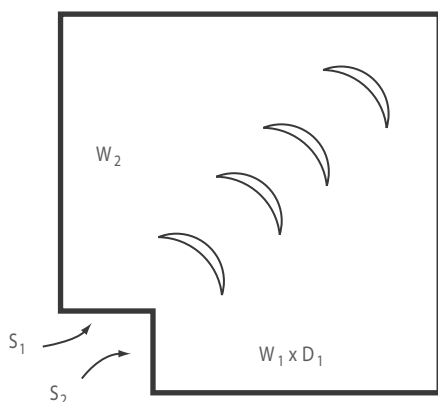
Straight Duct



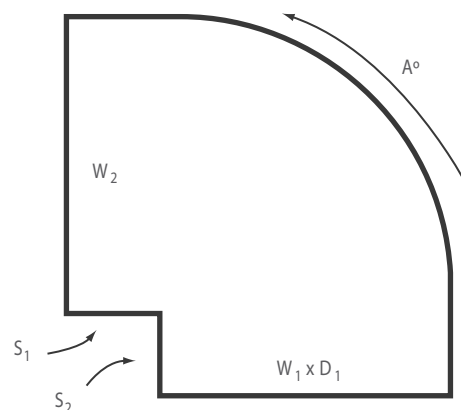
55 1/2" - Finished length with TDC
 59" - Finished length with drive cleat ends
 60" - Length with ends unfinished

Square Throat / Square Heel 90° Elbow

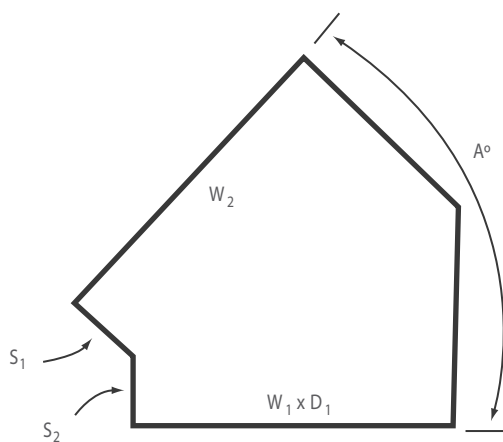
With or without vanes



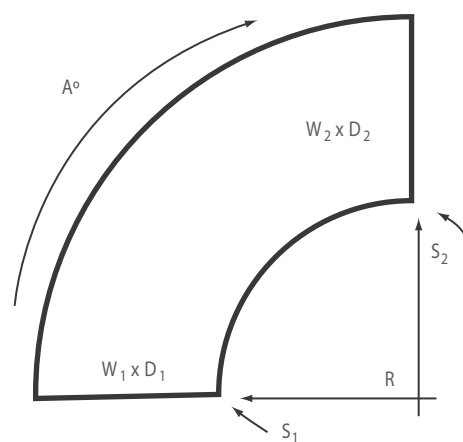
Square Throat / Radius Heel 90° Elbow



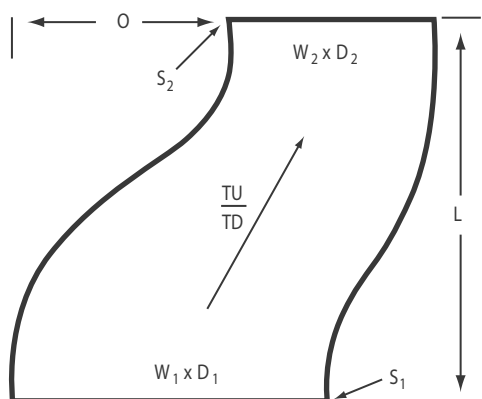
Square Throat / Square Heel Elbow



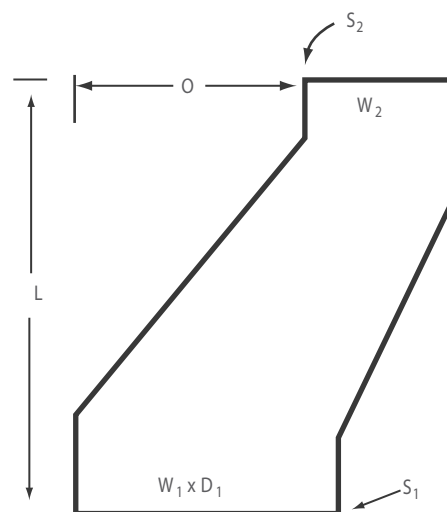
Radius Elbow



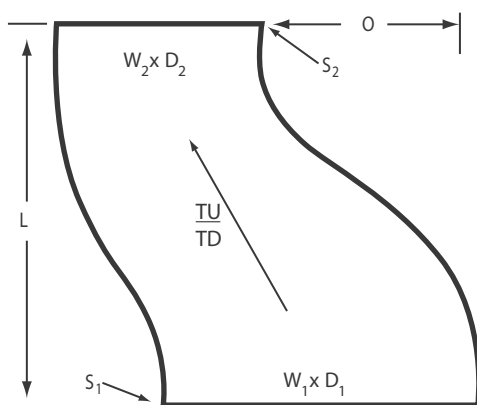
Radius Offset Right



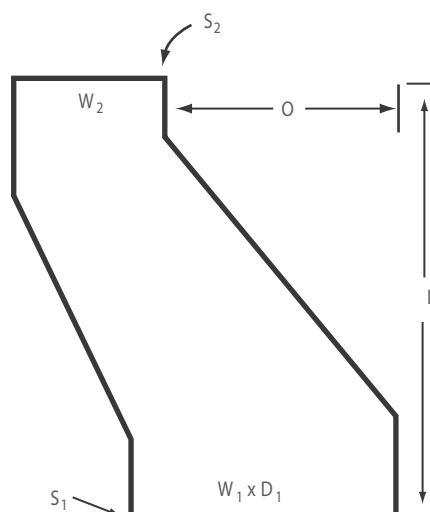
Square Offset Right



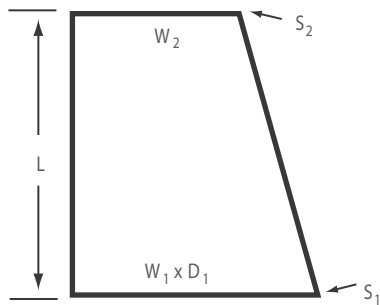
Radius Offset Left



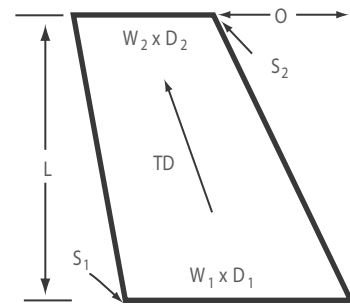
Square Offset Left



Transition Straight Sides

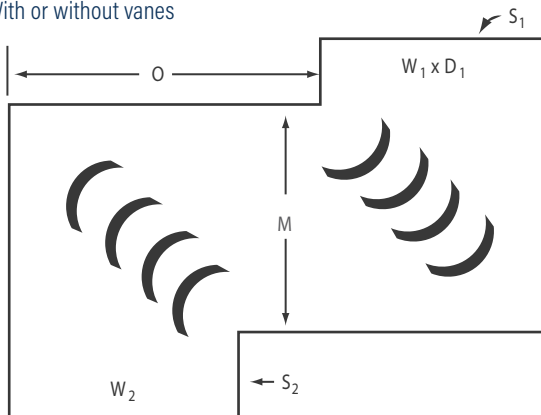


Transition Offset Left

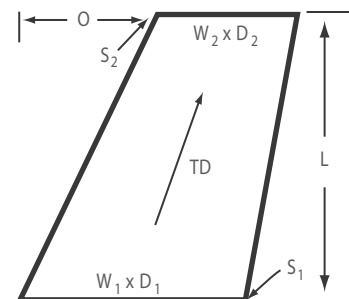


Double Square Elbow

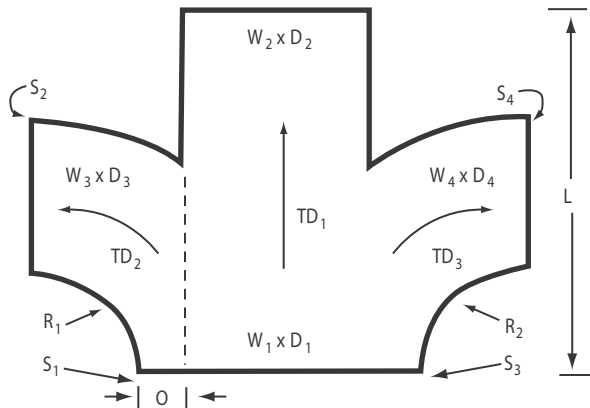
With or without vanes



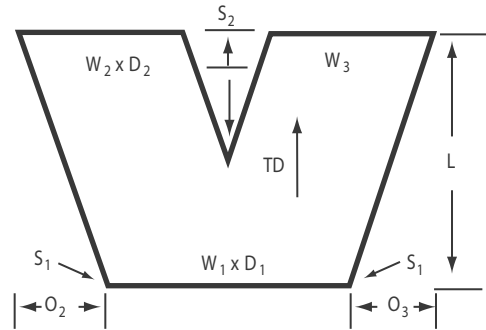
Transition Offset Right



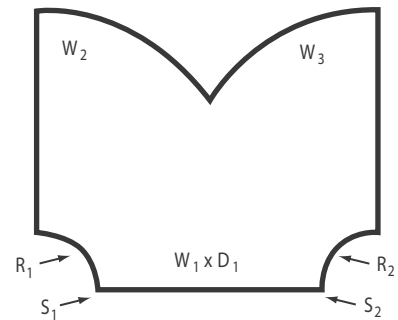
Radius Wye Branch



Wye

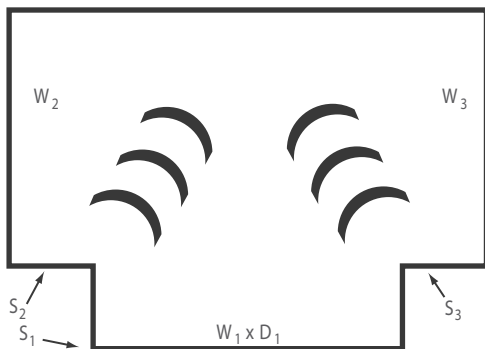


Radius Tee

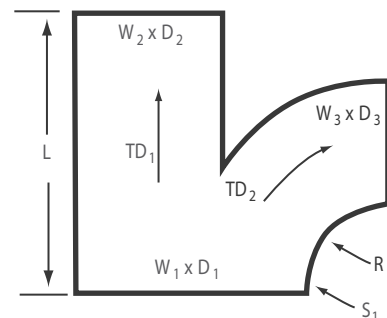


Square Tee

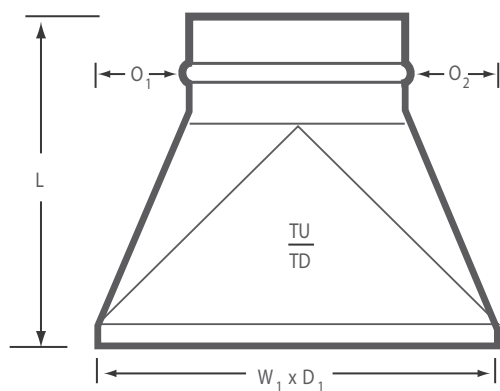
With or without vanes



Radius Branch

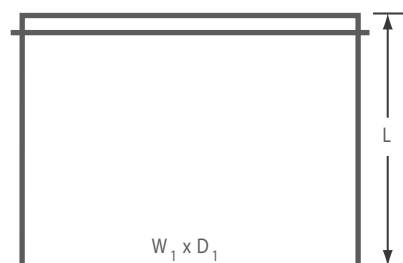


Square to Round

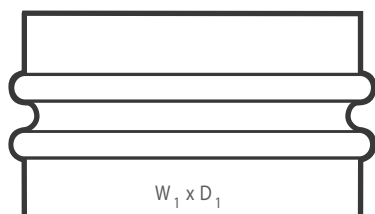


Straight Tap

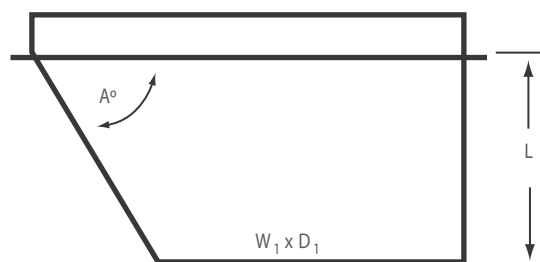
Available in outside or inside collar lock

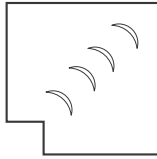


Canvas / Flex Connector

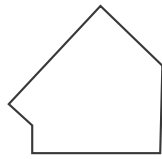


Increased Tap

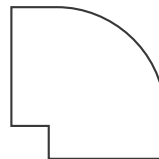




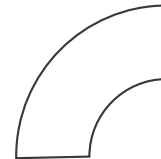
Square Throat
Square Heel 90° Elbow



Square Throat
Square Heel Elbow



Square Throat
Radius Heel Elbow



Radius Elbow



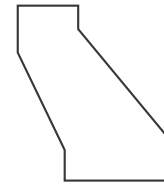
Radius Offset
Right



Radius Offset
Left



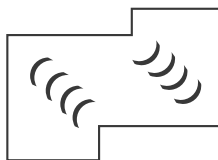
Square Offset
Right



Square Offset
Left



Transition Straight Sides



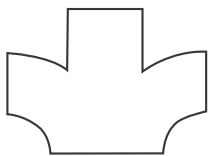
Double Square
Elbow



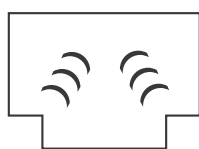
Offset Left



Offset Right



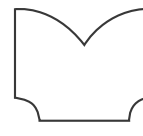
Radius Wye
Branch



Square Tee



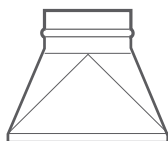
Wye



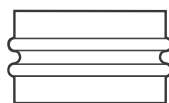
Radius Tee



Radius Branch



Square to Round



Canvas / Flex
Connector



Straight Tap



Increased Tap