



Composites USA

FlameGuard



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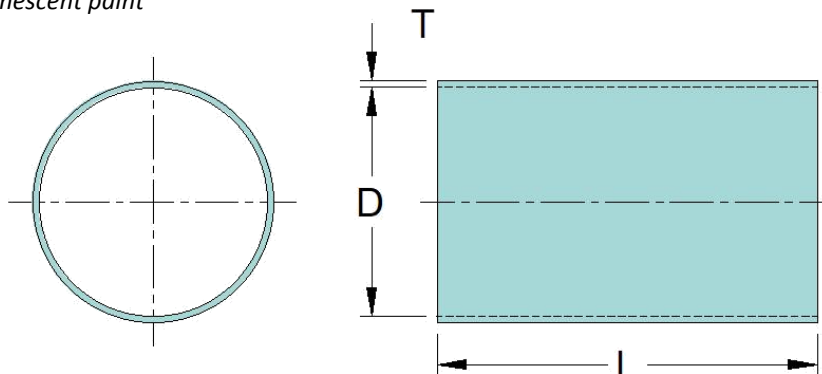
Fitting: **Round Duct**

Fitting No: **100**

Product Class: **FlameGuard**

Resin Types: **Vynlester such as Derekane™ 510B-400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#100: "D" / "L"**
#100 F x P: "D" / "L" for flange by plain end
#100 F x F: "D" / "L" for flange by flange end


D	T	Max Pressure	Max Pressure	L
		Internal	External	
inches	inches	inches WC	inches WC	inches
1	0.180	19292	3567	108
1-1/2	0.180	12402	1394	120
2	0.180	9138	682	240
2-1/2	0.180	7234	383	240
3	0.180	5987	236	240
4	0.180	4452	108	240
5	0.180	3543	58	240
6	0.180	2942	34	240
7	0.180	2516	15	240
8	0.180	2197	12	240
9	0.180	1950	10	240
10	0.180	1753	9	240
12	0.180	1459	7	240
14	0.180	1249	5	240
16	0.220	1638	12	240
18	0.220	1455	10	240
20	0.220	1308	9	240
22	0.220	1189	8	240

D	T	Max Pressure	Max Pressure	L
		Internal	External	
inches	inches	inches WC	inches WC	inches
24	0.220	1089	7	240
26	0.220	1005	6	240
28	0.260	1244	11	240
30	0.260	1161	10	240
32	0.260	1088	9	240
34	0.260	1024	8	240
36	0.260	967	8	240
42	0.260	828	6	240
48	0.300	906	9	240
54	0.300	805	7	240
60	0.300	724	6	240
66	0.340	790	9	240
72	0.340	724	7	240
78	0.340	668	7	240
84	0.340	620	6	240
90	0.380	676	8	240
96	0.380	633	7	240
102	0.380	596	7	240

Notes:

- 1) Custom lengths and larger sizes available up to 180"
- 2) Thickness "T" can be adjusted for pressure requirements. Contact Engineering for details.

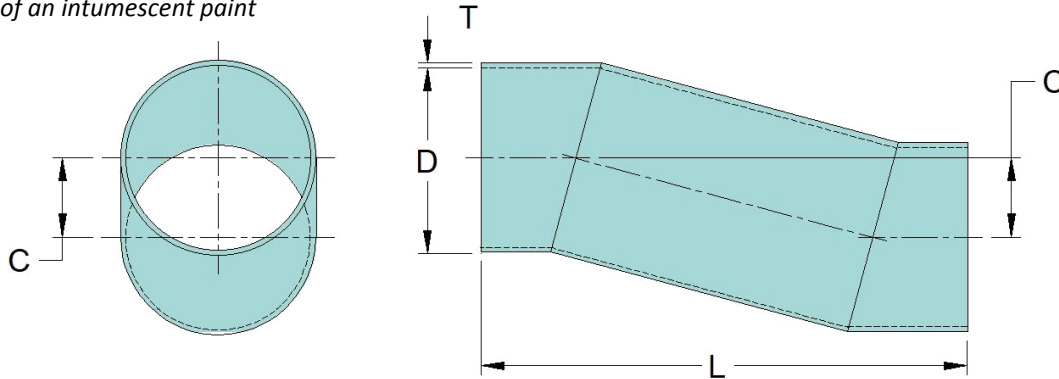
Fitting: Round Duct Offset

Fitting No: **101**

Product Class: **FlameGuard**

Resin Types: **Vinylester such as Derekane™ 510B-400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#101: "L" / "C"**
#101 F x P: "L" / "C" for flange by plain end
#101 F x F: "L" / "C" for flange by flange end


D	L	C
inches	inches	inches
Specify	Specify	Specify

D	L	C
inches	inches	inches

Notes:

1) Custom lengths and larger sizes available up to 180"

Fitting: Rectangular Duct

Fitting No: **105**

Product Class: **FlameGuard**

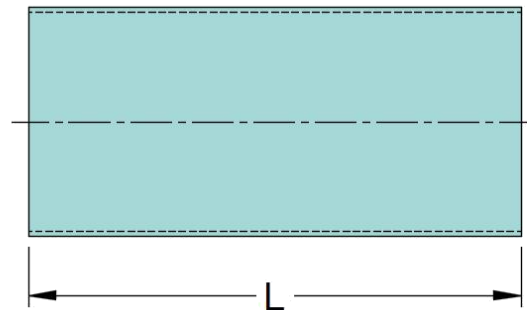
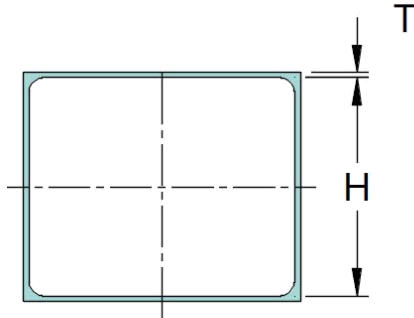
Resin Types: **Vinylester such as Derekane™ 510B-400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#105: "W" / "H" / "L"**

#105 F x P: "W" / "H" / "L" for flange by plain end

#105 F x F: "W" / "H" / "L" for flange by flange end



W	H	L
inches	inches	inches
Specify	Specify	Specify

W	H	L
inches	inches	inches

Notes:

1) Custom lengths available

Fitting: Rectangular Duct Offset

Fitting No: **106**

Product Class: **FlameGuard**

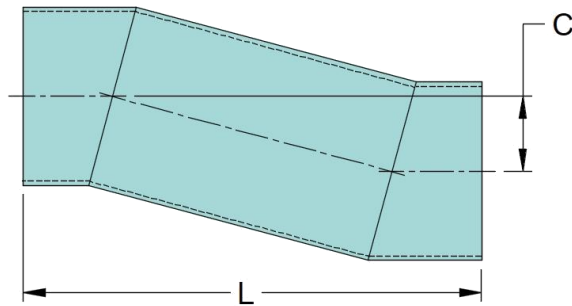
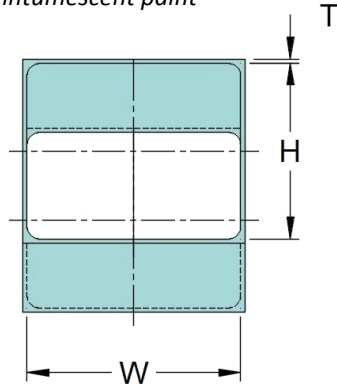
Resin Types: **Vinylester** such as **Derekane™ 510B-400**, **Interplastic CORVE8400** and others

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#106: "W" / "H" / "L" / "C"**

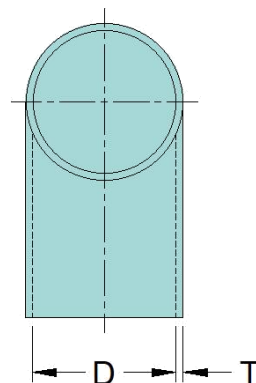
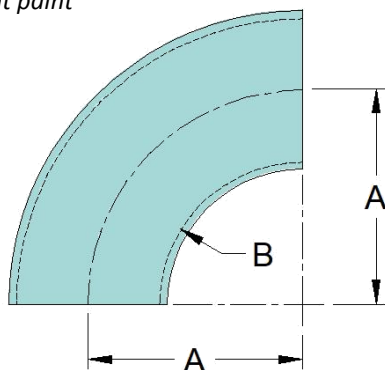
#106 F x P: "W" / "H" / "L" / "C" for flange by plain end

#106 F x F: "W" / "H" / "L" / "C" for flange by flange end

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Fitting: **90° Standard Long Radius Sweep Elbow**Fitting No: **110**Product Class: **FlameGuard**Resin Types: **Vinylester such as Derekane™ 510B-400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#110: "D"**#110 F x P: **"D"** for flange by plain end#110 F x F: **"D"** for flange by flange end

D	T	A	B
inches	inches	inches	inches
1	0.180	1.5	1.0
1-1/2	0.180	2.3	1.5
2	0.180	3.0	2.0
2-1/2	0.180	3.8	2.5
3	0.180	4.5	3.0
4	0.180	6.0	4.0
5	0.180	7.5	5.0
6	0.180	9.0	6.0
7	0.180	10.5	7.0
8	0.180	12.0	8.0
9	0.180	13.5	9.0
10	0.180	15.0	10.0
12	0.180	18.0	12.0
14	0.180	21.0	14.0
16	0.220	24.0	16.0
18	0.220	27.0	18.0
20	0.220	30.0	20.0
22	0.220	33.0	22.0

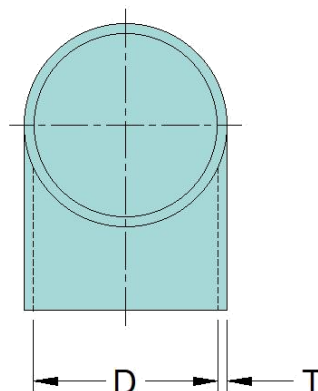
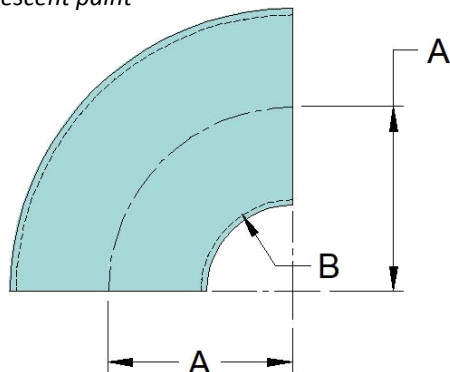
D	T	A	B
inches	inches	inches	inches
24	0.220	36.0	24.0
26	0.220	39.0	26.0
28	0.260	42.0	28.0
30	0.260	45.0	30.0
32	0.260	48.0	32.0
34	0.260	51.0	34.0
36	0.260	54.0	36.0
42	0.260	63.0	42.0
48	0.300	72.0	48.0
54	0.300	81.0	54.0
60	0.300	90.0	60.0
66	0.340	99.0	66.0
72	0.340	108.0	72.0
78	0.340	117.0	78.0
84	0.340	126.0	84.0
90	0.380	135.0	90.0
96	0.380	144.0	96.0
102	0.380	153.0	102.0

Notes:

1) Check for tooling availability D > 60"

Fitting: **90° Short Radius Sweep Elbow**Fitting No: **111**Product Class: **FlameGuard**Resin Types: **Vinylester such as Derekane™ 510B-400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#111: "D"**#111 F x P: **"D"** for flange by plain end#111 F x F: **"D"** for flange by flange end

D	T	A	B
inches	inches	inches	inches
1	0.180	1.0	0.5
1-1/2	0.180	1.5	0.8
2	0.180	2.0	1.0
2-1/2	0.180	2.5	1.3
3	0.180	3.0	1.5
4	0.180	4.0	2.0
5	0.180	5.0	2.5
6	0.180	6.0	3.0
7	0.180	7.0	3.5
8	0.180	8.0	4.0
9	0.180	9.0	4.5
10	0.180	10.0	5.0
12	0.180	12.0	6.0
14	0.180	14.0	7.0
16	0.220	16.0	8.0
18	0.220	18.0	9.0
20	0.220	20.0	10.0
22	0.220	22.0	11.0

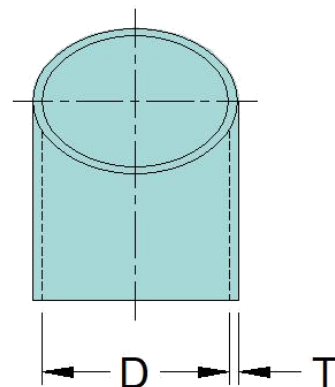
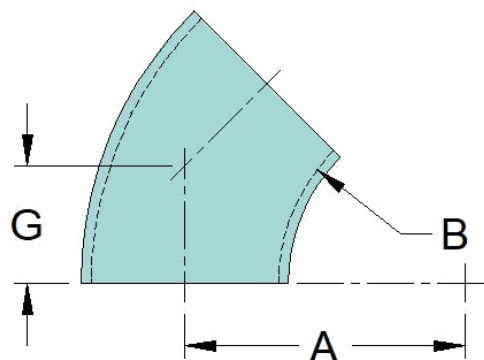
D	T	A	B
inches	inches	inches	inches
24	0.220	24.0	12.0
26	0.220	26.0	13.0
28	0.260	28.0	14.0
30	0.260	30.0	15.0
32	0.260	32.0	16.0
34	0.260	34.0	17.0
36	0.260	36.0	18.0
42	0.260	42.0	21.0
48	0.300	48.0	24.0
54	0.300	54.0	27.0
60	0.300	60.0	30.0
66	0.340	66.0	33.0
72	0.340	72.0	36.0
78	0.340	78.0	39.0
84	0.340	84.0	42.0
90	0.380	90.0	45.0
96	0.380	96.0	48.0
102	0.380	102.0	51.0

Notes:

- 1) Larger sizes available
- 2) Check for tooling availability > 60"

Fitting: **45° Standard Long Radius Sweep Elbow**Fitting No: **115**Product Class: **FlameGuard**Resin Types: **Vinylester such as Derekane™ 510B-400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#115: "D"**#115 F x P: **"D"** for flange by plain end#115 F x F: **"D"** for flange by flange end

D	T	A	B	G
inches	inches	inches	inches	inches
1	0.180	1.5	1.0	0.62
1-1/2	0.180	2.3	1.5	0.93
2	0.180	3.0	2.0	1.24
2-1/2	0.180	3.8	2.5	1.55
3	0.180	4.5	3.0	1.86
4	0.180	6.0	4.0	2.48
5	0.180	7.5	5.0	3.10
6	0.180	9.0	6.0	3.73
7	0.180	10.5	7.0	4.35
8	0.180	12.0	8.0	4.97
9	0.180	13.5	9.0	5.59
10	0.180	15.0	10.0	6.21
12	0.180	18.0	12.0	7.45
14	0.180	21.0	14.0	8.69
16	0.220	24.0	16.0	9.94
18	0.220	27.0	18.0	11.18
20	0.220	30.0	20.0	12.42
22	0.220	33.0	22.0	13.66

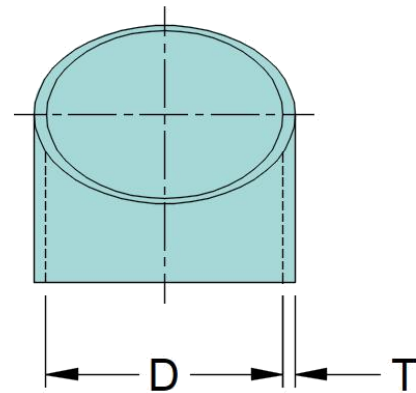
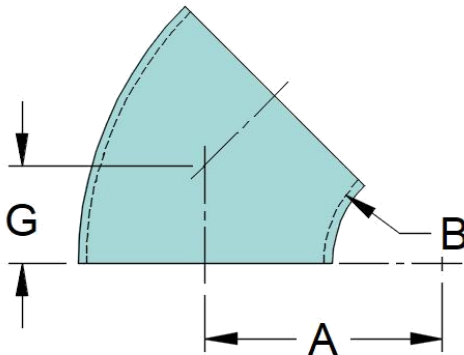
D	T	A	B	G
inches	inches	inches	inches	inches
24	0.220	36.0	24.0	14.90
26	0.220	39.0	26.0	16.15
28	0.260	42.0	28.0	17.39
30	0.260	45.0	30.0	18.63
32	0.260	48.0	32.0	19.87
34	0.260	51.0	34.0	21.11
36	0.260	54.0	36.0	22.35
42	0.260	63.0	42.0	26.08
48	0.300	72.0	48.0	29.81
54	0.300	81.0	54.0	33.53
60	0.300	90.0	60.0	37.26
66	0.340	99.0	66.0	40.98
72	0.340	108.0	72.0	44.71
78	0.340	117.0	78.0	48.44
84	0.340	126.0	84.0	52.16
90	0.380	135.0	90.0	55.89
96	0.380	144.0	96.0	59.61
102	0.380	153.0	102.0	63.34

Notes:

- 1) Check for tooling availability

Fitting: **45° Short Radius Sweep Elbow**Fitting No: **116**Product Class: **FlameGuard**Resin Types: **Vinylester such as Derekane™ 510B-400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#116: "D"**#116 F x P: **"D"** for flange by plain end#116 F x F: **"D"** for flange by flange end

D	T	A	B	G
inches	inches	inches	inches	inches
1	0.180	1.0	0.5	0.41
1-1/2	0.180	1.5	0.8	0.62
2	0.180	2.0	1.0	0.83
2-1/2	0.180	2.5	1.3	1.03
3	0.180	3.0	1.5	1.24
4	0.180	4.0	2.0	1.66
5	0.180	5.0	2.5	2.07
6	0.180	6.0	3.0	2.48
7	0.180	7.0	3.5	2.90
8	0.180	8.0	4.0	3.31
9	0.180	9.0	4.5	3.73
10	0.180	10.0	5.0	4.14
12	0.180	12.0	6.0	4.97
14	0.180	14.0	7.0	5.80
16	0.220	16.0	8.0	6.62
18	0.220	18.0	9.0	7.45
20	0.220	20.0	10.0	8.28
22	0.220	22.0	11.0	9.11

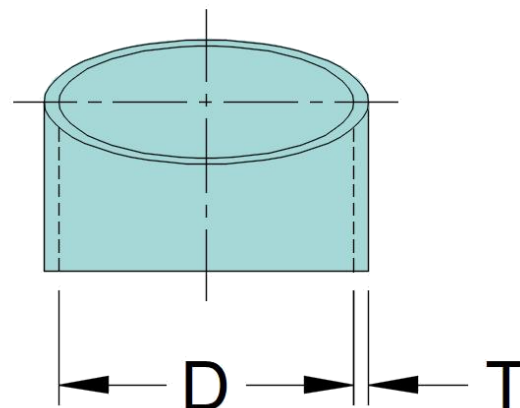
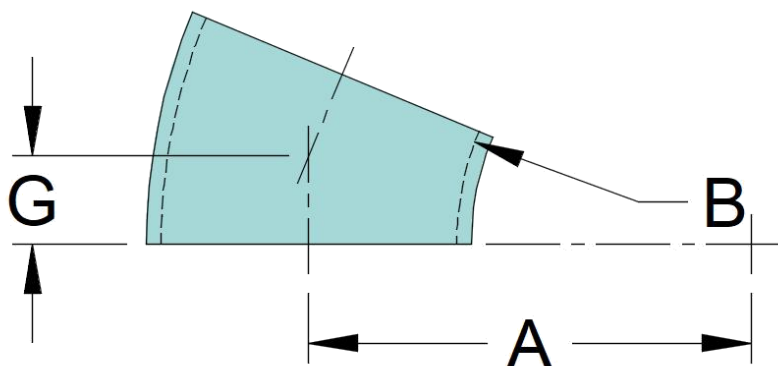
D	T	A	B	G
inches	inches	inches	inches	inches
24	0.220	24.0	12.0	9.94
26	0.220	26.0	13.0	10.76
28	0.260	28.0	14.0	11.59
30	0.260	30.0	15.0	12.42
32	0.260	32.0	16.0	13.25
34	0.260	34.0	17.0	14.08
36	0.260	36.0	18.0	14.90
42	0.260	42.0	21.0	17.39
48	0.300	48.0	24.0	19.87
54	0.300	54.0	27.0	22.35
60	0.300	60.0	30.0	24.84
66	0.340	66.0	33.0	27.32
72	0.340	72.0	36.0	29.81
78	0.340	78.0	39.0	32.29
84	0.340	84.0	42.0	34.77
90	0.380	90.0	45.0	37.26
96	0.380	96.0	48.0	39.74
102	0.380	102.0	51.0	42.23

Notes:

- 1) Check for tooling availability

Fitting: **22.5° Standard Long Radius Sweep Elbow** Fitting No: **118**Product Class: **FlameGuard**Resin Types: **Vinylester such as Derekane™ 510B-400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#118: "D"**#118 F x P: **"D"** for flange by plain end#118 F x F: **"D"** for flange by flange end

D	T	A	B	G
inches	inches	inches	inches	inches
1	0.180	1.5	1.0	0.30
1-1/2	0.180	2.3	1.5	0.45
2	0.180	3.0	2.0	0.60
2-1/2	0.180	3.8	2.5	0.75
3	0.180	4.5	3.0	0.89
4	0.180	6.0	4.0	1.19
5	0.180	7.5	5.0	1.49
6	0.180	9.0	6.0	1.79
7	0.180	10.5	7.0	2.09
8	0.180	12.0	8.0	2.39
9	0.180	13.5	9.0	2.68
10	0.180	15.0	10.0	2.98
12	0.180	18.0	12.0	3.58
14	0.180	21.0	14.0	4.17
16	0.220	24.0	16.0	4.77
18	0.220	27.0	18.0	5.37
20	0.220	30.0	20.0	5.96
22	0.220	33.0	22.0	6.56

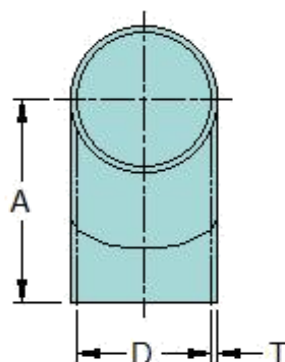
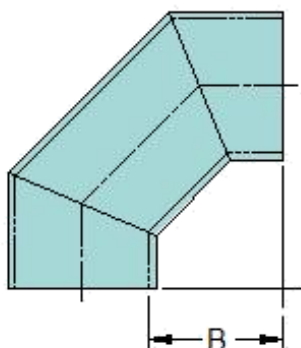
D	T	A	B	G
inches	inches	inches	inches	inches
24	0.220	36.0	24.0	7.16
26	0.220	39.0	26.0	7.75
28	0.260	42.0	28.0	8.35
30	0.260	45.0	30.0	8.95
32	0.260	48.0	32.0	9.54
34	0.260	51.0	34.0	10.14
36	0.260	54.0	36.0	10.74
42	0.260	63.0	42.0	12.52
48	0.300	72.0	48.0	14.31
54	0.300	81.0	54.0	16.10
60	0.300	90.0	60.0	17.89
66	0.340	99.0	66.0	19.68
72	0.340	108.0	72.0	21.47
78	0.340	117.0	78.0	23.26
84	0.340	126.0	84.0	25.05
90	0.380	135.0	90.0	26.84
96	0.380	144.0	96.0	28.63
102	0.380	153.0	102.0	30.42

Notes:

- 1) Check for tooling availability

Fitting: **90° Long Radius 3-Gore Mitered Elbow**Fitting No: **120**Product Class: **FlameGuard**Resin Types: **Vinylester such as Derekane™ 510B-400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#120: "D"**#120 F x P: **"D"** for flange by plain end#120 F x F: **"D"** for flange by flange end

C	T	A	B
inches	inches	inches	inches
1	0.180	1.5	1.0
1-1/2	0.180	2.3	1.5
2	0.180	3.0	2.0
2-1/2	0.180	3.8	2.5
3	0.180	4.5	3.0
4	0.180	6.0	4.0
5	0.180	7.5	5.0
6	0.180	9.0	6.0
7	0.180	10.5	7.0
8	0.180	12.0	8.0
9	0.180	13.5	9.0
10	0.180	15.0	10.0
12	0.180	18.0	12.0
14	0.180	21.0	14.0
16	0.220	24.0	16.0
18	0.220	27.0	18.0
20	0.220	30.0	20.0
22	0.220	33.0	22.0

C	T	A	B
inches	inches	inches	inches
24	0.220	36.0	24.0
26	0.220	39.0	26.0
28	0.260	42.0	28.0
30	0.260	45.0	30.0
32	0.260	48.0	32.0
34	0.260	51.0	34.0
36	0.260	54.0	36.0
42	0.260	63.0	42.0
48	0.300	72.0	48.0
54	0.300	81.0	54.0
60	0.300	90.0	60.0
66	0.340	99.0	66.0
72	0.340	108.0	72.0
78	0.340	117.0	78.0
84	0.340	126.0	84.0
90	0.380	135.0	90.0
96	0.380	144.0	96.0
102	0.380	153.0	102.0

Notes:

1) Larger sizes available up to 180"

Fitting: 90° Short Radius 3-Gore Mitered Elbow

Fitting No: **121**

Product Class: **FlameGuard**

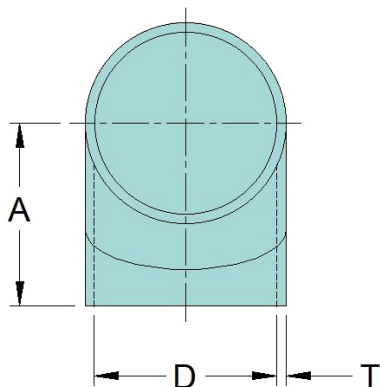
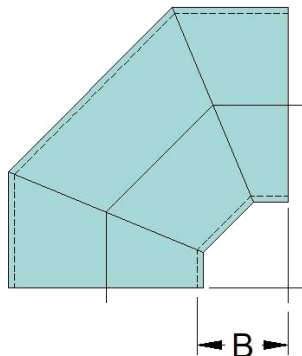
Resin Types: **Vinylester** such as **Derekane™ 510B-400**, **Interplastic CORVE8400** and others

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#121: "D"**

#121 F x P: "D" for flange by plain end

#121 F x F: "D" for flange by flange end



D	T	A	B
inches	inches	inches	inches
1	0.180	1.0	0.5
1-1/2	0.180	1.5	0.8
2	0.180	2.0	1.0
2-1/2	0.180	2.5	1.3
3	0.180	3.0	1.5
4	0.180	4.0	2.0
5	0.180	5.0	2.5
6	0.180	6.0	3.0
7	0.180	7.0	3.5
8	0.180	8.0	4.0
9	0.180	9.0	4.5
10	0.180	10.0	5.0
12	0.180	12.0	6.0
14	0.180	14.0	7.0
16	0.220	16.0	8.0
18	0.220	18.0	9.0
20	0.220	20.0	10.0
22	0.220	22.0	11.0

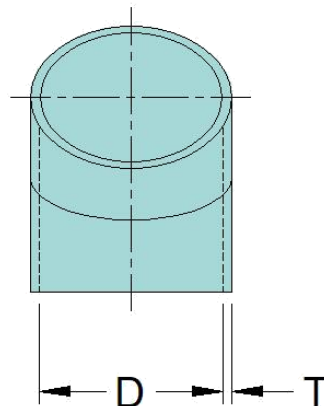
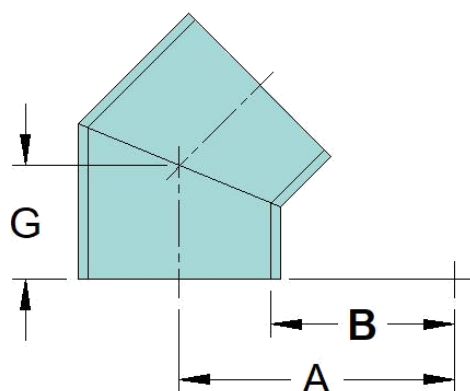
D	T	A	B
inches	inches	inches	inches
24	0.220	24.0	12.0
26	0.220	26.0	13.0
28	0.260	28.0	14.0
30	0.260	30.0	15.0
32	0.260	32.0	16.0
34	0.260	34.0	17.0
36	0.260	36.0	18.0
42	0.260	42.0	21.0
48	0.300	48.0	24.0
54	0.300	54.0	27.0
60	0.300	60.0	30.0
66	0.340	66.0	33.0
72	0.340	72.0	36.0
78	0.340	78.0	39.0
84	0.340	84.0	42.0
90	0.380	90.0	45.0
96	0.380	96.0	48.0
102	0.380	102.0	51.0

Notes:

- 1) Larger sizes available up to 180"

Fitting: **45° Long Radius 2-Gore Mitered Elbow**Fitting No: **125**Product Class: **FlameGuard**Resin Types: **Vinylester such as Derekane™ 510B-400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#125: "D"**#125 F x P: **"D"** for flange by plain end#125 F x F: **"D"** for flange by flange end

D	T	A	B	G
inches	inches	inches	inches	inches
1	0.180	1.5	1.0	0.62
1-1/2	0.180	2.3	1.5	0.93
2	0.180	3.0	2.0	1.24
2-1/2	0.180	3.8	2.5	1.55
3	0.180	4.5	3.0	1.86
4	0.180	6.0	4.0	2.48
5	0.180	7.5	5.0	3.10
6	0.180	9.0	6.0	3.73
7	0.180	10.5	7.0	4.35
8	0.180	12.0	8.0	4.97
9	0.180	13.5	9.0	5.59
10	0.180	15.0	10.0	6.21
12	0.180	18.0	12.0	7.45
14	0.180	21.0	14.0	8.69
16	0.220	24.0	16.0	9.94
18	0.220	27.0	18.0	11.18
20	0.220	30.0	20.0	12.42
22	0.220	33.0	22.0	13.66

D	T	A	B	G
inches	inches	inches	inches	inches
24	0.220	36.0	24.0	14.90
26	0.220	39.0	26.0	16.15
28	0.260	42.0	28.0	17.39
30	0.260	45.0	30.0	18.63
32	0.260	48.0	32.0	19.87
34	0.260	51.0	34.0	21.11
36	0.260	54.0	36.0	22.35
42	0.260	63.0	42.0	26.08
48	0.300	72.0	48.0	29.81
54	0.300	81.0	54.0	33.53
60	0.300	90.0	60.0	37.26
66	0.340	99.0	66.0	40.98
72	0.340	108.0	72.0	44.71
78	0.340	117.0	78.0	48.44
84	0.340	126.0	84.0	52.16
90	0.380	135.0	90.0	55.89
96	0.380	144.0	96.0	59.61
102	0.380	153.0	102.0	63.34

Notes:

- 1) Larger sizes available up to 180"

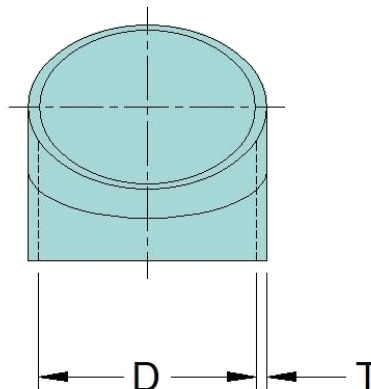
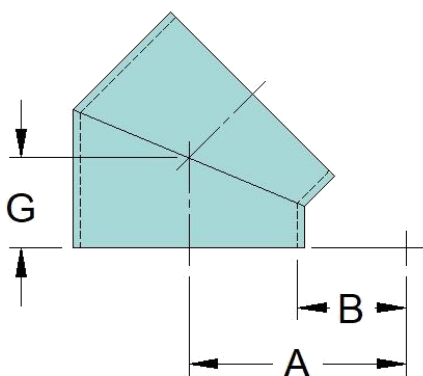
Fitting: 45° Short Radius 2-Gore Mitered Elbow

Fitting No: **126**

Product Class: **FlameGuard**

Resin Types: **Vinylester** such as **Derekane™ 510B-400**, **Interplastic CORVE8400** and others

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#126: "D"**
#126 F x P: "D" for flange by plain end
#126 F x F: "D" for flange by flange end


D	T	A	B	G
inches	inches	inches	inches	inches
1	0.180	1.0	0.5	0.41
1-1/2	0.180	1.5	0.8	0.62
2	0.180	2.0	1.0	0.83
2-1/2	0.180	2.5	1.3	1.03
3	0.180	3.0	1.5	1.24
4	0.180	4.0	2.0	1.66
5	0.180	5.0	2.5	2.07
6	0.180	6.0	3.0	2.48
7	0.180	7.0	3.5	2.90
8	0.180	8.0	4.0	3.31
9	0.180	9.0	4.5	3.73
10	0.180	10.0	5.0	4.14
12	0.180	12.0	6.0	4.97
14	0.180	14.0	7.0	5.80
16	0.220	16.0	8.0	6.62
18	0.220	18.0	9.0	7.45
20	0.220	20.0	10.0	8.28
22	0.220	22.0	11.0	9.11

D	T	A	B	G
inches	inches	inches	inches	inches
24	0.220	24.0	12.0	9.94
26	0.220	26.0	13.0	10.76
28	0.260	28.0	14.0	11.59
30	0.260	30.0	15.0	12.42
32	0.260	32.0	16.0	13.25
34	0.260	34.0	17.0	14.08
36	0.260	36.0	18.0	14.90
42	0.260	42.0	21.0	17.39
48	0.300	48.0	24.0	19.87
54	0.300	54.0	27.0	22.35
60	0.300	60.0	30.0	24.84
66	0.340	66.0	33.0	27.32
72	0.340	72.0	36.0	29.81
78	0.340	78.0	39.0	32.29
84	0.340	84.0	42.0	34.77
90	0.380	90.0	45.0	37.26
96	0.380	96.0	48.0	39.74
102	0.380	102.0	51.0	42.23

Notes:

- 1) Larger sizes available up to 180"



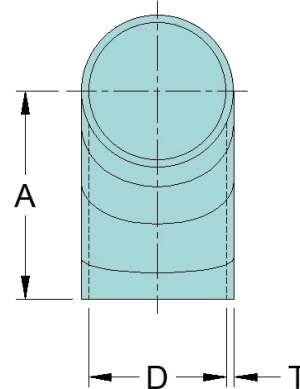
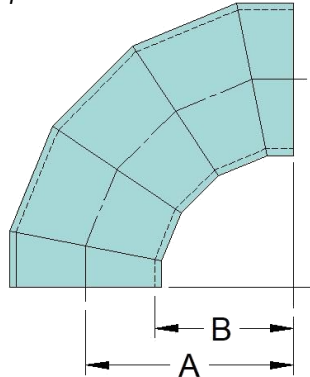
Fitting:

90° Long Radius 5-Gore Mitered Elbow

Fitting No:

130Product Class: **FlameGuard**Resin Types: **Vinylester such as Derekane™ 510B-400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#130: "D"**#130 F x P: **"D"** for flange by plain end#130 F x F: **"D"** for flange by flange end

D	T	A	B
inches	inches	inches	inches
1	0.180	1.5	1.0
1-1/2	0.180	2.3	1.5
2	0.180	3.0	2.0
2-1/2	0.180	3.8	2.5
3	0.180	4.5	3.0
4	0.180	6.0	4.0
5	0.180	7.5	5.0
6	0.180	9.0	6.0
7	0.180	10.5	7.0
8	0.180	12.0	8.0
9	0.180	13.5	9.0
10	0.180	15.0	10.0
12	0.180	18.0	12.0
14	0.180	21.0	14.0
16	0.220	24.0	16.0
18	0.220	27.0	18.0
20	0.220	30.0	20.0
22	0.220	33.0	22.0

D	T	A	B
inches	inches	inches	inches
24	0.220	36.0	24.0
26	0.220	39.0	26.0
28	0.260	42.0	28.0
30	0.260	45.0	30.0
32	0.260	48.0	32.0
34	0.260	51.0	34.0
36	0.260	54.0	36.0
42	0.260	63.0	42.0
48	0.300	72.0	48.0
54	0.300	81.0	54.0
60	0.300	90.0	60.0
66	0.340	99.0	66.0
72	0.340	108.0	72.0
78	0.340	117.0	78.0
84	0.340	126.0	84.0
90	0.380	135.0	90.0
96	0.380	144.0	96.0
102	0.380	153.0	102.0

Notes:

1) Larger sizes available up to 180"



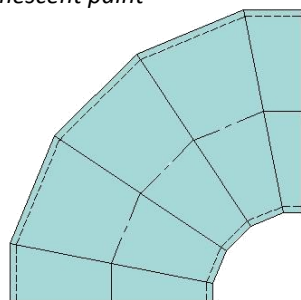
Fitting:

90° Short Radius 5-Gore Mitered Elbow

Fitting No:

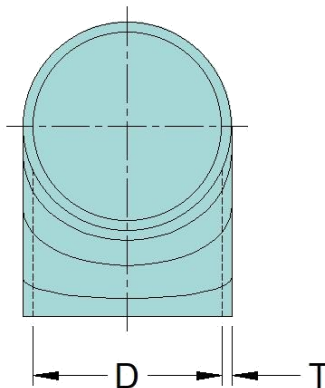
131Product Class: **FlameGuard**Resin Types: **Vinylester such as Derekane™ 510B-400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#131: "D"**#131 F x P: **"D"** for flange by plain end#131 F x F: **"D"** for flange by flange end

B

A



D

T

D	T	A	B
inches	inches	inches	inches
1	0.180	1.0	0.5
1-1/2	0.180	1.5	0.8
2	0.180	2.0	1.0
2-1/2	0.180	2.5	1.3
3	0.180	3.0	1.5
4	0.180	4.0	2.0
5	0.180	5.0	2.5
6	0.180	6.0	3.0
7	0.180	7.0	3.5
8	0.180	8.0	4.0
9	0.180	9.0	4.5
10	0.180	10.0	5.0
12	0.180	12.0	6.0
14	0.180	14.0	7.0
16	0.220	16.0	8.0
18	0.220	18.0	9.0
20	0.220	20.0	10.0
22	0.220	22.0	11.0

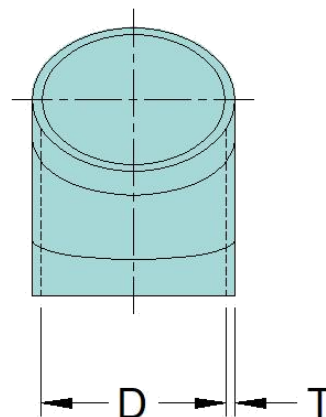
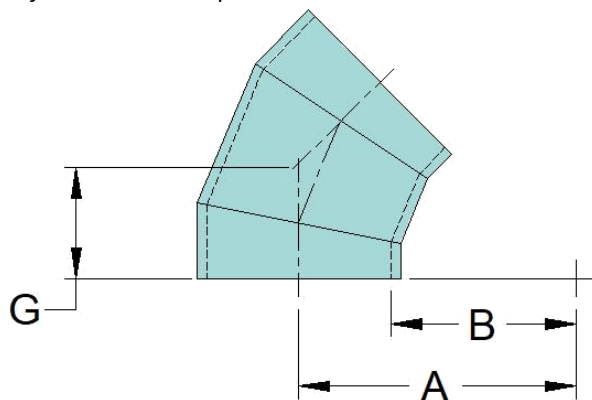
D	T	A	B
inches	inches	inches	inches
24	0.220	24.0	12.0
26	0.220	26.0	13.0
28	0.260	28.0	14.0
30	0.260	30.0	15.0
32	0.260	32.0	16.0
34	0.260	34.0	17.0
36	0.260	36.0	18.0
42	0.260	42.0	21.0
48	0.300	48.0	24.0
54	0.300	54.0	27.0
60	0.300	60.0	30.0
66	0.340	66.0	33.0
72	0.340	72.0	36.0
78	0.340	78.0	39.0
84	0.340	84.0	42.0
90	0.380	90.0	45.0
96	0.380	96.0	48.0
102	0.380	102.0	51.0

Notes:

- 1) Larger sizes available up to 180"

Fitting: **45° Long Radius 3-Gore Mitered Elbow**Fitting No: **135**Product Class: **FlameGuard**Resin Types: **Vinylester such as Derekane™ 510B-400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#135: "D"**#135 F x P: **"D"** for flange by plain end#135 F x F: **"D"** for flange by flange end

D	T	A	B	G
inches	inches	inches	inches	inches
1	0.180	1.5	1.0	0.62
1-1/2	0.180	2.3	1.5	0.93
2	0.180	3.0	2.0	1.24
2-1/2	0.180	3.8	2.5	1.55
3	0.180	4.5	3.0	1.86
4	0.180	6.0	4.0	2.48
5	0.180	7.5	5.0	3.10
6	0.180	9.0	6.0	3.73
7	0.180	10.5	7.0	4.35
8	0.180	12.0	8.0	4.97
9	0.180	13.5	9.0	5.59
10	0.180	15.0	10.0	6.21
12	0.180	18.0	12.0	7.45
14	0.180	21.0	14.0	8.69
16	0.220	24.0	16.0	9.94
18	0.220	27.0	18.0	11.18
20	0.220	30.0	20.0	12.42
22	0.220	33.0	22.0	13.66

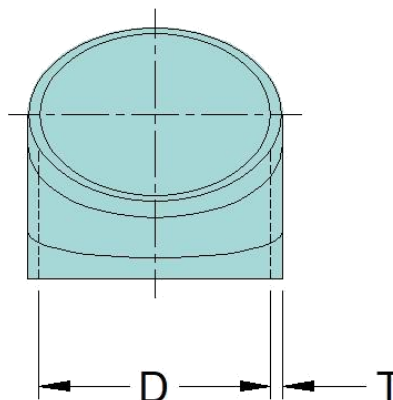
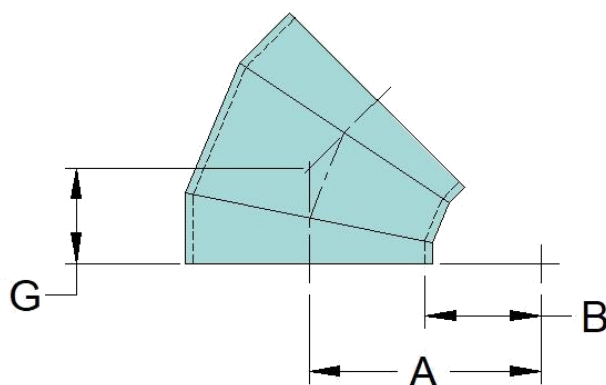
D	T	A	B	G
inches	inches	inches	inches	inches
24	0.220	36.0	24.0	14.90
26	0.220	39.0	26.0	16.15
28	0.260	42.0	28.0	17.39
30	0.260	45.0	30.0	18.63
32	0.260	48.0	32.0	19.87
34	0.260	51.0	34.0	21.11
36	0.260	54.0	36.0	22.35
42	0.260	63.0	42.0	26.08
48	0.300	72.0	48.0	29.81
54	0.300	81.0	54.0	33.53
60	0.300	90.0	60.0	37.26
66	0.340	99.0	66.0	40.98
72	0.340	108.0	72.0	44.71
78	0.340	117.0	78.0	48.44
84	0.340	126.0	84.0	52.16
90	0.380	135.0	90.0	55.89
96	0.380	144.0	96.0	59.61
102	0.380	153.0	102.0	63.34

Notes:

- 1) Larger sizes available up to 180"

Fitting: **45° Short Radius 3-Gore Mitered Elbow**Fitting No: **136**Product Class: **FlameGuard**Resin Types: **Vinylester such as Derekane™ 510B-400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#136: "D"**#136 F x P: **"D"** for flange by plain end#136 F x F: **"D"** for flange by flange end

D	T	A	B	G
inches	inches	inches	inches	inches
1	0.180	1.0	0.5	0.41
1-1/2	0.180	1.5	0.8	0.62
2	0.180	2.0	1.0	0.83
2-1/2	0.180	2.5	1.3	1.03
3	0.180	3.0	1.5	1.24
4	0.180	4.0	2.0	1.66
5	0.180	5.0	2.5	2.07
6	0.180	6.0	3.0	2.48
7	0.180	7.0	3.5	2.90
8	0.180	8.0	4.0	3.31
9	0.180	9.0	4.5	3.73
10	0.180	10.0	5.0	4.14
12	0.180	12.0	6.0	4.97
14	0.180	14.0	7.0	5.80
16	0.220	16.0	8.0	6.62
18	0.220	18.0	9.0	7.45
20	0.220	20.0	10.0	8.28
22	0.220	22.0	11.0	9.11

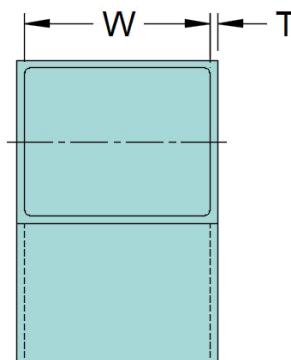
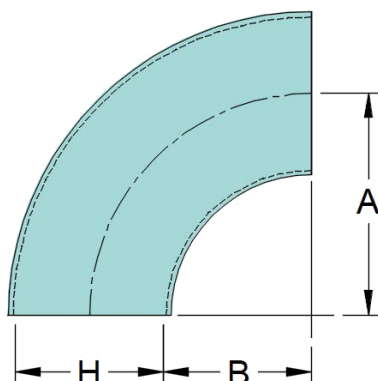
D	T	A	B	G
inches	inches	inches	inches	inches
24	0.220	24.0	12.0	9.94
26	0.220	26.0	13.0	10.76
28	0.260	28.0	14.0	11.59
30	0.260	30.0	15.0	12.42
32	0.260	32.0	16.0	13.25
34	0.260	34.0	17.0	14.08
36	0.260	36.0	18.0	14.90
42	0.260	42.0	21.0	17.39
48	0.300	48.0	24.0	19.87
54	0.300	54.0	27.0	22.35
60	0.300	60.0	30.0	24.84
66	0.340	66.0	33.0	27.32
72	0.340	72.0	36.0	29.81
78	0.340	78.0	39.0	32.29
84	0.340	84.0	42.0	34.77
90	0.380	90.0	45.0	37.26
96	0.380	96.0	48.0	39.74
102	0.380	102.0	51.0	42.23

Notes:

- 1) Larger sizes available up to 180"

Fitting: **90° Long Radius Sweep Rect Elbow**Fitting No: **138**Product Class: **FlameGuard**Resin Types: **Vinylester such as Derekane™ 510B-400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#138: "H" / "W" / "B"**#138 F x P: **"H" / "W" / "B"** for flange by plain end#138 F x F: **"H" / "W" / "B"** for flange by flange end

W	H	T	A	B
inches	inches	inches	inches	inches
1	≤ W	0.180	1.5 x H	H
1-1/2	≤ W	0.180	1.5 x H	H
2	≤ W	0.180	1.5 x H	H
2-1/2	≤ W	0.180	1.5 x H	H
3	≤ W	0.180	1.5 x H	H
4	≤ W	0.180	1.5 x H	H
5	≤ W	0.180	1.5 x H	H
6	≤ W	0.180	1.5 x H	H
7	≤ W	0.180	1.5 x H	H
8	≤ W	0.180	1.5 x H	H
9	≤ W	0.180	1.5 x H	H
10	≤ W	0.180	1.5 x H	H
12	≤ W	0.180	1.5 x H	H
14	≤ W	0.180	1.5 x H	H
16	≤ W	0.220	1.5 x H	H
18	≤ W	0.220	1.5 x H	H
20	≤ W	0.220	1.5 x H	H
22	≤ W	0.220	1.5 x H	H

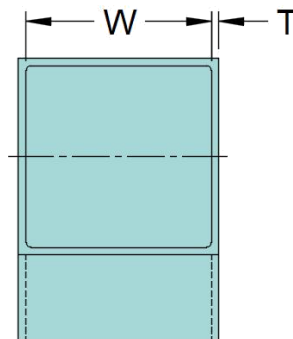
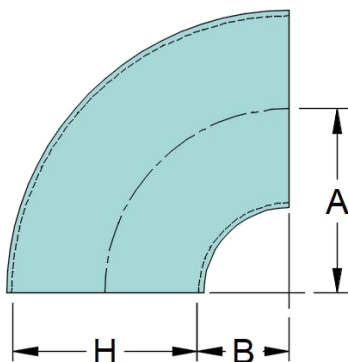
W	H	T	A	B
inches	inches	inches	inches	inches
24	≤ W	0.220	1.5 x H	H
26	≤ W	0.220	1.5 x H	H
28	≤ W	0.260	1.5 x H	H
30	≤ W	0.260	1.5 x H	H
32	≤ W	0.260	1.5 x H	H
34	≤ W	0.260	1.5 x H	H
36	≤ W	0.260	1.5 x H	H
42	≤ W	0.260	1.5 x H	H
48	≤ W	0.300	1.5 x H	H
54	≤ W	0.300	1.5 x H	H
60	≤ W	0.300	1.5 x H	H
66	≤ W	0.340	1.5 x H	H
72	≤ W	0.340	1.5 x H	H
78	≤ W	0.340	1.5 x H	H
84	≤ W	0.340	1.5 x H	H
90	≤ W	0.380	1.5 x H	H
96	≤ W	0.380	1.5 x H	H
102	≤ W	0.380	1.5 x H	H

Notes:

- 1) Larger sizes available up to 180"

Fitting: **90° Short Radius Sweep Rect Elbow**Fitting No: **139**Product Class: **FlameGuard**Resin Types: **Vinylester such as Derekane™ 510B-400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#139: "H" / "W" / "B"**#139 F x P: **"H" / "W" / "B"** for flange by plain end#139 F x F: **"H" / "W" / "B"** for flange by flange end

W	H	T	A	B
inches	inches	inches	inches	inches
1	≤ W	0.180	H	0.5 x H
1-1/2	≤ W	0.180	H	0.5 x H
2	≤ W	0.180	H	0.5 x H
2-1/2	≤ W	0.180	H	0.5 x H
3	≤ W	0.180	H	0.5 x H
4	≤ W	0.180	H	0.5 x H
5	≤ W	0.180	H	0.5 x H
6	≤ W	0.180	H	0.5 x H
7	≤ W	0.180	H	0.5 x H
8	≤ W	0.180	H	0.5 x H
9	≤ W	0.180	H	0.5 x H
10	≤ W	0.180	H	0.5 x H
12	≤ W	0.180	H	0.5 x H
14	≤ W	0.180	H	0.5 x H
16	≤ W	0.220	H	0.5 x H
18	≤ W	0.220	H	0.5 x H
20	≤ W	0.220	H	0.5 x H
22	≤ W	0.220	H	0.5 x H

W	H	T	A	B
inches	inches	inches	inches	inches
24	≤ W	0.220	H	0.5 x H
26	≤ W	0.220	H	0.5 x H
28	≤ W	0.260	H	0.5 x H
30	≤ W	0.260	H	0.5 x H
32	≤ W	0.260	H	0.5 x H
34	≤ W	0.260	H	0.5 x H
36	≤ W	0.260	H	0.5 x H
42	≤ W	0.260	H	0.5 x H
48	≤ W	0.300	H	0.5 x H
54	≤ W	0.300	H	0.5 x H
60	≤ W	0.300	H	0.5 x H
66	≤ W	0.340	H	0.5 x H
72	≤ W	0.340	H	0.5 x H
78	≤ W	0.340	H	0.5 x H
84	≤ W	0.340	H	0.5 x H
90	≤ W	0.380	H	0.5 x H
96	≤ W	0.380	H	0.5 x H
102	≤ W	0.380	H	0.5 x H

Notes:

- 1) Larger sizes available up to 180"



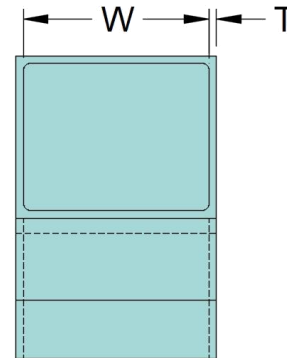
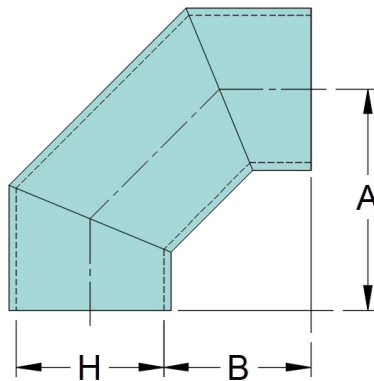
Fitting:

90° Rectangular Easy Bend 3-Gore Elbow

Fitting No:

140Product Class: **FlameGuard**Resin Types: **Vinylester such as Derekane™ 510B-400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#140: "H" / "W" / "B"**#140 F x P: **"H" / "W" / "B"** for flange by plain end#140 F x F: **"H" / "W" / "B"** for flange by flange end

W	H	T	A	B
inches	inches	inches	inches	inches
1	≤ W	0.180	1.5 x H	H
1-1/2	≤ W	0.180	1.5 x H	H
2	≤ W	0.180	1.5 x H	H
2-1/2	≤ W	0.180	1.5 x H	H
3	≤ W	0.180	1.5 x H	H
4	≤ W	0.180	1.5 x H	H
5	≤ W	0.180	1.5 x H	H
6	≤ W	0.180	1.5 x H	H
7	≤ W	0.180	1.5 x H	H
8	≤ W	0.180	1.5 x H	H
9	≤ W	0.180	1.5 x H	H
10	≤ W	0.180	1.5 x H	H
12	≤ W	0.180	1.5 x H	H
14	≤ W	0.180	1.5 x H	H
16	≤ W	0.220	1.5 x H	H
18	≤ W	0.220	1.5 x H	H
20	≤ W	0.220	1.5 x H	H
22	≤ W	0.220	1.5 x H	H

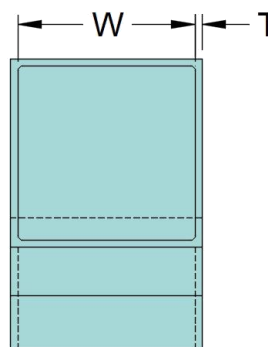
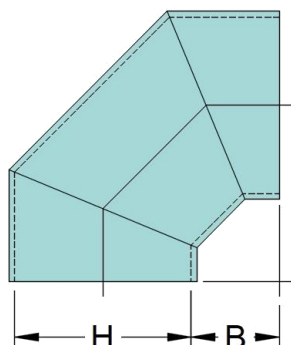
W	H	T	A	B
inches	inches	inches	inches	inches
24	≤ W	0.220	1.5 x H	H
26	≤ W	0.220	1.5 x H	H
28	≤ W	0.260	1.5 x H	H
30	≤ W	0.260	1.5 x H	H
32	≤ W	0.260	1.5 x H	H
34	≤ W	0.260	1.5 x H	H
36	≤ W	0.260	1.5 x H	H
42	≤ W	0.260	1.5 x H	H
48	≤ W	0.300	1.5 x H	H
54	≤ W	0.300	1.5 x H	H
60	≤ W	0.300	1.5 x H	H
66	≤ W	0.340	1.5 x H	H
72	≤ W	0.340	1.5 x H	H
78	≤ W	0.340	1.5 x H	H
84	≤ W	0.340	1.5 x H	H
90	≤ W	0.380	1.5 x H	H
96	≤ W	0.380	1.5 x H	H
102	≤ W	0.380	1.5 x H	H

Notes:

- 1) Larger sizes available

Fitting: **90° Short Radius Rect Easy Bend 3-Gore Elbow** Fitting No: **141**Product Class: **FlameGuard**Resin Types: **Vinylester such as Derekane™ 510B-400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#141: "H" / "W" / "B"**#141 F x P: **"H" / "W" / "B"** for flange by plain end#141 F x F: **"H" / "W" / "B"** for flange by flange end

W	H	T	A	B
inches	inches	inches	inches	inches
1	≤ W	0.180	H	0.5 x H
1-1/2	≤ W	0.180	H	0.5 x H
2	≤ W	0.180	H	0.5 x H
2-1/2	≤ W	0.180	H	0.5 x H
3	≤ W	0.180	H	0.5 x H
4	≤ W	0.180	H	0.5 x H
5	≤ W	0.180	H	0.5 x H
6	≤ W	0.180	H	0.5 x H
7	≤ W	0.180	H	0.5 x H
8	≤ W	0.180	H	0.5 x H
9	≤ W	0.180	H	0.5 x H
10	≤ W	0.180	H	0.5 x H
12	≤ W	0.180	H	0.5 x H
14	≤ W	0.180	H	0.5 x H
16	≤ W	0.220	H	0.5 x H
18	≤ W	0.220	H	0.5 x H
20	≤ W	0.220	H	0.5 x H
22	≤ W	0.220	H	0.5 x H

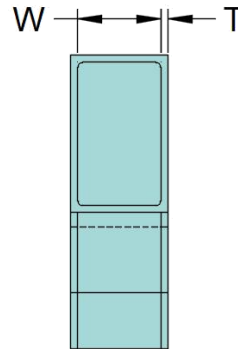
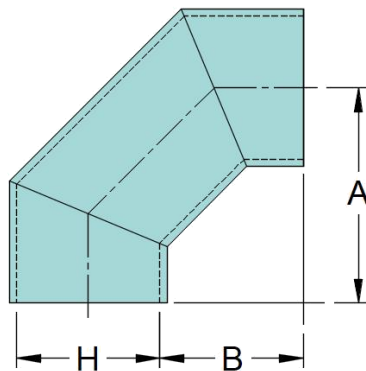
W	H	T	A	B
inches	inches	inches	inches	inches
24	≤ W	0.220	H	0.5 x H
26	≤ W	0.220	H	0.5 x H
28	≤ W	0.260	H	0.5 x H
30	≤ W	0.260	H	0.5 x H
32	≤ W	0.260	H	0.5 x H
34	≤ W	0.260	H	0.5 x H
36	≤ W	0.260	H	0.5 x H
42	≤ W	0.260	H	0.5 x H
48	≤ W	0.300	H	0.5 x H
54	≤ W	0.300	H	0.5 x H
60	≤ W	0.300	H	0.5 x H
66	≤ W	0.340	H	0.5 x H
72	≤ W	0.340	H	0.5 x H
78	≤ W	0.340	H	0.5 x H
84	≤ W	0.340	H	0.5 x H
90	≤ W	0.380	H	0.5 x H
96	≤ W	0.380	H	0.5 x H
102	≤ W	0.380	H	0.5 x H

Notes:

- 1) Larger sizes available

Fitting: **90° Long Radius Rect Hard Bend 3-Gore Elbow** Fitting No: **145**Product Class: **FlameGuard**Resin Types: **Vinylester such as Derekane™ 510B-400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#145: "H" / "W" / "B"**#145 F x P: **"H" / "W" / "B"** for flange by plain end#145 F x F: **"H" / "W" / "B"** for flange by flange end

H	W	T	A	B
inches	inches	inches	inches	inches
1	≤ H	0.180	1.5 x H	H
1-1/2	≤ H	0.180	1.5 x H	H
2	≤ H	0.180	1.5 x H	H
2-1/2	≤ H	0.180	1.5 x H	H
3	≤ H	0.180	1.5 x H	H
4	≤ H	0.180	1.5 x H	H
5	≤ H	0.180	1.5 x H	H
6	≤ H	0.180	1.5 x H	H
7	≤ H	0.180	1.5 x H	H
8	≤ H	0.180	1.5 x H	H
9	≤ H	0.180	1.5 x H	H
10	≤ H	0.180	1.5 x H	H
12	≤ H	0.180	1.5 x H	H
14	≤ H	0.180	1.5 x H	H
16	≤ H	0.220	1.5 x H	H
18	≤ H	0.220	1.5 x H	H
20	≤ H	0.220	1.5 x H	H
22	≤ H	0.220	1.5 x H	H

H	W	T	A	B
inches	inches	inches	inches	inches
24	≤ H	0.220	1.5 x H	H
26	≤ H	0.220	1.5 x H	H
28	≤ H	0.260	1.5 x H	H
30	≤ H	0.260	1.5 x H	H
32	≤ H	0.260	1.5 x H	H
34	≤ H	0.260	1.5 x H	H
36	≤ H	0.260	1.5 x H	H
42	≤ H	0.260	1.5 x H	H
48	≤ H	0.300	1.5 x H	H
54	≤ H	0.300	1.5 x H	H
60	≤ H	0.300	1.5 x H	H
66	≤ H	0.340	1.5 x H	H
72	≤ H	0.340	1.5 x H	H
78	≤ H	0.340	1.5 x H	H
84	≤ H	0.340	1.5 x H	H
90	≤ H	0.380	1.5 x H	H
96	≤ H	0.380	1.5 x H	H
102	≤ H	0.380	1.5 x H	H

Notes:

1) Larger sizes available

Fitting: **90° Short Radius Rect Hard Bend 3-Gore Elbow** Fitting No: **146**

Product Class: **FlameGuard**

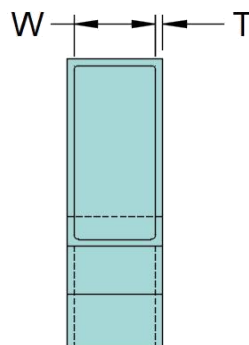
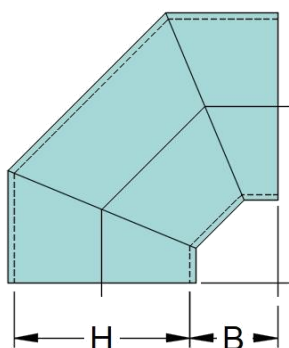
Resin Types: **Vinylester such as Derekane™ 510B-400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#146: "H" / "W" / "B"**

#146 F x P: "H" / "W" / "B" for flange by plain end

#146 F x F: "H" / "W" / "B" for flange by flange end



H	W	T	A	B
inches	inches	inches	inches	inches
1	≤ H	0.180	H	0.5 x H
1-1/2	≤ H	0.180	H	0.5 x H
2	≤ H	0.180	H	0.5 x H
2-1/2	≤ H	0.180	H	0.5 x H
3	≤ H	0.180	H	0.5 x H
4	≤ H	0.180	H	0.5 x H
5	≤ H	0.180	H	0.5 x H
6	≤ H	0.180	H	0.5 x H
7	≤ H	0.180	H	0.5 x H
8	≤ H	0.180	H	0.5 x H
9	≤ H	0.180	H	0.5 x H
10	≤ H	0.180	H	0.5 x H
12	≤ H	0.180	H	0.5 x H
14	≤ H	0.180	H	0.5 x H
16	≤ H	0.220	H	0.5 x H
18	≤ H	0.220	H	0.5 x H
20	≤ H	0.220	H	0.5 x H
22	≤ H	0.220	H	0.5 x H

H	W	T	A	B
inches	inches	inches	inches	inches
24	≤ H	0.220	H	0.5 x H
26	≤ H	0.220	H	0.5 x H
28	≤ H	0.260	H	0.5 x H
30	≤ H	0.260	H	0.5 x H
32	≤ H	0.260	H	0.5 x H
34	≤ H	0.260	H	0.5 x H
36	≤ H	0.260	H	0.5 x H
42	≤ H	0.260	H	0.5 x H
48	≤ H	0.300	H	0.5 x H
54	≤ H	0.300	H	0.5 x H
60	≤ H	0.300	H	0.5 x H
66	≤ H	0.340	H	0.5 x H
72	≤ H	0.340	H	0.5 x H
78	≤ H	0.340	H	0.5 x H
84	≤ H	0.340	H	0.5 x H
90	≤ H	0.380	H	0.5 x H
96	≤ H	0.380	H	0.5 x H
102	≤ H	0.380	H	0.5 x H

Notes:

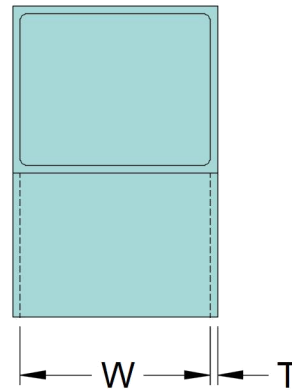
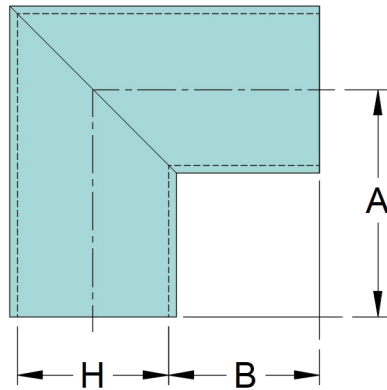
- 1) Larger sizes available



Fitting:

90° Rectangular Easy Bend 2-Gore ElbowFitting No: **147**Product Class: **FlameGuard**Resin Types: **Vinylester such as Derekane™ 510B-400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#147: "H" / "W" / "B"**#147 F x P: **"H" / "W" / "B"** for flange by plain end#147 F x F: **"H" / "W" / "B"** for flange by flange end

W	H	T	A	B
inches	inches	inches	inches	inches
1	≤ W	0.180	0.5 x H + 6	6
1-1/2	≤ W	0.180	0.5 x H + 6	6
2	≤ W	0.180	0.5 x H + 6	6
2-1/2	≤ W	0.180	0.5 x H + 6	6
3	≤ W	0.180	0.5 x H + 6	6
4	≤ W	0.180	0.5 x H + 6	6
5	≤ W	0.180	0.5 x H + 6	6
6	≤ W	0.180	0.5 x H + 6	6
7	≤ W	0.180	0.5 x H + 6	6
8	≤ W	0.180	0.5 x H + 6	6
9	≤ W	0.180	0.5 x H + 6	6
10	≤ W	0.180	0.5 x H + 6	6
12	≤ W	0.180	0.5 x H + 6	6
14	≤ W	0.180	0.5 x H + 6	6
16	≤ W	0.220	0.5 x H + 6	6
18	≤ W	0.220	0.5 x H + 6	6
20	≤ W	0.220	0.5 x H + 6	6
22	≤ W	0.220	0.5 x H + 6	6

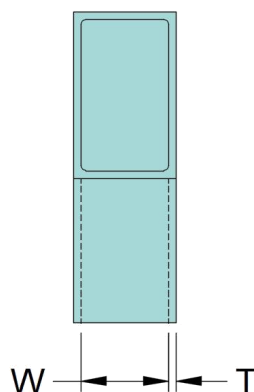
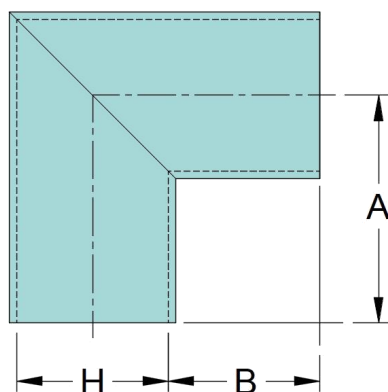
W	H	T	A	B
inches	inches	inches	inches	inches
24	≤ W	0.220	0.5 x H + 6	6
26	≤ W	0.220	0.5 x H + 6	6
28	≤ W	0.260	0.5 x H + 6	6
30	≤ W	0.260	0.5 x H + 6	6
32	≤ W	0.260	0.5 x H + 6	6
34	≤ W	0.260	0.5 x H + 6	6
36	≤ W	0.260	0.5 x H + 6	6
42	≤ W	0.260	0.5 x H + 6	6
48	≤ W	0.300	0.5 x H + 6	6
54	≤ W	0.300	0.5 x H + 6	6
60	≤ W	0.300	0.5 x H + 6	6
66	≤ W	0.340	0.5 x H + 6	6
72	≤ W	0.340	0.5 x H + 6	6
78	≤ W	0.340	0.5 x H + 6	6
84	≤ W	0.340	0.5 x H + 6	6
90	≤ W	0.380	0.5 x H + 6	6
96	≤ W	0.380	0.5 x H + 6	6
102	≤ W	0.380	0.5 x H + 6	6

Notes:

- 1) Larger sizes available

Fitting: **90° Rectangular Hard Bend 2-Gore Elbow** Fitting No: **148**Product Class: **FlameGuard**Resin Types: **Vinylester such as Derekane™ 510B-400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#148: "H" / "W" / "B"**#148 F x P: **"H" / "W" / "B"** for flange by plain end#148 F x F: **"H" / "W" / "B"** for flange by flange end

H	W	T	A	B
inches	inches	inches	inches	inches
1	≤ H	0.180	0.5 x H + 6	6
1-1/2	≤ H	0.180	0.5 x H + 6	6
2	≤ H	0.180	0.5 x H + 6	6
2-1/2	≤ H	0.180	0.5 x H + 6	6
3	≤ H	0.180	0.5 x H + 6	6
4	≤ H	0.180	0.5 x H + 6	6
5	≤ H	0.180	0.5 x H + 6	6
6	≤ H	0.180	0.5 x H + 6	6
7	≤ H	0.180	0.5 x H + 6	6
8	≤ H	0.180	0.5 x H + 6	6
9	≤ H	0.180	0.5 x H + 6	6
10	≤ H	0.180	0.5 x H + 6	6
12	≤ H	0.180	0.5 x H + 6	6
14	≤ H	0.180	0.5 x H + 6	6
16	≤ H	0.220	0.5 x H + 6	6
18	≤ H	0.220	0.5 x H + 6	6
20	≤ H	0.220	0.5 x H + 6	6
22	≤ H	0.220	0.5 x H + 6	6

H	W	T	A	B
inches	inches	inches	inches	inches
24	≤ H	0.220	0.5 x H + 6	6
26	≤ H	0.220	0.5 x H + 6	6
28	≤ H	0.260	0.5 x H + 6	6
30	≤ H	0.260	0.5 x H + 6	6
32	≤ H	0.260	0.5 x H + 6	6
34	≤ H	0.260	0.5 x H + 6	6
36	≤ H	0.260	0.5 x H + 6	6
42	≤ H	0.260	0.5 x H + 6	6
48	≤ H	0.300	0.5 x H + 6	6
54	≤ H	0.300	0.5 x H + 6	6
60	≤ H	0.300	0.5 x H + 6	6
66	≤ H	0.340	0.5 x H + 6	6
72	≤ H	0.340	0.5 x H + 6	6
78	≤ H	0.340	0.5 x H + 6	6
84	≤ H	0.340	0.5 x H + 6	6
90	≤ H	0.380	0.5 x H + 6	6
96	≤ H	0.380	0.5 x H + 6	6
102	≤ H	0.380	0.5 x H + 6	6

Notes:

- 1) Larger sizes available

Fitting:

Square To Round Transition

Fitting No: **150**

Product Class: **FlameGuard**

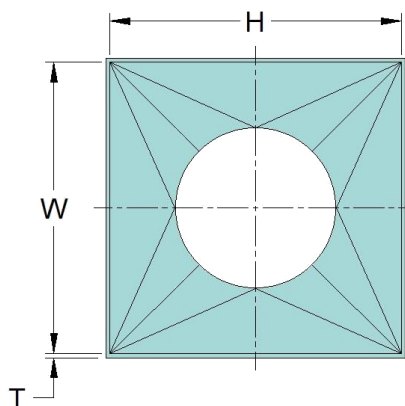
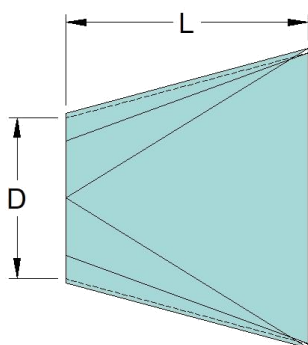
Resin Types: **Vinylester** such as **Derekane™ 510B-400**, **Interplastic CORVE8400** and others

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: #150 -"D": "W" x "H" - "L"

#150 F x P - "D": "W" x "H" - "L" for flange by plain end

#150 F x F - "D": "W" x "H" - "L" for flange by flange end

[illegible][illegible]

Notes:

1) Default "T" = Thickness of round duct "D" = "W"

Fitting: Square To Round Transition

Fitting No: **159**

Product Class: **FlameGuard**

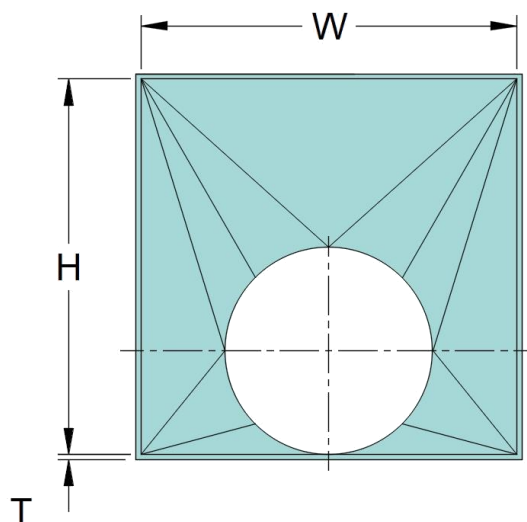
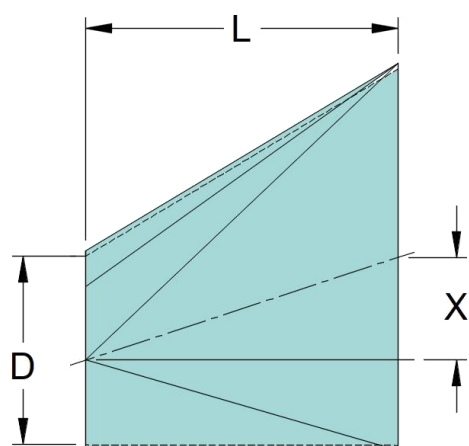
Resin Types: **Vinylester** such as **Derekane™ 510B-400**, **Interplastic CORVE8400** and others

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: #159 -"D": "W" x "H" - "L"

#159 F x P - "D": "W" x "H" - "L" for flange by plain end

#159 F x F - "D": "W" x "H" - "L" for flange by flange end

[illegible][illegible]

Notes:

1) Default "T" = Thickness of round duct "D" = "W"

Fitting: **11.4° (Inc Angle) 5:1 Concentric Reducer**

Fitting No: **160-11**

Product Class: **FlameGuard**

Resin Types: **Vynlester such as Derekane™ 510B -400, Interplastic CORVE8400 and others**

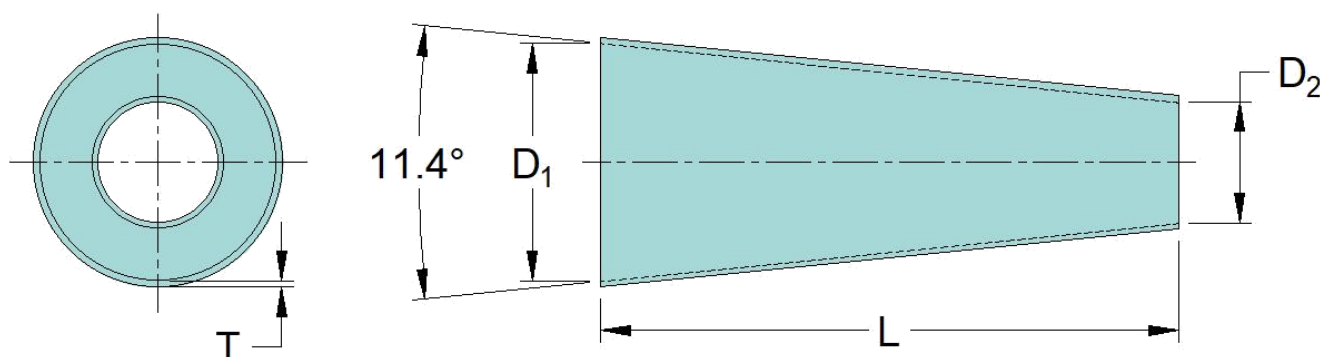
FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#160 - 11 - "D1" x "D2"**

#160 - 11 - "D1" x "D2" - F x P (Flanged on D1)

#160 - 11 - "D1" x "D2" - P x F (Flanged on D2)

#160 - 11 - "D1" x "D2" - F x F (Flanged both ends)



D ₁	D ₂	L	T
inches	inches	inches	inches
1	< D1	5 x (D1 - D2)	0.180
1-1/2	< D1	5 x (D1 - D2)	0.180
2	< D1	5 x (D1 - D2)	0.180
2-1/2	< D1	5 x (D1 - D2)	0.180
3	< D1	5 x (D1 - D2)	0.180
4	< D1	5 x (D1 - D2)	0.180
5	< D1	5 x (D1 - D2)	0.180
6	< D1	5 x (D1 - D2)	0.180
7	< D1	5 x (D1 - D2)	0.180
8	< D1	5 x (D1 - D2)	0.180
9	< D1	5 x (D1 - D2)	0.180
10	< D1	5 x (D1 - D2)	0.180
12	< D1	5 x (D1 - D2)	0.180
14	< D1	5 x (D1 - D2)	0.180
16	< D1	5 x (D1 - D2)	0.220
18	< D1	5 x (D1 - D2)	0.220
20	< D1	5 x (D1 - D2)	0.220
22	< D1	5 x (D1 - D2)	0.220

D ₁	D ₂	L	T
inches	inches	inches	inches
24	< D1	5 x (D1 - D2)	0.220
26	< D1	5 x (D1 - D2)	0.220
28	< D1	5 x (D1 - D2)	0.260
30	< D1	5 x (D1 - D2)	0.260
32	< D1	5 x (D1 - D2)	0.260
34	< D1	5 x (D1 - D2)	0.260
36	< D1	5 x (D1 - D2)	0.260
42	< D1	5 x (D1 - D2)	0.260
48	< D1	5 x (D1 - D2)	0.300
54	< D1	5 x (D1 - D2)	0.300
60	< D1	5 x (D1 - D2)	0.300
66	< D1	5 x (D1 - D2)	0.340
72	< D1	5 x (D1 - D2)	0.340
78	< D1	5 x (D1 - D2)	0.340
84	< D1	5 x (D1 - D2)	0.340
90	< D1	5 x (D1 - D2)	0.380
96	< D1	5 x (D1 - D2)	0.380
102	< D1	5 x (D1 - D2)	0.380

Notes:

- 1) Custom lengths available
- 2) Recommend 5" minimum length

Fitting: **22° (Inc Angle) 2.5:1 Concentric Reducer**

Fitting No: **160-22**

Product Class: **FlameGuard**

Resin Types: **Vinylester such as Derekane™ 510B -400, Interplastic CORVE8400 and others**

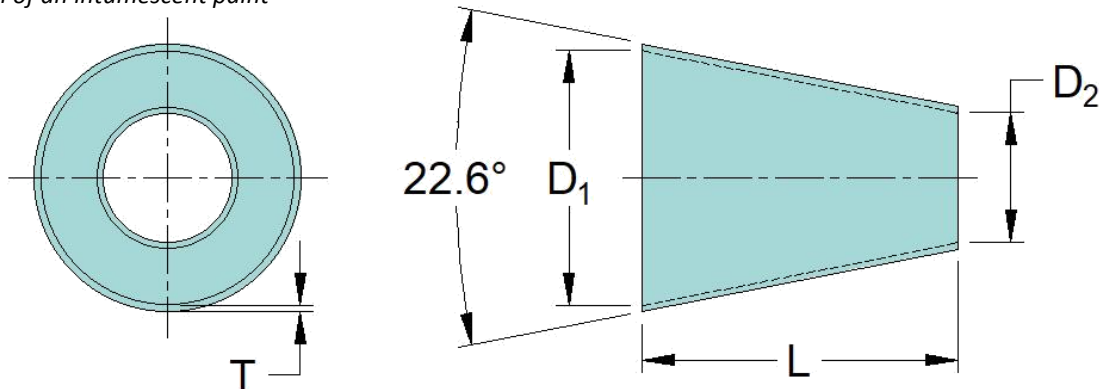
FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#160 - 22 - "D1" x "D2"**

#160 - 22 - "D1" x "D2" - F x P (Flanged on D1)

#160 - 22 - "D1" x "D2" - P x F (Flanged on D2)

#160 - 22 - "D1" x "D2" - F x F (Flanged both ends)



D ₁	D ₂	L	T
inches	inches	inches	inches
1	< D1	2.5 x (D1 - D2)	0.180
1-1/2	< D1	2.5 x (D1 - D2)	0.180
2	< D1	2.5 x (D1 - D2)	0.180
2-1/2	< D1	2.5 x (D1 - D2)	0.180
3	< D1	2.5 x (D1 - D2)	0.180
4	< D1	2.5 x (D1 - D2)	0.180
5	< D1	2.5 x (D1 - D2)	0.180
6	< D1	2.5 x (D1 - D2)	0.180
7	< D1	2.5 x (D1 - D2)	0.180
8	< D1	2.5 x (D1 - D2)	0.180
9	< D1	2.5 x (D1 - D2)	0.180
10	< D1	2.5 x (D1 - D2)	0.180
12	< D1	2.5 x (D1 - D2)	0.180
14	< D1	2.5 x (D1 - D2)	0.180
16	< D1	2.5 x (D1 - D2)	0.220
18	< D1	2.5 x (D1 - D2)	0.220
20	< D1	2.5 x (D1 - D2)	0.220
22	< D1	2.5 x (D1 - D2)	0.220

D ₁	D ₂	L	T
inches	inches	inches	inches
24	< D1	2.5 x (D1 - D2)	0.220
26	< D1	2.5 x (D1 - D2)	0.220
28	< D1	2.5 x (D1 - D2)	0.260
30	< D1	2.5 x (D1 - D2)	0.260
32	< D1	2.5 x (D1 - D2)	0.260
34	< D1	2.5 x (D1 - D2)	0.260
36	< D1	2.5 x (D1 - D2)	0.260
42	< D1	2.5 x (D1 - D2)	0.260
48	< D1	2.5 x (D1 - D2)	0.300
54	< D1	2.5 x (D1 - D2)	0.300
60	< D1	2.5 x (D1 - D2)	0.300
66	< D1	2.5 x (D1 - D2)	0.340
72	< D1	2.5 x (D1 - D2)	0.340
78	< D1	2.5 x (D1 - D2)	0.340
84	< D1	2.5 x (D1 - D2)	0.340
90	< D1	2.5 x (D1 - D2)	0.380
96	< D1	2.5 x (D1 - D2)	0.380
102	< D1	2.5 x (D1 - D2)	0.380

Notes:

- 1) Custom lengths available
- 2) Recommend 5" minimum length

Fitting: 45° (Inc Angle) 1:1 Concentric Reducer

Fitting No: **160-45**

Product Class: **FlameGuard**

Resin Types: **Vinylester such as Derekane™ 510B -400, Interplastic CORVE8400 and others**

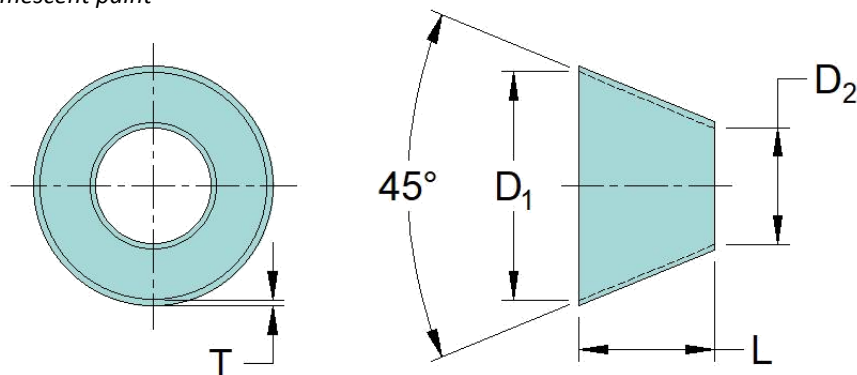
FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#160 - 45 - "D1" x "D2"**

#160 - 45 - "D1" x "D2" - F x P (Flanged on D1)

#160 - 45 - "D1" x "D2" - P x F (Flanged on D2)

#160 - 45 - "D1" x "D2" - F x F (Flanged both ends)



D ₁ inches	D ₂ inches	L inches	T inches
1	< D1	(D1 - D2)	0.180
1-1/2	< D1	(D1 - D2)	0.180
2	< D1	(D1 - D2)	0.180
2-1/2	< D1	(D1 - D2)	0.180
3	< D1	(D1 - D2)	0.180
4	< D1	(D1 - D2)	0.180
5	< D1	(D1 - D2)	0.180
6	< D1	(D1 - D2)	0.180
7	< D1	(D1 - D2)	0.180
8	< D1	(D1 - D2)	0.180
9	< D1	(D1 - D2)	0.180
10	< D1	(D1 - D2)	0.180
12	< D1	(D1 - D2)	0.180
14	< D1	(D1 - D2)	0.180
16	< D1	(D1 - D2)	0.220
18	< D1	(D1 - D2)	0.220
20	< D1	(D1 - D2)	0.220
22	< D1	(D1 - D2)	0.220

D ₁ inches	D ₂ inches	L inches	T inches
24	< D1	(D1 - D2)	0.220
26	< D1	(D1 - D2)	0.220
28	< D1	(D1 - D2)	0.260
30	< D1	(D1 - D2)	0.260
32	< D1	(D1 - D2)	0.260
34	< D1	(D1 - D2)	0.260
36	< D1	(D1 - D2)	0.260
42	< D1	(D1 - D2)	0.260
48	< D1	(D1 - D2)	0.300
54	< D1	(D1 - D2)	0.300
60	< D1	(D1 - D2)	0.300
66	< D1	(D1 - D2)	0.340
72	< D1	(D1 - D2)	0.340
78	< D1	(D1 - D2)	0.340
84	< D1	(D1 - D2)	0.340
90	< D1	(D1 - D2)	0.380
96	< D1	(D1 - D2)	0.380
102	< D1	(D1 - D2)	0.380

Notes:

- 1) Custom lengths available
- 2) Recommend 5" minimum length

Fitting: **60° (Inc Angle) 0.86:1 Concentric Reducer** Fitting No: **160-60**

Product Class: **FlameGuard**

Resin Types: **Vinylester such as Derekane™ 510B -400, Interplastic CORVE8400 and others**

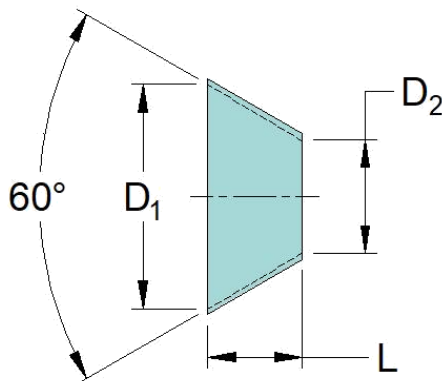
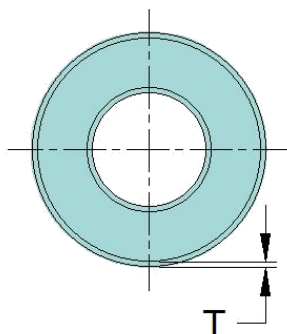
FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#160 - 60 - "D1" x "D2"**

#160 - 60 - "D1" x "D2" - F x P (Flanged on D1)

#160 - 60 - "D1" x "D2" - P x F (Flanged on D2)

#160 - 60 - "D1" x "D2" - F x F (Flanged both ends)



D ₁	D ₂	L	T
inches	inches	inches	inches
1	< D1	0.86 x (D1 - D2)	0.180
1-1/2	< D1	0.86 x (D1 - D2)	0.180
2	< D1	0.86 x (D1 - D2)	0.180
2-1/2	< D1	0.86 x (D1 - D2)	0.180
3	< D1	0.86 x (D1 - D2)	0.180
4	< D1	0.86 x (D1 - D2)	0.180
5	< D1	0.86 x (D1 - D2)	0.180
6	< D1	0.86 x (D1 - D2)	0.180
7	< D1	0.86 x (D1 - D2)	0.180
8	< D1	0.86 x (D1 - D2)	0.180
9	< D1	0.86 x (D1 - D2)	0.180
10	< D1	0.86 x (D1 - D2)	0.180
12	< D1	0.86 x (D1 - D2)	0.180
14	< D1	0.86 x (D1 - D2)	0.180
16	< D1	0.86 x (D1 - D2)	0.220
18	< D1	0.86 x (D1 - D2)	0.220
20	< D1	0.86 x (D1 - D2)	0.220
22	< D1	0.86 x (D1 - D2)	0.220

D ₁	D ₂	L	T
inches	inches	inches	inches
24	< D1	0.86 x (D1 - D2)	0.220
26	< D1	0.86 x (D1 - D2)	0.220
28	< D1	0.86 x (D1 - D2)	0.260
30	< D1	0.86 x (D1 - D2)	0.260
32	< D1	0.86 x (D1 - D2)	0.260
34	< D1	0.86 x (D1 - D2)	0.260
36	< D1	0.86 x (D1 - D2)	0.260
42	< D1	0.86 x (D1 - D2)	0.260
48	< D1	0.86 x (D1 - D2)	0.300
54	< D1	0.86 x (D1 - D2)	0.300
60	< D1	0.86 x (D1 - D2)	0.300
66	< D1	0.86 x (D1 - D2)	0.340
72	< D1	0.86 x (D1 - D2)	0.340
78	< D1	0.86 x (D1 - D2)	0.340
84	< D1	0.86 x (D1 - D2)	0.340
90	< D1	0.86 x (D1 - D2)	0.380
96	< D1	0.86 x (D1 - D2)	0.380
102	< D1	0.86 x (D1 - D2)	0.380

Notes:

- 1) Custom lengths available
- 2) Recommend 5" minimum length

Fitting: **90° (Inc Angle) 0.5:1 Concentric Reducer**

Fitting No: **160-90**

Product Class: **FlameGuard**

Resin Types: **Vinylester such as Derekane™ 510B -400, Interplastic CORVE8400 and others**

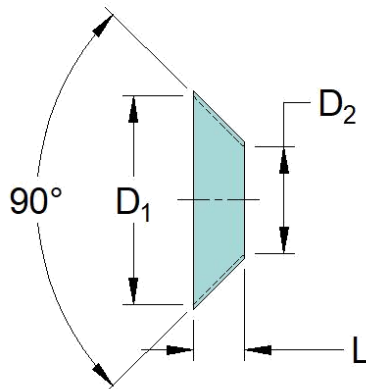
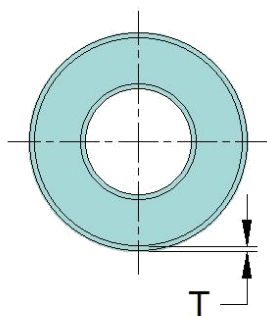
FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#160 - 90 - "D1" x "D2"**

#160 - 90 - "D1" x "D2" - F x P (Flanged on D1)

#160 - 90 - "D1" x "D2" - P x F (Flanged on D2)

#160 - 90 - "D1" x "D2" - F x F (Flanged both ends)



D ₁	D ₂	L	T
inches	inches	inches	inches
1	< D1	0.5 x (D1 - D2)	0.180
1-1/2	< D1	0.5 x (D1 - D2)	0.180
2	< D1	0.5 x (D1 - D2)	0.180
2-1/2	< D1	0.5 x (D1 - D2)	0.180
3	< D1	0.5 x (D1 - D2)	0.180
4	< D1	0.5 x (D1 - D2)	0.180
5	< D1	0.5 x (D1 - D2)	0.180
6	< D1	0.5 x (D1 - D2)	0.180
7	< D1	0.5 x (D1 - D2)	0.180
8	< D1	0.5 x (D1 - D2)	0.180
9	< D1	0.5 x (D1 - D2)	0.180
10	< D1	0.5 x (D1 - D2)	0.180
12	< D1	0.5 x (D1 - D2)	0.180
14	< D1	0.5 x (D1 - D2)	0.180
16	< D1	0.5 x (D1 - D2)	0.220
18	< D1	0.5 x (D1 - D2)	0.220
20	< D1	0.5 x (D1 - D2)	0.220
22	< D1	0.5 x (D1 - D2)	0.220

D ₁	D ₂	L	T
inches	inches	inches	inches
24	< D1	0.5 x (D1 - D2)	0.220
26	< D1	0.5 x (D1 - D2)	0.220
28	< D1	0.5 x (D1 - D2)	0.260
30	< D1	0.5 x (D1 - D2)	0.260
32	< D1	0.5 x (D1 - D2)	0.260
34	< D1	0.5 x (D1 - D2)	0.260
36	< D1	0.5 x (D1 - D2)	0.260
42	< D1	0.5 x (D1 - D2)	0.260
48	< D1	0.5 x (D1 - D2)	0.300
54	< D1	0.5 x (D1 - D2)	0.300
60	< D1	0.5 x (D1 - D2)	0.300
66	< D1	0.5 x (D1 - D2)	0.340
72	< D1	0.5 x (D1 - D2)	0.340
78	< D1	0.5 x (D1 - D2)	0.340
84	< D1	0.5 x (D1 - D2)	0.340
90	< D1	0.5 x (D1 - D2)	0.380
96	< D1	0.5 x (D1 - D2)	0.380
102	< D1	0.5 x (D1 - D2)	0.380

Notes:

- 1) Custom lengths available
- 2) Recommend 5" minimum length

Fitting: 11.4° (Inc Angle) 5:1 Eccentric Reducer

Fitting No: **165-11**

Product Class: **FlameGuard**

Resin Types: **Vinylester** such as **Derekane™ 510B-400**, **Interplastic CORVE8400** and others

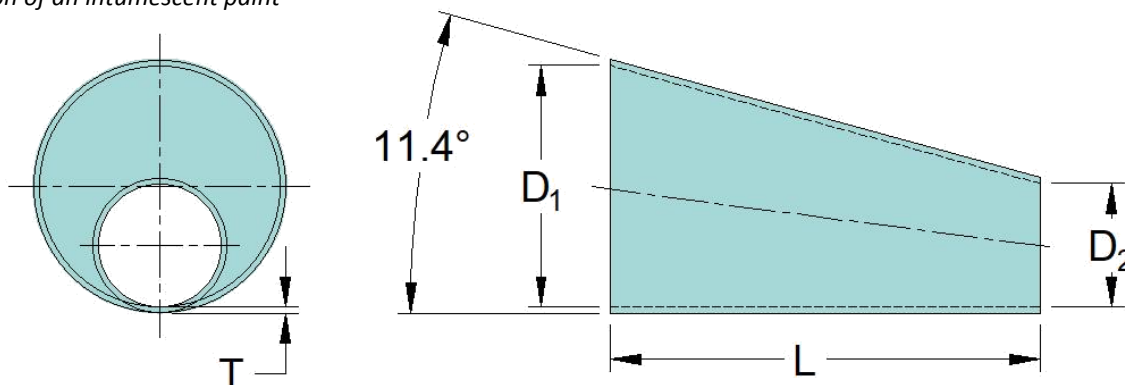
FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#165 - 11 - "D1" x "D2"**

#165 - 11 - "D1" x "D2" - F x P (Flanged on D1)

#165 - 11 - "D1" x "D2" - P x F (Flanged on D2)

#165 - 11 - "D1" x "D2" - F x F (Flanged both ends)



D ₁ inches	D ₂ inches	L inches	T inches
1	< D1	5 x (D1 - D2)	0.180
1-1/2	< D1	5 x (D1 - D2)	0.180
2	< D1	5 x (D1 - D2)	0.180
2-1/2	< D1	5 x (D1 - D2)	0.180
3	< D1	5 x (D1 - D2)	0.180
4	< D1	5 x (D1 - D2)	0.180
5	< D1	5 x (D1 - D2)	0.180
6	< D1	5 x (D1 - D2)	0.180
7	< D1	5 x (D1 - D2)	0.180
8	< D1	5 x (D1 - D2)	0.180
9	< D1	5 x (D1 - D2)	0.180
10	< D1	5 x (D1 - D2)	0.180
12	< D1	5 x (D1 - D2)	0.180
14	< D1	5 x (D1 - D2)	0.180
16	< D1	5 x (D1 - D2)	0.220
18	< D1	5 x (D1 - D2)	0.220
20	< D1	5 x (D1 - D2)	0.220
22	< D1	5 x (D1 - D2)	0.220

D ₁ inches	D ₂ inches	L inches	T inches
24	< D1	5 x (D1 - D2)	0.220
26	< D1	5 x (D1 - D2)	0.220
28	< D1	5 x (D1 - D2)	0.260
30	< D1	5 x (D1 - D2)	0.260
32	< D1	5 x (D1 - D2)	0.260
34	< D1	5 x (D1 - D2)	0.260
36	< D1	5 x (D1 - D2)	0.260
42	< D1	5 x (D1 - D2)	0.260
48	< D1	5 x (D1 - D2)	0.300
54	< D1	5 x (D1 - D2)	0.300
60	< D1	5 x (D1 - D2)	0.300
66	< D1	5 x (D1 - D2)	0.340
72	< D1	5 x (D1 - D2)	0.340
78	< D1	5 x (D1 - D2)	0.340
84	< D1	5 x (D1 - D2)	0.340
90	< D1	5 x (D1 - D2)	0.380
96	< D1	5 x (D1 - D2)	0.380
102	< D1	5 x (D1 - D2)	0.380

Notes:

- 1) Custom lengths available
- 2) Recommend 5" minimum length

Fitting: 22.6° (Inc Angle) 2.5:1 Eccentric Reducer

Fitting No: **165-22**

Product Class: **FlameGuard**

Resin Types: **Vinylester such as Derekane™ 510B -400, Interplastic CORVE8400 and others**

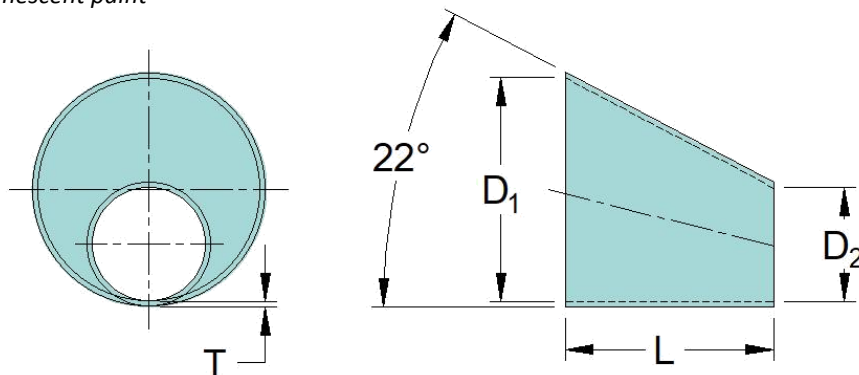
FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#165 - 22 - "D1" x "D2"**

#165 - 22 - "D1" x "D2" - F x P (Flanged on D1)

#165 - 22 - "D1" x "D2" - P x F (Flanged on D2)

#165 - 22 - "D1" x "D2" - F x F (Flanged both ends)



D ₁ inches	D ₂ inches	L inches	T inches
1	< D1	2.5 x (D1 - D2)	0.180
1-1/2	< D1	2.5 x (D1 - D2)	0.180
2	< D1	2.5 x (D1 - D2)	0.180
2-1/2	< D1	2.5 x (D1 - D2)	0.180
3	< D1	2.5 x (D1 - D2)	0.180
4	< D1	2.5 x (D1 - D2)	0.180
5	< D1	2.5 x (D1 - D2)	0.180
6	< D1	2.5 x (D1 - D2)	0.180
7	< D1	2.5 x (D1 - D2)	0.180
8	< D1	2.5 x (D1 - D2)	0.180
9	< D1	2.5 x (D1 - D2)	0.180
10	< D1	2.5 x (D1 - D2)	0.180
12	< D1	2.5 x (D1 - D2)	0.180
14	< D1	2.5 x (D1 - D2)	0.180
16	< D1	2.5 x (D1 - D2)	0.220
18	< D1	2.5 x (D1 - D2)	0.220
20	< D1	2.5 x (D1 - D2)	0.220
22	< D1	2.5 x (D1 - D2)	0.220

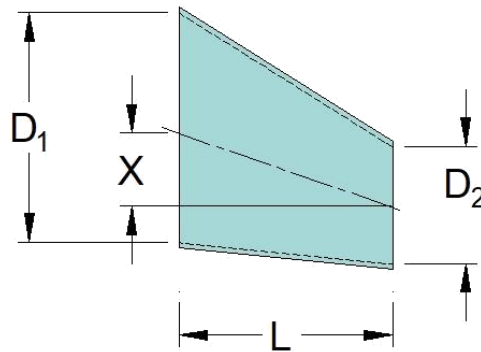
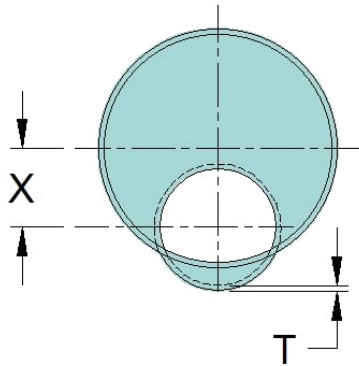
D ₁ inches	D ₂ inches	L inches	T inches
24	< D1	2.5 x (D1 - D2)	0.220
26	< D1	2.5 x (D1 - D2)	0.220
28	< D1	2.5 x (D1 - D2)	0.260
30	< D1	2.5 x (D1 - D2)	0.260
32	< D1	2.5 x (D1 - D2)	0.260
34	< D1	2.5 x (D1 - D2)	0.260
36	< D1	2.5 x (D1 - D2)	0.260
42	< D1	2.5 x (D1 - D2)	0.260
48	< D1	2.5 x (D1 - D2)	0.300
54	< D1	2.5 x (D1 - D2)	0.300
60	< D1	2.5 x (D1 - D2)	0.300
66	< D1	2.5 x (D1 - D2)	0.340
72	< D1	2.5 x (D1 - D2)	0.340
78	< D1	2.5 x (D1 - D2)	0.340
84	< D1	2.5 x (D1 - D2)	0.340
90	< D1	2.5 x (D1 - D2)	0.380
96	< D1	2.5 x (D1 - D2)	0.380
102	< D1	2.5 x (D1 - D2)	0.380

Notes:

- 1) Custom lengths available
- 2) Recommend 5" minimum length

Fitting: **Offset Reducer, Round to Round**Fitting No: **169**Product Class: **FlameGuard**Resin Types: **Vinylester such as Derekane™ 510B -400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#169 - "D1" x "D2" x "L" x "X"****#169 - "D1" x "D2" x "L" x "X" - F x P (Flanged on D1)****#169 - "D1" x "D2" x "L" x "X" - P x F (Flanged on D2)****#169 - "D1" x "D2" x "L" x "X" - F x F (Flanged both ends)**

D ₁	D ₂	X	L	T
inches	inches	inches	inches	inches
1	< D1	Specify	Specify	0.180
1-1/2	< D1	Specify	Specify	0.180
2	< D1	Specify	Specify	0.180
2-1/2	< D1	Specify	Specify	0.180
3	< D1	Specify	Specify	0.180
4	< D1	Specify	Specify	0.180
5	< D1	Specify	Specify	0.180
6	< D1	Specify	Specify	0.180
7	< D1	Specify	Specify	0.180
8	< D1	Specify	Specify	0.180
9	< D1	Specify	Specify	0.180
10	< D1	Specify	Specify	0.180
12	< D1	Specify	Specify	0.180
14	< D1	Specify	Specify	0.180
16	< D1	Specify	Specify	0.220
18	< D1	Specify	Specify	0.220
20	< D1	Specify	Specify	0.220
22	< D1	Specify	Specify	0.220

D ₁	D ₂	X	L	T
inches	inches	inches	inches	inches
24	< D1	Specify	Specify	0.220
26	< D1	Specify	Specify	0.220
28	< D1	Specify	Specify	0.260
30	< D1	Specify	Specify	0.260
32	< D1	Specify	Specify	0.260
34	< D1	Specify	Specify	0.260
36	< D1	Specify	Specify	0.260
42	< D1	Specify	Specify	0.260
48	< D1	Specify	Specify	0.300
54	< D1	Specify	Specify	0.300
60	< D1	Specify	Specify	0.300
66	< D1	Specify	Specify	0.340
72	< D1	Specify	Specify	0.340
78	< D1	Specify	Specify	0.340
84	< D1	Specify	Specify	0.340
90	< D1	Specify	Specify	0.380
96	< D1	Specify	Specify	0.380
102	< D1	Specify	Specify	0.380

1) Recommend 5" minimum length

Fitting: **Standard Tee**

Fitting No: **170**

Product Class: **FlameGuard**

Resin Types: **Vinylester such as Derekane™ 510B -400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

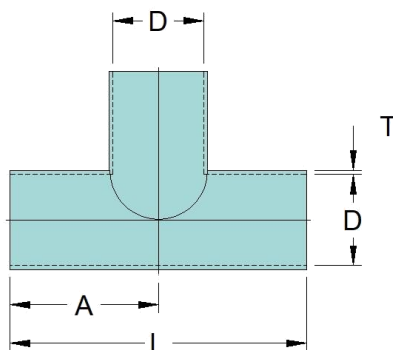
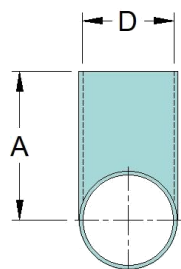
Order as: **#170 - "D"**

#170 - PPF - "D" for one end (Branch) flanged

#170 - FFP - "D" for two ends (Run, Run) flanged

#170 - FFF - "D" for all flanged ends

Show "F" in the desired flange location



D	A	L	T
inches	inches	inches	inches
1	6	12	0.180
1-1/2	6	12	0.180
2	6	12	0.180
2-1/2	7	14	0.180
3	7	14	0.180
4	8	16	0.180
5	8	16	0.180
6	10	20	0.180
7	10	20	0.180
8	12	24	0.180
9	12	24	0.180
10	14	28	0.180
12	16	32	0.180
14	18	36	0.180
16	20	40	0.220
18	21	42	0.220
20	22	44	0.220
22	22	44	0.220

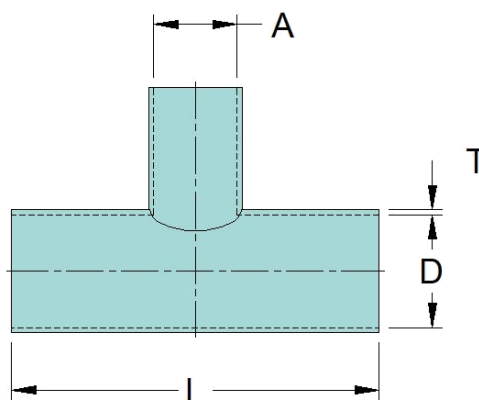
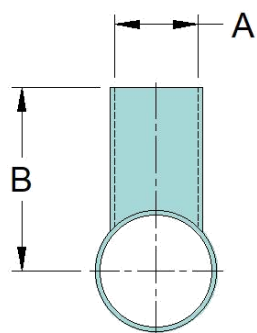
D	A	L	T
inches	inches	inches	inches
24	24	48	0.220
26	26	52	0.220
28	28	56	0.260
30	30	60	0.260
32	31	62	0.260
34	32	64	0.260
36	33	66	0.260
42	36	72	0.260
48	42	84	0.300
54	45	90	0.300
60	48	96	0.300
66	51	102	0.340
72	54	108	0.340
78	57	114	0.340
84	60	120	0.340
90	63	126	0.380
96	66	132	0.380
102	69	138	0.380

Notes:

1) Custom lengths and larger sizes available up to 180"

Fitting: **90° Bonded Reducing Tee**Fitting No: **172**Product Class: **FlameGuard**Resin Types: **Vinylester such as Derekane™ 510B-400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#172 - "D" - "A"****#172 - PPF - "D" - "A" for one end (Branch) flanged****#172 - FFP - "D" - "A" for two ends (Run, Run) flanged****#172 - FFF - "D" - "A" for all flanged ends****Show "F" in the desired flange location**

D	A	B	L	T
inches	inches	inches	inches	inches
1	≤ D	6 + D/2	A + 12	0.180
1-1/2	≤ D	6 + D/2	A + 12	0.180
2	≤ D	6 + D/2	A + 12	0.180
2-1/2	≤ D	6 + D/2	A + 12	0.180
3	≤ D	6 + D/2	A + 12	0.180
4	≤ D	6 + D/2	A + 12	0.180
5	≤ D	6 + D/2	A + 12	0.180
6	≤ D	6 + D/2	A + 12	0.180
7	≤ D	6 + D/2	A + 12	0.180
8	≤ D	6 + D/2	A + 12	0.180
9	≤ D	6 + D/2	A + 12	0.180
10	≤ D	6 + D/2	A + 12	0.180
12	≤ D	6 + D/2	A + 12	0.180
14	≤ D	6 + D/2	A + 12	0.180
16	≤ D	6 + D/2	A + 12	0.220
18	≤ D	6 + D/2	A + 12	0.220
20	≤ D	6 + D/2	A + 12	0.220
22	≤ D	6 + D/2	A + 12	0.220

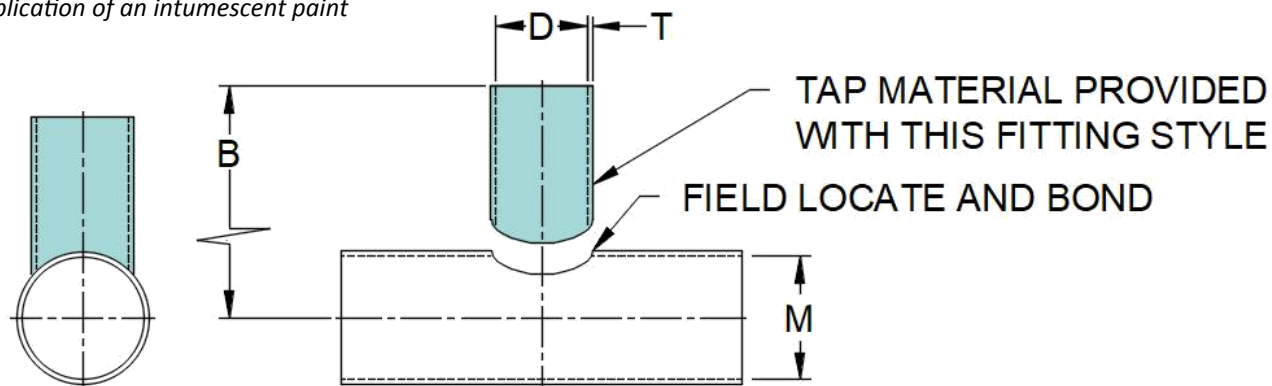
D	A	B	L	T
inches	inches	inches	inches	inches
24	≤ D	6 + D/2	A + 12	0.220
26	≤ D	6 + D/2	A + 12	0.220
28	≤ D	6 + D/2	A + 12	0.260
30	≤ D	6 + D/2	A + 12	0.260
32	≤ D	6 + D/2	A + 12	0.260
34	≤ D	6 + D/2	A + 12	0.260
36	≤ D	6 + D/2	A + 12	0.260
42	≤ D	6 + D/2	A + 12	0.260
48	≤ D	6 + D/2	A + 12	0.300
54	≤ D	6 + D/2	A + 12	0.300
60	≤ D	6 + D/2	A + 12	0.300
66	≤ D	6 + D/2	A + 12	0.340
72	≤ D	6 + D/2	A + 12	0.340
78	≤ D	6 + D/2	A + 12	0.340
84	≤ D	6 + D/2	A + 12	0.340
90	≤ D	6 + D/2	A + 12	0.380
96	≤ D	6 + D/2	A + 12	0.380
102	≤ D	6 + D/2	A + 12	0.380

Notes:

1) Custom lengths and larger sizes available up to 180"

Fitting: **90° Pre-Configured Concentric Tap**Fitting No: **173**Product Class: **FlameGuard**Resin Types: **Vinylester such as Derekane™ 510B-400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#173 - PT - "D" - "M"****#173 - PTF - "D" - "M" (Flange on tap)**

D	M	B	T
inches	inches	inches	inches
1	≥ D	6 + M/2	0.180
1-1/2	≥ D	6 + M/2	0.180
2	≥ D	6 + M/2	0.180
2-1/2	≥ D	6 + M/2	0.180
3	≥ D	6 + M/2	0.180
4	≥ D	6 + M/2	0.180
5	≥ D	6 + M/2	0.180
6	≥ D	6 + M/2	0.180
7	≥ D	6 + M/2	0.180
8	≥ D	6 + M/2	0.180
9	≥ D	6 + M/2	0.180
10	≥ D	6 + M/2	0.180
12	≥ D	6 + M/2	0.180
14	≥ D	6 + M/2	0.180
16	≥ D	6 + M/2	0.220
18	≥ D	6 + M/2	0.220
20	≥ D	6 + M/2	0.220
22	≥ D	6 + M/2	0.220

D	M	B	T
inches	inches	inches	inches
24	≥ D	6 + M/2	0.220
26	≥ D	6 + M/2	0.220
28	≥ D	6 + M/2	0.260
30	≥ D	6 + M/2	0.260
32	≥ D	6 + M/2	0.260
34	≥ D	6 + M/2	0.260
36	≥ D	6 + M/2	0.260
42	≥ D	6 + M/2	0.260
48	≥ D	6 + M/2	0.300
54	≥ D	6 + M/2	0.300
60	≥ D	6 + M/2	0.300
66	≥ D	6 + M/2	0.340
72	≥ D	6 + M/2	0.340
78	≥ D	6 + M/2	0.340
84	≥ D	6 + M/2	0.340
90	≥ D	6 + M/2	0.380
96	≥ D	6 + M/2	0.380
102	≥ D	6 + M/2	0.380

Notes:

- 1) "B" shown is standard, custom lengths available.
- 2) Larger sizes available up to 180"
- 3) Tap Material is pre-cut in the factory, or pre-configured, to the customer specified header diameter.

Fitting: **90° Saddle Tap**

Fitting No: **174**

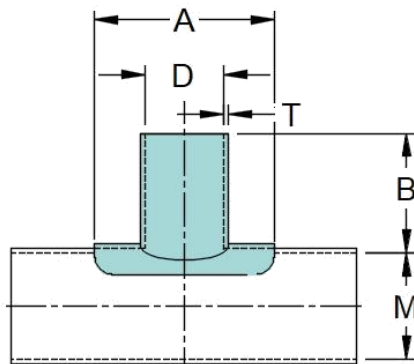
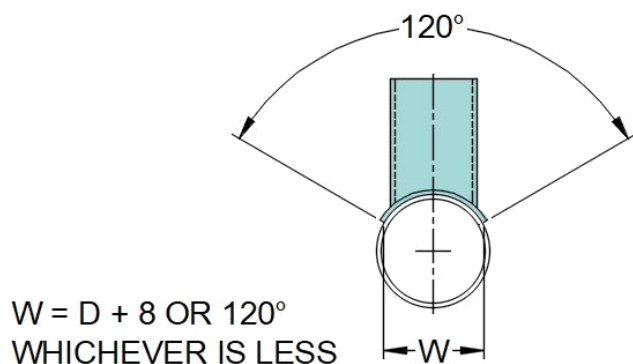
Product Class: **FlameGuard**

Resin Types: **Vinylester such as Derekane™ 510B -400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#174 - ST - "D" - "M"**

#174 - STF - "D" - "M" (Flange on tap)



D	A	W	B	T
inches	inches	inches	inches	inches
1	D + 8	D + 8	6 + M/2	0.180
1-1/2	D + 8	D + 8	6 + M/2	0.180
2	D + 8	D + 8	6 + M/2	0.180
2-1/2	D + 8	D + 8	6 + M/2	0.180
3	D + 8	D + 8	6 + M/2	0.180
4	D + 8	D + 8	6 + M/2	0.180
5	D + 8	D + 8	6 + M/2	0.180
6	D + 8	D + 8	6 + M/2	0.180
7	D + 8	D + 8	6 + M/2	0.180
8	D + 8	D + 8	6 + M/2	0.180
9	D + 8	D + 8	6 + M/2	0.180
10	D + 8	D + 8	6 + M/2	0.180
12	D + 8	D + 8	6 + M/2	0.180
14	D + 8	D + 8	6 + M/2	0.180
16	D + 8	D + 8	6 + M/2	0.220
18	D + 8	D + 8	6 + M/2	0.220
20	D + 8	D + 8	6 + M/2	0.220
22	D + 8	D + 8	6 + M/2	0.220

D	A	W	B	T
inches	inches	inches	inches	inches
24	D + 8	D + 8	6 + M/2	0.220
26	D + 8	D + 8	6 + M/2	0.220
28	D + 8	D + 8	6 + M/2	0.260
30	D + 8	D + 8	6 + M/2	0.260
32	D + 8	D + 8	6 + M/2	0.260
34	D + 8	D + 8	6 + M/2	0.260
36	D + 8	D + 8	6 + M/2	0.260
42	D + 8	D + 8	6 + M/2	0.260
48	D + 8	D + 8	6 + M/2	0.300
54	D + 8	D + 8	6 + M/2	0.300
60	D + 8	D + 8	6 + M/2	0.300
66	D + 8	D + 8	6 + M/2	0.340
72	D + 8	D + 8	6 + M/2	0.340
78	D + 8	D + 8	6 + M/2	0.340
84	D + 8	D + 8	6 + M/2	0.340
90	D + 8	D + 8	6 + M/2	0.380
96	D + 8	D + 8	6 + M/2	0.380
102	D + 8	D + 8	6 + M/2	0.380

Notes:

1) Custom lengths and larger sizes available up to 180"

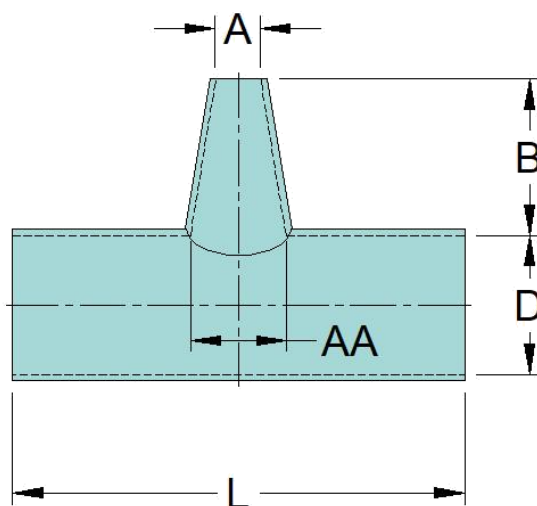
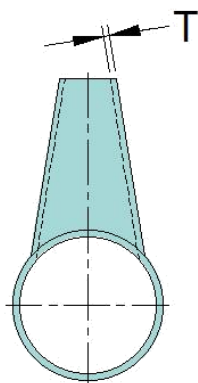
Fitting: 90° Bonded Concentric Conical Tee

Fitting No: **175**

Product Class: **FlameGuard**

Resin Types: **Vynlester such as Derekane™ 510B -400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#175 - "D" - "A"**
#175 - PPF - "D" - "A" one end (Branch) flanged
#175 - FFP - "D" - "A" two ends (Run, Run) flanged
#175 - FFF - "D" - "A" flanged
Show "F" in desired flange location


D	A	AA	L	B	T
inches	inches	inches	inches	inches	inches
1					
1-1/2					
2	≤ D	A + 4.85	AA + 12	6 + D/2	0.180
2-1/2	≤ D	A + 4.85	AA + 12	6 + D/2	0.180
3	≤ D	A + 4.85	AA + 12	6 + D/2	0.180
4	≤ D	A + 4.85	AA + 12	6 + D/2	0.180
5	≤ D	A + 4.85	AA + 12	6 + D/2	0.180
6	≤ D	A + 4.85	AA + 12	6 + D/2	0.180
7	≤ D	A + 4.85	AA + 12	6 + D/2	0.180
8	≤ D	A + 4.85	AA + 12	6 + D/2	0.180
9	≤ D	A + 4.85	AA + 12	6 + D/2	0.180
10	≤ D	A + 4.85	AA + 12	6 + D/2	0.180
12	≤ D	A + 4.85	AA + 12	6 + D/2	0.180
14	≤ D	A + 4.85	AA + 12	6 + D/2	0.180
16	≤ D	A + 4.85	AA + 12	6 + D/2	0.220
18	≤ D	A + 4.85	AA + 12	6 + D/2	0.220
20	≤ D	A + 4.85	AA + 12	6 + D/2	0.220
22	≤ D	A + 4.85	AA + 12	6 + D/2	0.220

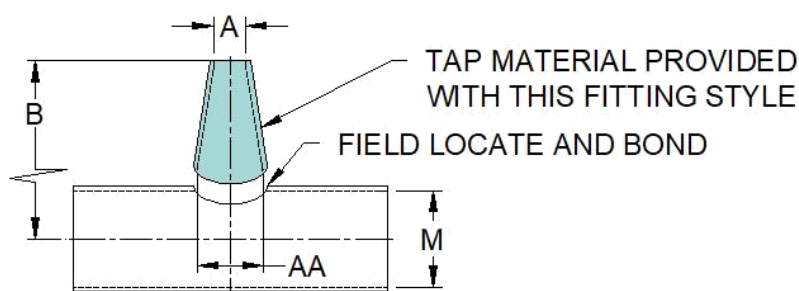
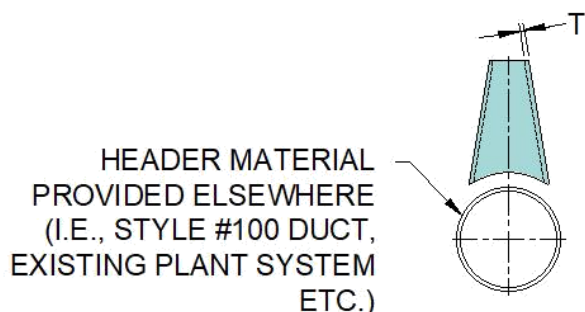
D	A	AA	L	B	T
inches	inches	inches	inches	inches	inches
24	≤ D	A + 4.85	AA + 12	6 + D/2	0.220
26	≤ D	A + 4.85	AA + 12	6 + D/2	0.220
28	≤ D	A + 4.85	AA + 12	6 + D/2	0.260
30	≤ D	A + 4.85	AA + 12	6 + D/2	0.260
32	≤ D	A + 4.85	AA + 12	6 + D/2	0.260
34	≤ D	A + 4.85	AA + 12	6 + D/2	0.260
36	≤ D	A + 4.85	AA + 12	6 + D/2	0.260
42	≤ D	A + 4.85	AA + 12	6 + D/2	0.260
48	≤ D	A + 4.85	AA + 12	6 + D/2	0.300
54	≤ D	A + 4.85	AA + 12	6 + D/2	0.300
60	≤ D	A + 4.85	AA + 12	6 + D/2	0.300
66	≤ D	A + 4.85	AA + 12	6 + D/2	0.340
72	≤ D	A + 4.85	AA + 12	6 + D/2	0.340
78	≤ D	A + 4.85	AA + 12	6 + D/2	0.340
84	≤ D	A + 4.85	AA + 12	6 + D/2	0.340
90	≤ D	A + 4.85	AA + 12	6 + D/2	0.380
96	≤ D	A + 4.85	AA + 12	6 + D/2	0.380
102	≤ D	A + 4.85	AA + 12	6 + D/2	0.380

Notes:

1) Custom lengths and larger sizes available up to 180"

Fitting: **90° Pre-Configured Conical Reducing Tap** Fitting No: **176**Product Class: **FlameGuard**Resin Types: **Vinylester such as Derekane™ 510B-400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#176 - PT - "A" - "D"****#176 - PTF - "A" - "D" flange on tap**

A	M	AA	B	T
inches	inches	inches	inches	inches
1				
1-1/2				
2	> A	A + 4.85	6 + M/2	0.180
2-1/2	> A	A + 4.85	6 + M/2	0.180
3	> A	A + 4.85	6 + M/2	0.180
4	> A	A + 4.85	6 + M/2	0.180
5	> A	A + 4.85	6 + M/2	0.180
6	> A	A + 4.85	6 + M/2	0.180
7	> A	A + 4.85	6 + M/2	0.180
8	> A	A + 4.85	6 + M/2	0.180
9	> A	A + 4.85	6 + M/2	0.180
10	> A	A + 4.85	6 + M/2	0.180
12	> A	A + 4.85	6 + M/2	0.180
14	> A	A + 4.85	6 + M/2	0.180
16	> A	A + 4.85	6 + M/2	0.220
18	> A	A + 4.85	6 + M/2	0.220
20	> A	A + 4.85	6 + M/2	0.220
22	> A	A + 4.85	6 + M/2	0.220

A	M	AA	B	T
inches	inches	inches	inches	inches
24	> A	A + 4.85	6 + M/2	0.220
26	> A	A + 4.85	6 + M/2	0.220
28	> A	A + 4.85	6 + M/2	0.260
30	> A	A + 4.85	6 + M/2	0.260
32	> A	A + 4.85	6 + M/2	0.260
34	> A	A + 4.85	6 + M/2	0.260
36	> A	A + 4.85	6 + M/2	0.260
42	> A	A + 4.85	6 + M/2	0.260
48	> A	A + 4.85	6 + M/2	0.300
54	> A	A + 4.85	6 + M/2	0.300
60	> A	A + 4.85	6 + M/2	0.300
66	> A	A + 4.85	6 + M/2	0.340
72	> A	A + 4.85	6 + M/2	0.340
78	> A	A + 4.85	6 + M/2	0.340
84	> A	A + 4.85	6 + M/2	0.340
90	> A	A + 4.85	6 + M/2	0.380
96	> A	A + 4.85	6 + M/2	0.380
102	> A	A + 4.85	6 + M/2	0.380

Notes:

- 1) "B" shown is standard, custom lengths available
- 2) Larger sizes available up to 180"
- 3) Tap material is pre-cut in the factory, or pre-configured to the customer specified header diameter

Fitting: 90° Conical Reducing Saddle Tap

Fitting No: **177**

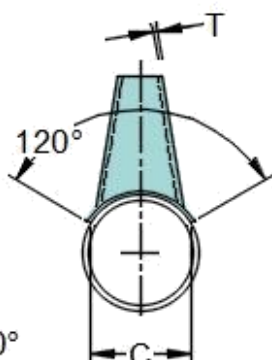
Product Class: **FlameGuard**

Resin Types: **Vinylester** such as **Derekane™ 510B-400**, **Interplastic CORVE8400** and others

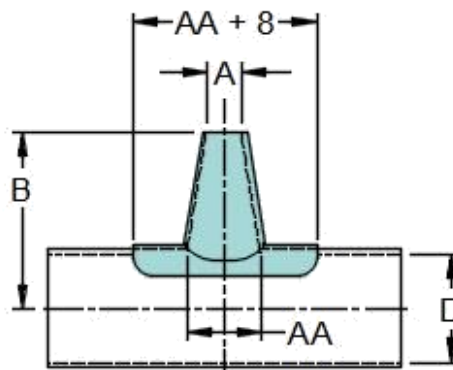
FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#177 - ST - "A" - "D"**

#177 - STF - "A" - "D" flange on tap



**$C = AA + 8$ OR 120°
WHICHEVER IS LESS**



A	D	AA	B	T
inches	inches	inches	inches	inches
1				
1-1/2				
2	> A	A + 4.85	6 + D/2	0.180
2-1/2	> A	A + 4.85	6 + D/2	0.180
3	> A	A + 4.85	6 + D/2	0.180
4	> A	A + 4.85	6 + D/2	0.180
5	> A	A + 4.85	6 + D/2	0.180
6	> A	A + 4.85	6 + D/2	0.180
7	> A	A + 4.85	6 + D/2	0.180
8	> A	A + 4.85	6 + D/2	0.180
9	> A	A + 4.85	6 + D/2	0.180
10	> A	A + 4.85	6 + D/2	0.180
12	> A	A + 4.85	6 + D/2	0.180
14	> A	A + 4.85	6 + D/2	0.180
16	> A	A + 4.85	6 + D/2	0.220
18	> A	A + 4.85	6 + D/2	0.220
20	> A	A + 4.85	6 + D/2	0.220
22	> A	A + 4.85	6 + D/2	0.220

A	D	AA	B	T
inches	inches	inches	inches	inches
24	> A	A + 4.85	6 + D/2	0.220
26	> A	A + 4.85	6 + D/2	0.220
28	> A	A + 4.85	6 + D/2	0.260
30	> A	A + 4.85	6 + D/2	0.260
32	> A	A + 4.85	6 + D/2	0.260
34	> A	A + 4.85	6 + D/2	0.260
36	> A	A + 4.85	6 + D/2	0.260
42	> A	A + 4.85	6 + D/2	0.260
48	> A	A + 4.85	6 + D/2	0.300
54	> A	A + 4.85	6 + D/2	0.300
60	> A	A + 4.85	6 + D/2	0.300
66	> A	A + 4.85	6 + D/2	0.340
72	> A	A + 4.85	6 + D/2	0.340
78	> A	A + 4.85	6 + D/2	0.340
84	> A	A + 4.85	6 + D/2	0.340
90	> A	A + 4.85	6 + D/2	0.380
96	> A	A + 4.85	6 + D/2	0.380
102	> A	A + 4.85	6 + D/2	0.380

Notes:

- 1) Custom lengths available
- 2) Larger sizes available up to 180"

Fitting: **90° Bonded Shoe Tap**Fitting No: **178**Product Class: **FlameGuard**Resin Types: **Vinylester such as Derekane™ 510B-400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

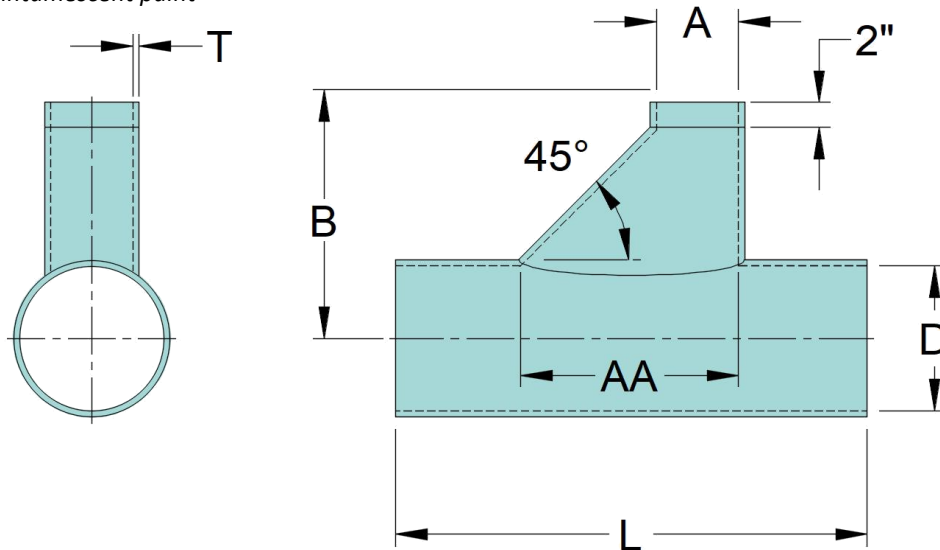
Order as: **#178 - "D" - "A"**

#178 - PPF - "D" - "A" one end (Branch) flanged

#178 - FFP- "D" - "A" two ends (Run, Run) flanged

#178- FFF - "D" - "A" flanged

Show "F" in desired flange location



D	A	AA	L	B	T
inches	inches	inches	inches	inches	inches
1					
1-1/2					
2	< D	A + 6	AA + 12	8 + D/2	0.180
2-1/2	< D	A + 6	AA + 12	8 + D/2	0.180
3	< D	A + 6	AA + 12	8 + D/2	0.180
4	< D	A + 6	AA + 12	8 + D/2	0.180
5	< D	A + 6	AA + 12	8 + D/2	0.180
6	< D	A + 6	AA + 12	8 + D/2	0.180
7	< D	A + 6	AA + 12	8 + D/2	0.180
8	< D	A + 6	AA + 12	8 + D/2	0.180
9	< D	A + 6	AA + 12	8 + D/2	0.180
10	< D	A + 6	AA + 12	8 + D/2	0.180
12	< D	A + 6	AA + 12	8 + D/2	0.180
14	< D	Max 1.5 x A or A + 6	AA + 12	Greater of 0.5 x A + 2 +D/2 or 8 + D/2	0.180
16	< D		AA + 12		0.220
18	< D		AA + 12		0.220
20	< D		AA + 12		0.220
22	< D		AA + 12		0.220

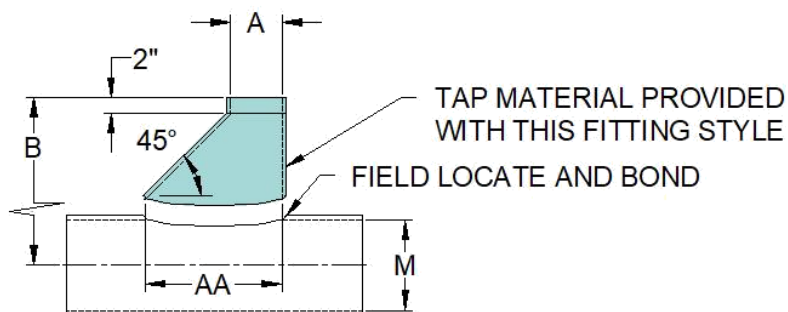
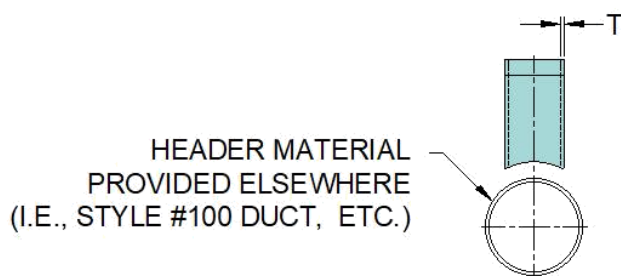
D	A	AA	L	B	T
inches	inches	inches	inches	inches	inches
24	< D	Max 1.5 x A or A + 6	AA + 12	Greater of 0.5 x A + 2 +D/2 or 8 + D/2	0.220
26	< D		AA + 12		0.220
28	< D		AA + 12		0.260
30	< D		AA + 12		0.260
32	< D		AA + 12		0.260
34	< D		AA + 12		0.260
36	< D		AA + 12		0.260
42	< D		AA + 12		0.260
48	< D		AA + 12		0.300
54	< D		AA + 12		0.300
60	< D		AA + 12		0.300
66	< D		AA + 12		0.340
72	< D		AA + 12		0.340
78	< D		AA + 12		0.340
84	< D		AA + 12		0.340
90	< D		AA + 12		0.380
96	< D		AA + 12		0.380
102	< D		AA + 12		0.380

Notes:

- 1) Custom lengths available
- 2) Larger sizes available up to 180"

Fitting: **90° Pre-Configured Shoe Tap**Fitting No: **179**Product Class: **FlameGuard**Resin Types: **Vinylester such as Derekane™ 510B-400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#179 - PT - "D" - "A"****#179 - PTF - "D" - "A" flange on branch**

A	D	AA	B	T
inches	inches	inches	inches	inches
1				
1-1/2				
2	≥ A	A + 6	8 + D/2	0.180
2-1/2	≥ A	A + 6	8 + D/2	0.180
3	≥ A	A + 6	8 + D/2	0.180
4	≥ A	A + 6	8 + D/2	0.180
5	≥ A	A + 6	8 + D/2	0.180
6	≥ A	A + 6	8 + D/2	0.180
7	≥ A	A + 6	8 + D/2	0.180
8	≥ A	A + 6	8 + D/2	0.180
9	≥ A	A + 6	8 + D/2	0.180
10	≥ A	A + 6	8 + D/2	0.180
12	≥ A	A + 6	8 + D/2	0.180
14	≥ A	Max 1.5 x A or A + 6	Greater of 0.5 x A + 2 +D/2 or 8 + D/2	0.180
16	≥ A			0.220
18	≥ A			0.220
20	≥ A			0.220
22	≥ A			0.220

A	D	AA	B	T
inches	inches	inches	inches	inches
24	≥ A	Max 1.5 x A or A + 6	Greater of 0.5 x A + 2 +D/2 or 8 + D/2	0.220
26	≥ A			0.220
28	≥ A			0.260
30	≥ A			0.260
32	≥ A			0.260
34	≥ A			0.260
36	≥ A			0.260
42	≥ A			0.260
48	≥ A			0.300
54	≥ A			0.300
60	≥ A			0.300
66	≥ A			0.340
72	≥ A			0.340
78	≥ A			0.340
84	≥ A			0.340
90	≥ A			0.380
96	≥ A			0.380
102	≥ A			0.380

Notes:

- 1) "B" shown is standard, custom lengths available
- 2) Larger sizes available up to 180"
- 3) Tap material is pre-cut in the factory, or pre-configured to the customer specified header diameter

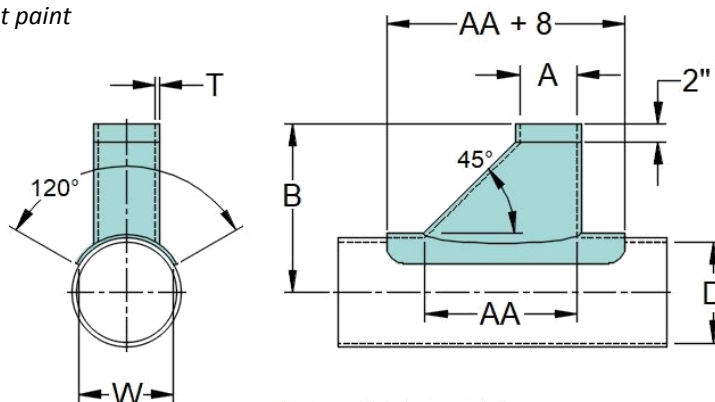
Fitting: Shoe Saddle Tap

Fitting No: **180**

Product Class: **FlameGuard**

Resin Types: **Vinylester such as Derekane™ 510B-400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#180 - ST - "D" - "A"**
#180 - STF - "D" - "A" flange on branch


**W = AA + 8" OR 120°
WHICHEVER IS LESS**

A	D	AA	B	T
inches	inches	inches	inches	inches
1				
1-1/2				
2	≥ A	A + 6	8 + D/2	0.180
2-1/2	≥ A	A + 6	8 + D/2	0.180
3	≥ A	A + 6	8 + D/2	0.180
4	≥ A	A + 6	8 + D/2	0.180
5	≥ A	A + 6	8 + D/2	0.180
6	≥ A	A + 6	8 + D/2	0.180
7	≥ A	A + 6	8 + D/2	0.180
8	≥ A	A + 6	8 + D/2	0.180
9	≥ A	A + 6	8 + D/2	0.180
10	≥ A	A + 6	8 + D/2	0.180
12	≥ A	A + 6	8 + D/2	0.180
14	≥ A	Max 1.5 x A or A + 6	Greater of 0.5 x A + 2 + D/2 or 8 + D/2	0.180
16	≥ A			0.220
18	≥ A			0.220
20	≥ A			0.220
22	≥ A			0.220

A	D	AA	B	T
inches	inches	inches	inches	inches
24	≥ A	Max 1.5 x A or A + 6	Greater of 0.5 x A + 2 + D/2 or 8 + D/2	0.220
26	≥ A			0.220
28	≥ A			0.260
30	≥ A			0.260
32	≥ A			0.260
34	≥ A			0.260
36	≥ A			0.260
42	≥ A			0.260
48	≥ A			0.300
54	≥ A			0.300
60	≥ A			0.300
66	≥ A			0.340
72	≥ A			0.340
78	≥ A			0.340
84	≥ A			0.340
90	≥ A			0.380
96	≥ A			0.380
102	≥ A			0.380

Notes:

- 1) Custom lengths available
- 2) Larger sizes available up to 180"

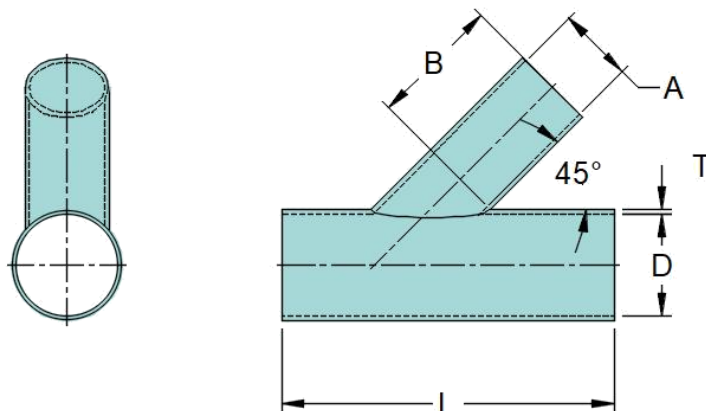
Fitting: 45° Lateral Bonded Tap

Fitting No: **182**

Product Class: **FlameGuard**

Resin Types: **Vinylester such as Derekane™ 510B-400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#182 - "D" - "A"**
#182 - PPF - "D" - "A" one end (Branch) flanged
#182 - FFP - "D" - "A" two ends (Run, Run) flanged
#182 - FFF - "D" - "A" flanged
Show "F" on desired flange location


D	A	B	L	T
inches	inches	inches	inches	inches
1	≤ D	6	1.4 x A + 12	0.180
1-1/2	≤ D	6	1.4 x A + 12	0.180
2	≤ D	6	1.4 x A + 12	0.180
2-1/2	≤ D	6	1.4 x A + 12	0.180
3	≤ D	6	1.4 x A + 12	0.180
4	≤ D	6	1.4 x A + 12	0.180
5	≤ D	6	1.4 x A + 12	0.180
6	≤ D	6	1.4 x A + 12	0.180
7	≤ D	6	1.4 x A + 12	0.180
8	≤ D	6	1.4 x A + 12	0.180
9	≤ D	6	1.4 x A + 12	0.180
10	≤ D	6	1.4 x A + 12	0.180
12	≤ D	6	1.4 x A + 12	0.180
14	≤ D	6	1.4 x A + 12	0.180
16	≤ D	6	1.4 x A + 12	0.220
18	≤ D	6	1.4 x A + 12	0.220
20	≤ D	6	1.4 x A + 12	0.220
22	≤ D	6	1.4 x A + 12	0.220

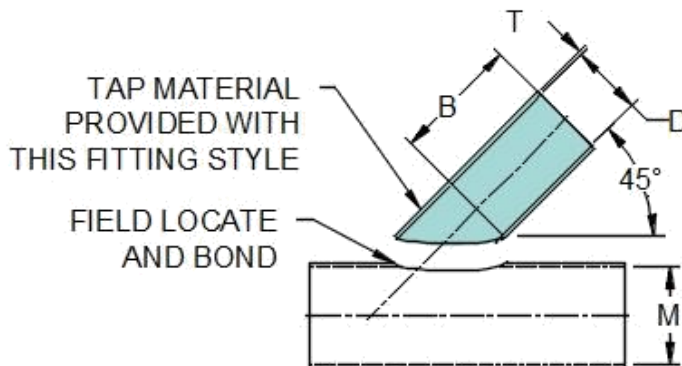
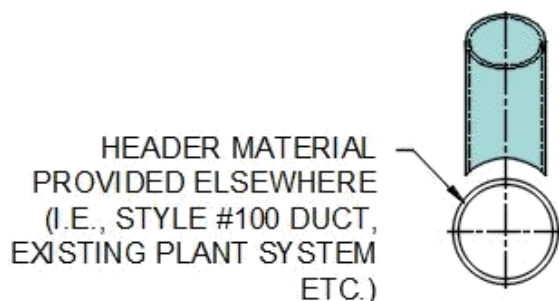
D	A	B	L	T
inches	inches	inches	inches	inches
24	≤ D	6	1.4 x A + 12	0.220
26	≤ D	6	1.4 x A + 12	0.220
28	≤ D	6	1.4 x A + 12	0.260
30	≤ D	6	1.4 x A + 12	0.260
32	≤ D	6	1.4 x A + 12	0.260
34	≤ D	6	1.4 x A + 12	0.260
36	≤ D	6	1.4 x A + 12	0.260
42	≤ D	6	1.4 x A + 12	0.260
48	≤ D	6	1.4 x A + 12	0.300
54	≤ D	6	1.4 x A + 12	0.300
60	≤ D	6	1.4 x A + 12	0.300
66	≤ D	6	1.4 x A + 12	0.340
72	≤ D	6	1.4 x A + 12	0.340
78	≤ D	6	1.4 x A + 12	0.340
84	≤ D	6	1.4 x A + 12	0.340
90	≤ D	6	1.4 x A + 12	0.380
96	≤ D	6	1.4 x A + 12	0.380
102	≤ D	6	1.4 x A + 12	0.380

Notes:

- 1) Custom lengths and standoffs available
- 2) Larger sizes available up to 180"

Fitting: **45° Lateral Pre-Configured Tap**Fitting No: **183**Product Class: **FlameGuard**Resin Types: **Vinylester such as Derekane™ 510B-400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#183 - PT - "D" - "M"****#183 - PTF - "D" - "M" flanged on tap**

D	M	B	T
inches	inches	inches	inches
1	≥ D	6	0.180
1-1/2	≥ D	6	0.180
2	≥ D	6	0.180
2-1/2	≥ D	6	0.180
3	≥ D	6	0.180
4	≥ D	6	0.180
5	≥ D	6	0.180
6	≥ D	6	0.180
7	≥ D	6	0.180
8	≥ D	6	0.180
9	≥ D	6	0.180
10	≥ D	6	0.180
12	≥ D	6	0.180
14	≥ D	6	0.180
16	≥ D	6	0.220
18	≥ D	6	0.220
20	≥ D	6	0.220
22	≥ D	6	0.220

D	M	B	T
inches	inches	inches	inches
24	≥ D	6	0.220
26	≥ D	6	0.220
28	≥ D	6	0.260
30	≥ D	6	0.260
32	≥ D	6	0.260
34	≥ D	6	0.260
36	≥ D	6	0.260
42	≥ D	6	0.260
48	≥ D	6	0.300
54	≥ D	6	0.300
60	≥ D	6	0.300
66	≥ D	6	0.340
72	≥ D	6	0.340
78	≥ D	6	0.340
84	≥ D	6	0.340
90	≥ D	6	0.380
96	≥ D	6	0.380
102	≥ D	6	0.380

Notes:

- 1) Custom lengths and standoffs available
- 2) Larger sizes available up to 180"
- 3) Tap material is pre-cut in the factory, or pre-configured to the customer specified header diameter

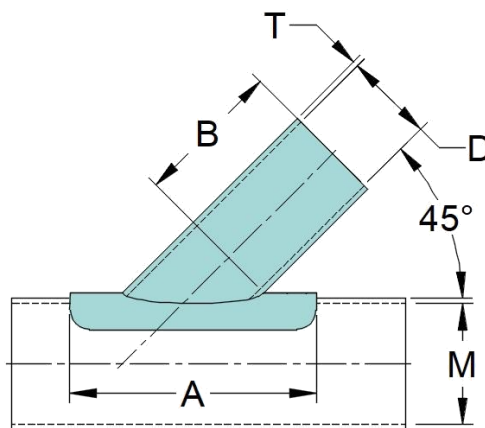
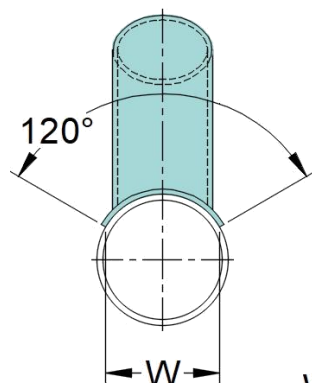
Fitting: 45° Lateral Saddle Tap

Fitting No: **184**

Product Class: **FlameGuard**

Resin Types: **Vinylester such as Derekane™ 510B -400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#184 - ST - "D" - "M"**
#184 - STF - "D" - "M" flanged on tap


**W = D + 8" OR 120°
WHICHEVER IS LESS**

D	A	W	B	T
inches	inches	inches	inches	inches
1	1.4 x D + 8	D + 8 or 120°	6	0.180
1-1/2	1.4 x D + 8	D + 8 or 120°	6	0.180
2	1.4 x D + 8	D + 8 or 120°	6	0.180
2-1/2	1.4 x D + 8	D + 8 or 120°	6	0.180
3	1.4 x D + 8	D + 8 or 120°	6	0.180
4	1.4 x D + 8	D + 8 or 120°	6	0.180
5	1.4 x D + 8	D + 8 or 120°	6	0.180
6	1.4 x D + 8	D + 8 or 120°	6	0.180
7	1.4 x D + 8	D + 8 or 120°	6	0.180
8	1.4 x D + 8	D + 8 or 120°	6	0.180
9	1.4 x D + 8	D + 8 or 120°	6	0.180
10	1.4 x D + 8	D + 8 or 120°	6	0.180
12	1.4 x D + 8	D + 8 or 120°	6	0.180
14	1.4 x D + 8	D + 8 or 120°	6	0.180
16	1.4 x D + 8	D + 8 or 120°	6	0.220
18	1.4 x D + 8	D + 8 or 120°	6	0.220
20	1.4 x D + 8	D + 8 or 120°	6	0.220
22	1.4 x D + 8	D + 8 or 120°	6	0.220

D	A	W	B	T
inches	inches	inches	inches	inches
24	1.4 x D + 8	D + 8 or 120°	6	0.220
26	1.4 x D + 8	D + 8 or 120°	6	0.220
28	1.4 x D + 8	D + 8 or 120°	6	0.260
30	1.4 x D + 8	D + 8 or 120°	6	0.260
32	1.4 x D + 8	D + 8 or 120°	6	0.260
34	1.4 x D + 8	D + 8 or 120°	6	0.260
36	1.4 x D + 8	D + 8 or 120°	6	0.260
42	1.4 x D + 8	D + 8 or 120°	6	0.260
48	1.4 x D + 8	D + 8 or 120°	6	0.300
54	1.4 x D + 8	D + 8 or 120°	6	0.300
60	1.4 x D + 8	D + 8 or 120°	6	0.300
66	1.4 x D + 8	D + 8 or 120°	6	0.340
72	1.4 x D + 8	D + 8 or 120°	6	0.340
78	1.4 x D + 8	D + 8 or 120°	6	0.340
84	1.4 x D + 8	D + 8 or 120°	6	0.340
90	1.4 x D + 8	D + 8 or 120°	6	0.380
96	1.4 x D + 8	D + 8 or 120°	6	0.380
102	1.4 x D + 8	D + 8 or 120°	6	0.380

Notes:

- 1) Custom lengths and standoffs available
- 2) Larger sizes available up to 180"

Fitting: **45° Double Wye**

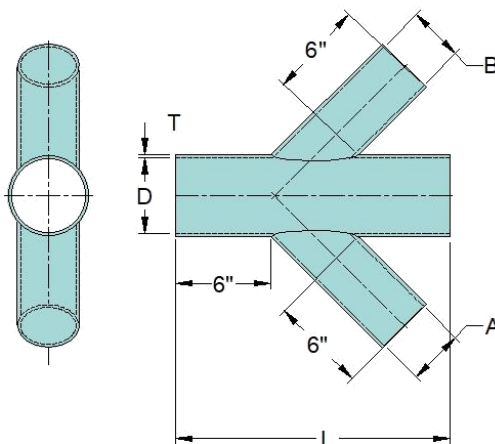
Fitting No: **185**

Product Class: **FlameGuard**

Resin Types: **Vinylester such as Derekane™ 510B-400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#185 - "D" - "A" - "B"**



D	A	B	L	T
inches	inches	inches	inches	inches
1				
1-1/2				
2	≤ D	≤ A	1.4 x A + 12	0.180
2-1/2	≤ D	≤ A	1.4 x A + 12	0.180
3	≤ D	≤ A	1.4 x A + 12	0.180
4	≤ D	≤ A	1.4 x A + 12	0.180
5	≤ D	≤ A	1.4 x A + 12	0.180
6	≤ D	≤ A	1.4 x A + 12	0.180
7	≤ D	≤ A	1.4 x A + 12	0.180
8	≤ D	≤ A	1.4 x A + 12	0.180
9	≤ D	≤ A	1.4 x A + 12	0.180
10	≤ D	≤ A	1.4 x A + 12	0.180
12	≤ D	≤ A	1.4 x A + 12	0.180
14	≤ D	≤ A	1.4 x A + 12	0.180
16	≤ D	≤ A	1.4 x A + 12	0.220
18	≤ D	≤ A	1.4 x A + 12	0.220
20	≤ D	≤ A	1.4 x A + 12	0.220
22	≤ D	≤ A	1.4 x A + 12	0.220

D	A	B	L	T
inches	inches	inches	inches	inches
24	≤ D	≤ A	1.4 x A + 12	0.220
26	≤ D	≤ A	1.4 x A + 12	0.220
28	≤ D	≤ A	1.4 x A + 12	0.260
30	≤ D	≤ A	1.4 x A + 12	0.260
32	≤ D	≤ A	1.4 x A + 12	0.260
34	≤ D	≤ A	1.4 x A + 12	0.260
36	≤ D	≤ A	1.4 x A + 12	0.260
42	≤ D	≤ A	1.4 x A + 12	0.260
48	≤ D	≤ A	1.4 x A + 12	0.300
54	≤ D	≤ A	1.4 x A + 12	0.300
60	≤ D	≤ A	1.4 x A + 12	0.300
66	≤ D	≤ A	1.4 x A + 12	0.340
72	≤ D	≤ A	1.4 x A + 12	0.340
78	≤ D	≤ A	1.4 x A + 12	0.340
84	≤ D	≤ A	1.4 x A + 12	0.340
90	≤ D	≤ A	1.4 x A + 12	0.380
96	≤ D	≤ A	1.4 x A + 12	0.380
102	≤ D	≤ A	1.4 x A + 12	0.380

Notes:

- 1) Custom lengths available
- 2) Larger sizes available up to 180"

Fitting: 45° Reducing Wye

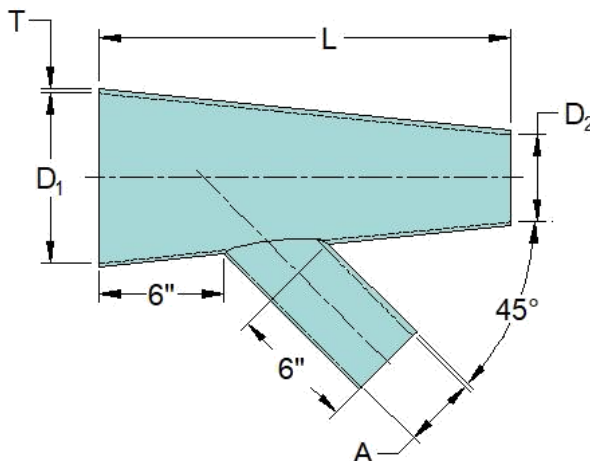
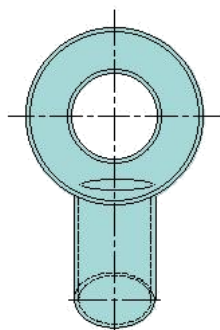
Fitting No: **186**

Product Class: **FlameGuard**

Resin Types: **Vinylester such as Derekane™ 510B -400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: #186 - "D" - "A" - "B"



D ₁	D ₂	A	L	T
inches	inches	inches	inches	inches
1				
1-1/2				
2	≤ D1	≤ D1	≥ 1.4 x A + 12	0.180
2-1/2	≤ D1	≤ D1	≥ 1.4 x A + 12	0.180
3	≤ D1	≤ D1	≥ 1.4 x A + 12	0.180
4	≤ D1	≤ D1	≥ 1.4 x A + 12	0.180
5	≤ D1	≤ D1	≥ 1.4 x A + 12	0.180
6	≤ D1	≤ D1	≥ 1.4 x A + 12	0.180
7	≤ D1	≤ D1	≥ 1.4 x A + 12	0.180
8	≤ D1	≤ D1	≥ 1.4 x A + 12	0.180
9	≤ D1	≤ D1	≥ 1.4 x A + 12	0.180
10	≤ D1	≤ D1	≥ 1.4 x A + 12	0.180
12	≤ D1	≤ D1	≥ 1.4 x A + 12	0.180
14	≤ D1	≤ D1	≥ 1.4 x A + 12	0.180
16	≤ D1	≤ D1	≥ 1.4 x A + 12	0.220
18	≤ D1	≤ D1	≥ 1.4 x A + 12	0.220
20	≤ D1	≤ D1	≥ 1.4 x A + 12	0.220
22	≤ D1	≤ D1	≥ 1.4 x A + 12	0.220

D ₁	D ₂	A	L	T
inches	inches	inches	inches	inches
24	≤ D1	≤ D1	≥ 1.4 x A + 12	0.220
26	≤ D1	≤ D1	≥ 1.4 x A + 12	0.220
28	≤ D1	≤ D1	≥ 1.4 x A + 12	0.260
30	≤ D1	≤ D1	≥ 1.4 x A + 12	0.260
32	≤ D1	≤ D1	≥ 1.4 x A + 12	0.260
34	≤ D1	≤ D1	≥ 1.4 x A + 12	0.260
36	≤ D1	≤ D1	≥ 1.4 x A + 12	0.260
42	≤ D1	≤ D1	≥ 1.4 x A + 12	0.260
48	≤ D1	≤ D1	≥ 1.4 x A + 12	0.300
54	≤ D1	≤ D1	≥ 1.4 x A + 12	0.300
60	≤ D1	≤ D1	≥ 1.4 x A + 12	0.300
66	≤ D1	≤ D1	≥ 1.4 x A + 12	0.340
72	≤ D1	≤ D1	≥ 1.4 x A + 12	0.340
78	≤ D1	≤ D1	≥ 1.4 x A + 12	0.340
84	≤ D1	≤ D1	≥ 1.4 x A + 12	0.340
90	≤ D1	≤ D1	≥ 1.4 x A + 12	0.380
96	≤ D1	≤ D1	≥ 1.4 x A + 12	0.380
102	≤ D1	≤ D1	≥ 1.4 x A + 12	0.380

Notes:

- 1) Custom lengths available
- 2) Larger sizes available up to 180"

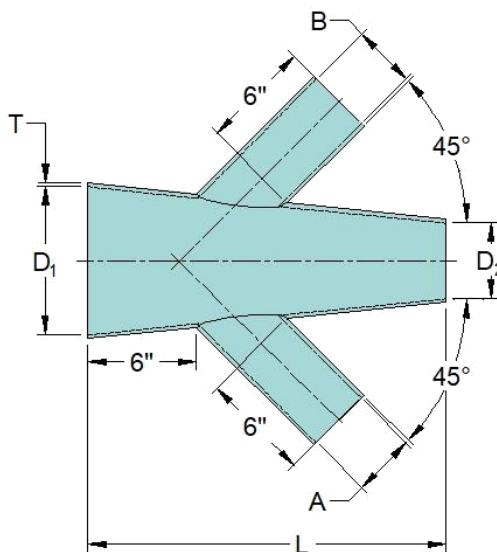
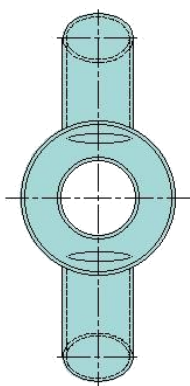
Fitting: 45° Double Reducing Wye

Fitting No: **187**

Product Class: **FlameGuard**

Resin Types: **Vynlester such as Derekane™ 510B -400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#187 - "D₁" - "D₂" - "A" - "B"**


D ₁	D ₂	A	B	L	T
inches	inches	inches	inches	inches	inches
1					
1-1/2					
2	≤ D ₁	≤ D ₁	≤ A	1.4 x A + 12	0.180
2-1/2	≤ D ₁	≤ D ₁	≤ A	1.4 x A + 12	0.180
3	≤ D ₁	≤ D ₁	≤ A	1.4 x A + 12	0.180
4	≤ D ₁	≤ D ₁	≤ A	1.4 x A + 12	0.180
5	≤ D ₁	≤ D ₁	≤ A	1.4 x A + 12	0.180
6	≤ D ₁	≤ D ₁	≤ A	1.4 x A + 12	0.180
7	≤ D ₁	≤ D ₁	≤ A	1.4 x A + 12	0.180
8	≤ D ₁	≤ D ₁	≤ A	1.4 x A + 12	0.180
9	≤ D ₁	≤ D ₁	≤ A	1.4 x A + 12	0.180
10	≤ D ₁	≤ D ₁	≤ A	1.4 x A + 12	0.180
12	≤ D ₁	≤ D ₁	≤ A	1.4 x A + 12	0.180
14	≤ D ₁	≤ D ₁	≤ A	1.4 x A + 12	0.180
16	≤ D ₁	≤ D ₁	≤ A	1.4 x A + 12	0.220
18	≤ D ₁	≤ D ₁	≤ A	1.4 x A + 12	0.220
20	≤ D ₁	≤ D ₁	≤ A	1.4 x A + 12	0.220
22	≤ D ₁	≤ D ₁	≤ A	1.4 x A + 12	0.220

D ₁	D ₂	A	B	L	T
inches	inches	inches	inches	inches	inches
24	≤ D ₁	≤ D ₁	≤ A	1.4 x A + 12	0.220
26	≤ D ₁	≤ D ₁	≤ A	1.4 x A + 12	0.220
28	≤ D ₁	≤ D ₁	≤ A	1.4 x A + 12	0.260
30	≤ D ₁	≤ D ₁	≤ A	1.4 x A + 12	0.260
32	≤ D ₁	≤ D ₁	≤ A	1.4 x A + 12	0.260
34	≤ D ₁	≤ D ₁	≤ A	1.4 x A + 12	0.260
36	≤ D ₁	≤ D ₁	≤ A	1.4 x A + 12	0.260
42	≤ D ₁	≤ D ₁	≤ A	1.4 x A + 12	0.260
48	≤ D ₁	≤ D ₁	≤ A	1.4 x A + 12	0.300
54	≤ D ₁	≤ D ₁	≤ A	1.4 x A + 12	0.300
60	≤ D ₁	≤ D ₁	≤ A	1.4 x A + 12	0.300
66	≤ D ₁	≤ D ₁	≤ A	1.4 x A + 12	0.340
72	≤ D ₁	≤ D ₁	≤ A	1.4 x A + 12	0.340
78	≤ D ₁	≤ D ₁	≤ A	1.4 x A + 12	0.340
84	≤ D ₁	≤ D ₁	≤ A	1.4 x A + 12	0.340
90	≤ D ₁	≤ D ₁	≤ A	1.4 x A + 12	0.380
96	≤ D ₁	≤ D ₁	≤ A	1.4 x A + 12	0.380
102	≤ D ₁	≤ D ₁	≤ A	1.4 x A + 12	0.380

Notes:

- 1) Custom lengths available
- 2) Larger sizes available up to 180"
- 3) Standard fitting length to suit existing tooling

Fitting: 90° Bonded Tangential Tee

Fitting No: **190**

Product Class: **FlameGuard**

Resin Types: **Vinylester such as Derekane™ 510B-400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

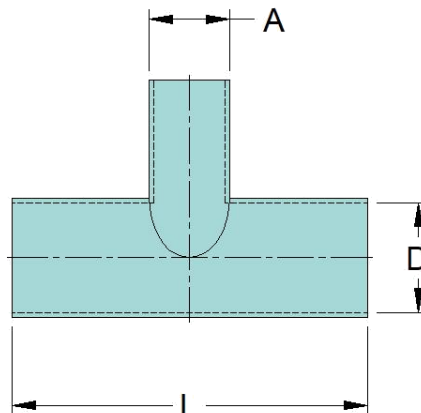
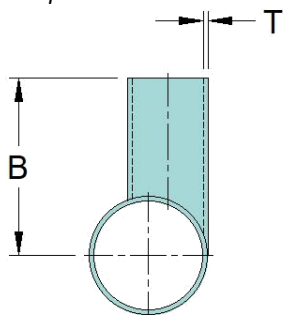
Order as: **#190 - "D" - "A"**

#190 - PPF - "D" - "A" one end (Branch) flanged

#190 - FFP - "D" - "A" two ends (Run, Run) flanged

#190 - FFF - "D" - "A" flanged

Show "F" in the desired flange location



D	A	B	L	T
inches	inches	inches	inches	inches
1				
1-1/2				
2	≤ D	6 + D/2	A + 12	0.180
2-1/2	≤ D	6 + D/2	A + 12	0.180
3	≤ D	6 + D/2	A + 12	0.180
4	≤ D	6 + D/2	A + 12	0.180
5	≤ D	6 + D/2	A + 12	0.180
6	≤ D	6 + D/2	A + 12	0.180
7	≤ D	6 + D/2	A + 12	0.180
8	≤ D	6 + D/2	A + 12	0.180
9	≤ D	6 + D/2	A + 12	0.180
10	≤ D	6 + D/2	A + 12	0.180
12	≤ D	6 + D/2	A + 12	0.180
14	≤ D	6 + D/2	A + 12	0.180
16	≤ D	6 + D/2	A + 12	0.220
18	≤ D	6 + D/2	A + 12	0.220
20	≤ D	6 + D/2	A + 12	0.220
22	≤ D	6 + D/2	A + 12	0.220

D	A	B	L	T
inches	inches	inches	inches	inches
24	≤ D	6 + D/2	A + 12	0.220
26	≤ D	6 + D/2	A + 12	0.220
28	≤ D	6 + D/2	A + 12	0.260
30	≤ D	6 + D/2	A + 12	0.260
32	≤ D	6 + D/2	A + 12	0.260
34	≤ D	6 + D/2	A + 12	0.260
36	≤ D	6 + D/2	A + 12	0.260
42	≤ D	6 + D/2	A + 12	0.260
48	≤ D	6 + D/2	A + 12	0.300
54	≤ D	6 + D/2	A + 12	0.300
60	≤ D	6 + D/2	A + 12	0.300
66	≤ D	6 + D/2	A + 12	0.340
72	≤ D	6 + D/2	A + 12	0.340
78	≤ D	6 + D/2	A + 12	0.340
84	≤ D	6 + D/2	A + 12	0.340
90	≤ D	6 + D/2	A + 12	0.380
96	≤ D	6 + D/2	A + 12	0.380
102	≤ D	6 + D/2	A + 12	0.380

Notes:

- 1) Custom lengths and standoffs available
- 2) Larger sizes available up to 180"

Fitting: 45° Bonded Tangential Tee

Fitting No: **192**

Product Class: **FlameGuard**

Resin Types: **Vinylester such as Derekane™ 510B-400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

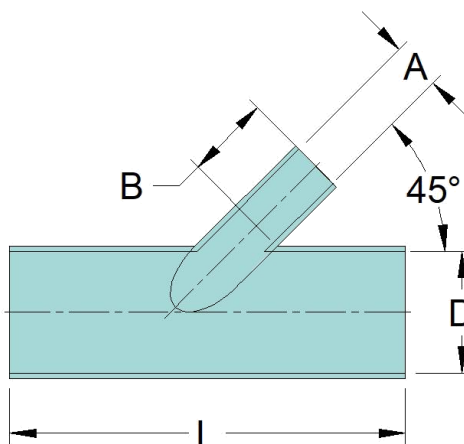
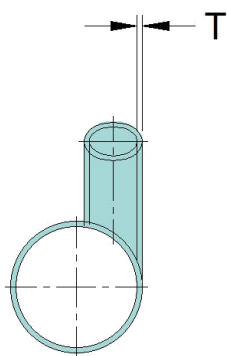
Order as: **#192 - "D" - "A"**

#192 - PPF - "D" - "A" one end (Branch) flanged

#192 - FFP - "D" - "A" two ends (Run, Run) flanged

#192 - FFF - "D" - "A" flanged

Show "F" in the desired flange location



D	A	B	L	T
inches	inches	inches	inches	inches
1				
1-1/2				
2	≤ D	6	1.4 x A + 12	0.180
2-1/2	≤ D	6	1.4 x A + 12	0.180
3	≤ D	6	1.4 x A + 12	0.180
4	≤ D	6	1.4 x A + 12	0.180
5	≤ D	6	1.4 x A + 12	0.180
6	≤ D	6	1.4 x A + 12	0.180
7	≤ D	6	1.4 x A + 12	0.180
8	≤ D	6	1.4 x A + 12	0.180
9	≤ D	6	1.4 x A + 12	0.180
10	≤ D	6	1.4 x A + 12	0.180
12	≤ D	6	1.4 x A + 12	0.180
14	≤ D	6	1.4 x A + 12	0.180
16	≤ D	6	1.4 x A + 12	0.220
18	≤ D	6	1.4 x A + 12	0.220
20	≤ D	6	1.4 x A + 12	0.220
22	≤ D	6	1.4 x A + 12	0.220

D	A	B	L	T
inches	inches	inches	inches	inches
24	≤ D	6	1.4 x A + 12	0.220
26	≤ D	6	1.4 x A + 12	0.220
28	≤ D	6	1.4 x A + 12	0.260
30	≤ D	6	1.4 x A + 12	0.260
32	≤ D	6	1.4 x A + 12	0.260
34	≤ D	6	1.4 x A + 12	0.260
36	≤ D	6	1.4 x A + 12	0.260
42	≤ D	6	1.4 x A + 12	0.260
48	≤ D	6	1.4 x A + 12	0.300
54	≤ D	6	1.4 x A + 12	0.300
60	≤ D	6	1.4 x A + 12	0.300
66	≤ D	6	1.4 x A + 12	0.340
72	≤ D	6	1.4 x A + 12	0.340
78	≤ D	6	1.4 x A + 12	0.340
84	≤ D	6	1.4 x A + 12	0.340
90	≤ D	6	1.4 x A + 12	0.380
96	≤ D	6	1.4 x A + 12	0.380
102	≤ D	6	1.4 x A + 12	0.380

Notes:

- 1) Custom lengths and standoffs available
- 2) Larger sizes available up to 180"

Fitting: **90° True Wye**

Fitting No: **195**

Product Class: **FlameGuard**

Resin Types: **Vinylester such as Derekane™ 510B -400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

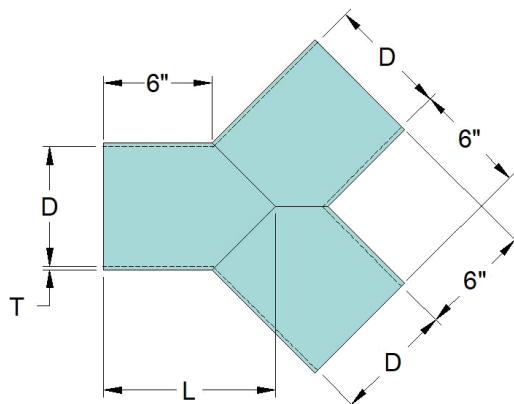
Order as: **#195 - "D"**

#195 - PPF - "D" one end (Branch) flanged

#195 - FFP - "D" two ends (Run, Run) flanged

#195 - FFF - "D" flanged

Show "F" in the desired flange location



D	L	T
inches	inches	inches
1	7	0.180
1-1/2	7	0.180
2	7	0.180
2-1/2	7	0.180
3	8	0.180
4	8	0.180
5	9	0.180
6	9	0.180
7	10	0.180
8	10	0.180
9	11	0.180
10	11	0.180
12	12	0.180
14	13	0.180
16	14	0.220
18	15	0.220
20	16	0.220
22	17	0.220

D	L	T
inches	inches	inches
24	18	0.220
26	19	0.220
28	20	0.260
30	21	0.260
32	22	0.260
34	23	0.260
36	24	0.260
42	27	0.260
48	30	0.300
54	33	0.300
60	36	0.300
66	39	0.340
72	42	0.340
78	45	0.340
84	48	0.340
90	51	0.380
96	54	0.380
102	57	0.380

Notes:

1) Custom lengths available

Fitting: **90° Cross**

Fitting No: **197**

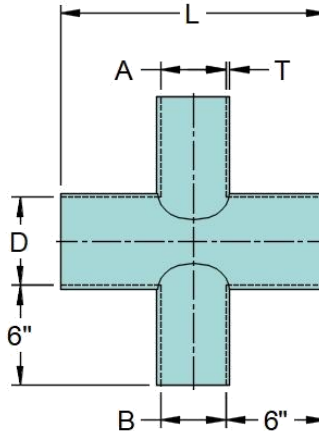
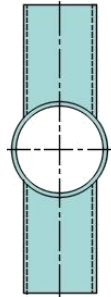
Product Class: **FlameGuard**

Resin Types: **Vinylester such as Derekane™ 510B-400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#197 - "D" - "A" - "B"**

#197 - FFF - "D" - "A" - "B" flanged



D	A	B	L	T
inches	inches	inches	inches	inches
1	≤ D	≤ A	A + 12	0.180
1-1/2	≤ D	≤ A	A + 12	0.180
2	≤ D	≤ A	A + 12	0.180
2-1/2	≤ D	≤ A	A + 12	0.180
3	≤ D	≤ A	A + 12	0.180
4	≤ D	≤ A	A + 12	0.180
5	≤ D	≤ A	A + 12	0.180
6	≤ D	≤ A	A + 12	0.180
7	≤ D	≤ A	A + 12	0.180
8	≤ D	≤ A	A + 12	0.180
9	≤ D	≤ A	A + 12	0.180
10	≤ D	≤ A	A + 12	0.180
12	≤ D	≤ A	A + 12	0.180
14	≤ D	≤ A	A + 12	0.180
16	≤ D	≤ A	A + 12	0.220
18	≤ D	≤ A	A + 12	0.220
20	≤ D	≤ A	A + 12	0.220
22	≤ D	≤ A	A + 12	0.220

D	A	B	L	T
inches	inches	inches	inches	inches
24	≤ D	≤ A	A + 12	0.220
26	≤ D	≤ A	A + 12	0.220
28	≤ D	≤ A	A + 12	0.260
30	≤ D	≤ A	A + 12	0.260
32	≤ D	≤ A	A + 12	0.260
34	≤ D	≤ A	A + 12	0.260
36	≤ D	≤ A	A + 12	0.260
42	≤ D	≤ A	A + 12	0.260
48	≤ D	≤ A	A + 12	0.300
54	≤ D	≤ A	A + 12	0.300
60	≤ D	≤ A	A + 12	0.300
66	≤ D	≤ A	A + 12	0.340
72	≤ D	≤ A	A + 12	0.340
78	≤ D	≤ A	A + 12	0.340
84	≤ D	≤ A	A + 12	0.340
90	≤ D	≤ A	A + 12	0.380
96	≤ D	≤ A	A + 12	0.380
102	≤ D	≤ A	A + 12	0.380

Notes:

- 1) Custom lengths available
- 2) Larger sizes available up to 180"

Fitting: **Stub Flange**

Fitting No: **200**

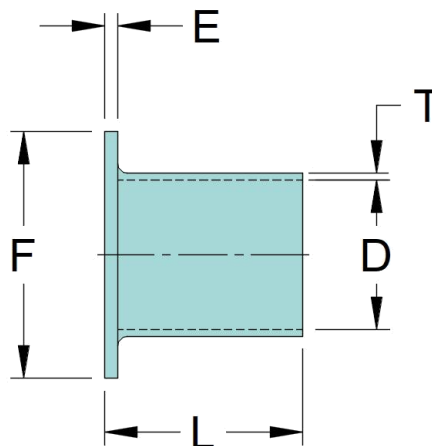
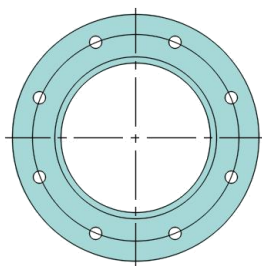
Product Class: **FlameGuard**

Resin Types: **Vinylester such as Derekane™ 510B-400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#200 - "D"**

Flange OD: **PS-15-69**

Flange Drilling: **PS-15-69 or specify**


D	F	E	L	T
inches	inches	inches	inches	inches
1	5.375	0.250	6	0.180
1-1/2	5.875	0.250	6	0.180
2	6.375	0.250	6	0.180
2-1/2	6.875	0.250	6	0.180
3	7.375	0.250	6	0.180
4	8.375	0.250	6	0.180
5	9.375	0.250	8	0.180
6	10.375	0.250	8	0.180
7	11.375	0.250	8	0.180
8	12.375	0.250	8	0.180
9	13.375	0.375	10	0.180
10	14.375	0.375	10	0.180
12	16.375	0.375	10	0.180
14	18.375	0.375	12	0.180
16	20.375	0.500	12	0.220
18	22.375	0.500	12	0.220
20	24.375	0.500	12	0.220
22	26.375	0.500	12	0.220

D	F	E	L	T
inches	inches	inches	inches	inches
24	28.375	0.500	12	0.220
26	30.375	0.500	15	0.220
28	32.375	0.500	15	0.260
30	34.375	0.500	15	0.260
32	36.375	0.500	15	0.260
34	38.375	0.500	15	0.260
36	40.375	0.500	15	0.260
42	46.4	0.625	15	0.260
48	54.4	0.625	18	0.300
54	60.4	0.625	18	0.300
60	66.4	0.625	18	0.300
66	72.4	0.625	18	0.340
72	78.4	0.625	18	0.340
78	84.4	0.750	Specify	0.340
84	90.4	0.750	Specify	0.340
90	98.4	0.750	Specify	0.380
96	102.4	0.750	Specify	0.380
102	109	0.750	Specify	0.380

Notes:

- 1) Custom lengths available
- 2) Larger sizes available up to 180"

Fitting:

Van Stone Style Stub Flange with Ring

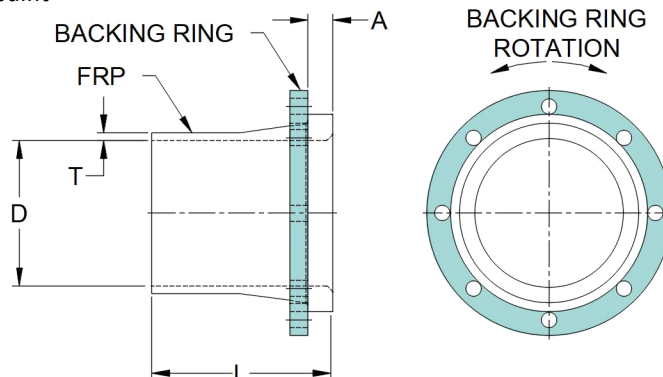
Fitting No: 202

Product Class: **FlameGuard**

Resin Types: **Vinylester** such as **Derekane™ 510B -400**, **Interplastic CORVE8400** and others

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for **FlameGuard** may be improved to a rating of 50 by application of an intumescent paint

Order as: **#202 - "D"**



D	L	T	A
inches	inches	inches	inches
1			
1-1/2			
2			
2-1/2			
3			
4			
5			
6			
7			
8			
9			
10			
12			
14			
16			
18			
20			
22			

D	L	T	A
inches	inches	inches	inches
24			
26			
28			
30			
32			
34			
36			
42			
48			
54			
60			
66			
72			
78			
84			
90			
96			
102			

Notes:

- 1) Custom lengths available
- 2) Larger sizes available up to 180"

Fitting: **Blind Flange**

Fitting No: **205**

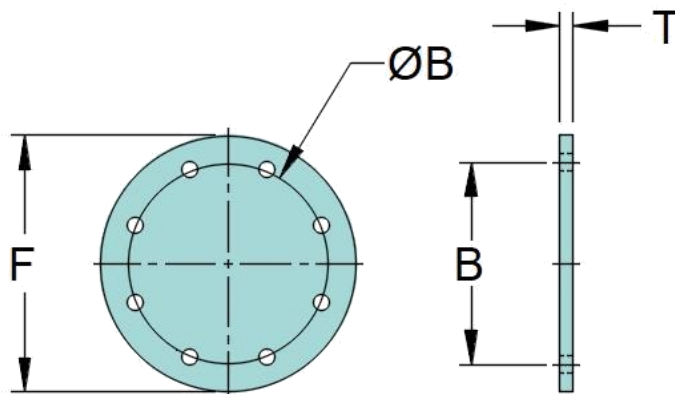
Product Class: **FlameGuard**

Resin Types: **Vinylester such as Derekane™ 510B -400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#205 - "D"**

Flange OD: **PS-15-69**

Flange Drilling: **Per PS-15-69 or specify**


D	F	B	# Bolts	T
inches	inches	inches		inches
1	5.375	4.0	4	0.250
1-1/2	5.875	4.5	4	0.250
2	6.375	5.0	4	0.250
2-1/2	6.875	5.5	4	0.250
3	7.375	6.0	4	0.250
4	8.375	7.0	8	0.250
5	9.375	8.0	8	0.250
6	10.375	9.0	8	0.250
7	11.375	10.0	8	0.250
8	12.375	11.0	8	0.250
9	13.375	12.0	8	0.375
10	14.375	13.0	8	0.375
12	16.375	15.0	12	0.375
14	18.375	17.0	12	0.375
16	20.375	19.0	16	0.500
18	22.375	21.0	16	0.500
20	24.375	23.0	20	0.500
22	26.375	25.0	20	0.500

D	F	B	# Bolts	T
inches	inches	inches		inches
24	28.375	27.0	20	0.500
26	30.375	29.0	24	0.500
28	32.375	31.0	24	0.500
30	34.375	33.0	28	0.500
32	36.375	35.0	28	0.500
34	38.375	37.0	30	0.500
36	40.375	39.0	32	0.500
42	46.4	45.0	36	0.625
48	54.4	52.0	44	0.625
54	60.4	58.0	44	0.625
60	66.4	64.0	52	0.625
66	72.4	70.0	56	0.625
72	78.4	76.0	60	0.625
78	84.4	82.0	Specify	0.750
84	90.4	88.0	Specify	0.750
90	96.4	94.0	Specify	0.750
96	102.4	100.0	Specify	0.750
102	109	106.0	Specify	0.750

Notes:

- 1) Alternative drilling available
- 2) Larger sizes available up to 180"

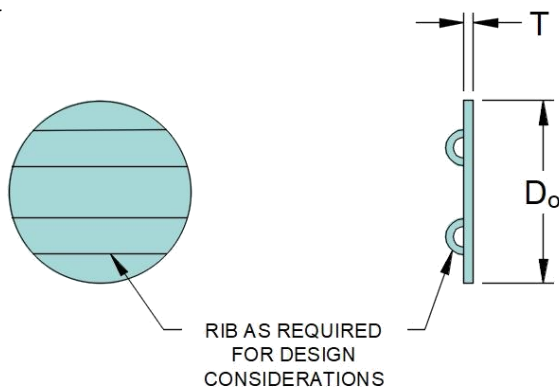
Fitting: End Cap Plate

Fitting No: **210**

Product Class: **FlameGuard**

Resin Types: **Vinylester such as Derekane™ 510B -400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#210 - "D"**


D	T	D ₀
inches	inches	inches
1	0.250	1.3
1-1/2	0.250	1.8
2	0.250	2.3
2-1/2	0.250	2.8
3	0.250	3.3
4	0.250	4.3
5	0.250	5.3
6	0.250	6.3
7	0.250	7.3
8	0.250	8.3
9	0.375	9.3
10	0.375	10.3
12	0.375	12.3
14	0.375	14.3
16	0.500	16.3
18	0.500	18.3
20	0.500	20.3
22	0.500	22.3

D	T	D ₀
inches	inches	inches
24	0.500	24.4
26	0.500	26.4
28	0.500	28.4
30	0.500	30.4
32	0.500	32.4
34	0.500	34.4
36	0.500	36.4
42	0.625	42.5
48	0.625	48.5
54	0.625	54.5
60	0.625	60.5
66	0.625	66.5
72	0.625	72.5
78	0.750	78.7
84	0.750	84.7
90	0.750	90.8
96	0.750	96.8
102	0.750	102.8

Notes:

- 1) Larger sizes available up to 180"

Fitting: **End Cap Dished**

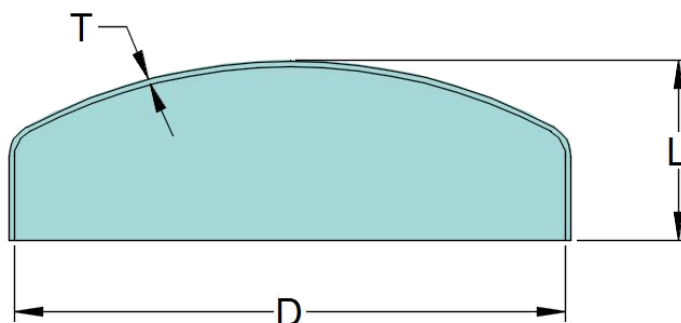
Fitting No: **212**

Product Class: **FlameGuard**

Order as: **#212 - "D"**

Resin Types: **Vinylester such as Derekane™ 510B -400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint



D	T	L
inches	inches	inches
1	0.180	1.7
1-1/2	0.180	1.8
2	0.180	1.8
2-1/2	0.180	1.9
3	0.180	2.0
4	0.180	2.2
5	0.180	2.4
6	0.180	2.5
7	0.180	2.7
8	0.180	2.9
9	0.180	3.0
10	0.180	3.2
12	0.180	3.5
14	0.180	3.9
16	0.220	4.2
18	0.220	4.6
20	0.220	4.9
22	0.220	5.2

D	T	L
inches	inches	inches
24	0.220	5.6
26	0.220	5.9
28	0.260	6.3
30	0.260	6.6
32	0.260	6.9
34	0.260	7.3
36	0.260	7.6
42	0.260	8.6
48	0.300	9.7
54	0.300	10.7
60	0.300	11.7
66	0.340	12.7
72	0.340	13.7
78	0.340	14.8
84	0.340	15.8
90	0.380	16.8
96	0.380	17.8
102	0.380	18.8

Notes:

- 1) Larger sizes available up to 180"

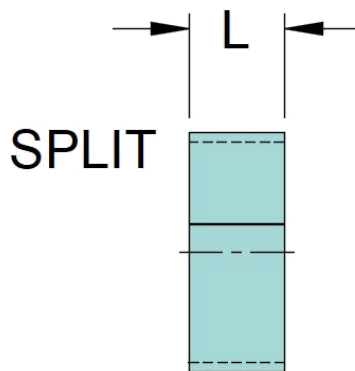
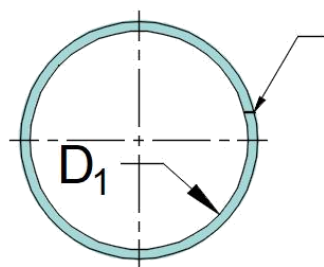
Fitting: Slip Alignment Coupling—External

Fitting No: **220**

Product Class: **FlameGuard**

Resin Types: **Vinylester such as Derekane™ 510B -400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#220 - "D"**


D	D ₁	L
inches	inches	inches
1	1.425	4.0
1-1/2	1.926	4.0
2	2.425	4.0
2-1/2	2.925	4.0
3	3.425	4.0
4	4.425	4.0
5	5.425	4.0
6	6.425	4.0
7	7.425	4.0
8	8.425	4.0
9	9.425	4.0
10	10.425	6.0
12	12.425	6.0
14	14.425	6.0
16	16.425	6.0
18	18.425	6.0
20	20.425	6.0
22	22.425	6.0

D	D ₁	L
inches	inches	inches
24	24.505	9.0
26	26.505	9.0
28	28.505	9.0
30	30.505	9.0
32	32.505	9.0
34	34.505	9.0
36	36.630	9.0
42	42.770	9.0
48	48.770	9.0
54	54.770	9.0
60	60.770	9.0
66	66.770	9.0
72	72.876	9.0
78	78.950	9.0
84	84.950	9.0
90	91.000	9.0
96	97.000	12.0
102	103.000	12.0

Notes:

1) Larger sizes available up to 180"

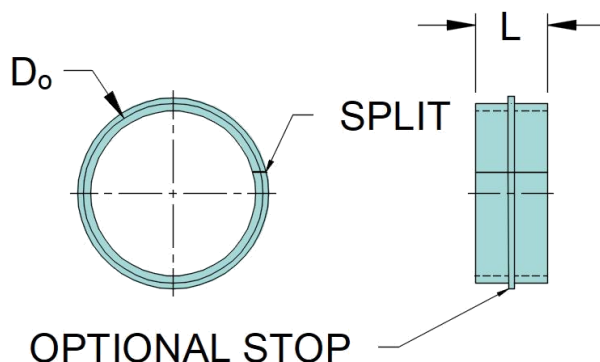
Fitting: Slip Alignment Coupling—Internal

Fitting No: **225**

Product Class: **FlameGuard**

Resin Types: **Vinylester such as Derekane™ 510B -400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#225 - Split (standard)**
#225 - Stop (with optional stop)
#225 - Non-Split (optional)


D	D ₀	L
inches	inches	inches
1	0.875	4.0
1-1/2	1.375	4.0
2	1.875	4.0
2-1/2	2.375	4.0
3	2.875	4.0
4	3.875	4.0
5	4.875	4.0
6	5.875	4.0
7	6.875	4.0
8	7.875	4.0
9	8.875	4.0
10	9.875	6.0
12	11.875	6.0
14	13.875	6.0
16	15.875	6.0
18	17.875	6.0
20	19.875	6.0
22	21.875	6.0

D	D ₀	L
inches	inches	inches
24	23.875	9.0
26	25.875	9.0
28	27.875	9.0
30	29.875	9.0
32	31.875	9.0
34	33.875	9.0
36	35.750	9.0
42	41.750	9.0
48	47.750	9.0
54	53.750	9.0
60	59.750	9.0
66	65.750	9.0
72	71.750	9.0
78	77.750	9.0
84	83.750	9.0
90	89.750	9.0
96	95.500	12.0
102	101.500	12.0

Notes:

1) Larger sizes available up to 180"

Fitting: Access Door Flush

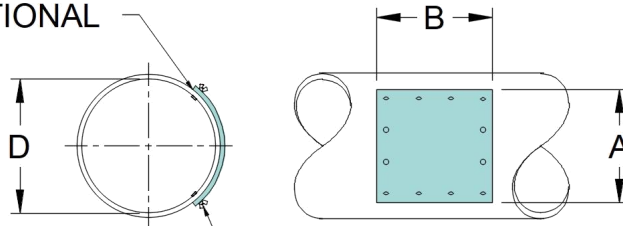
Fitting No: **230**

Product Class: **FlameGuard**

Resin Types: **Vinylester such as Derekane™ 510B -400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#230 - "A" x "B"**

Options: **Gasket Material (Specify)**
Bolts / Nuts (Specify)
Hinged Top (Specify)
HINGE OPTIONAL

**STUDS WITH WINGNUTS
AND RUBBER GASKETS**

D	A	B
inches	inches	inches
> 8	6	6
> 10	8	8
> 12	10	10
> 14	12	12
Specify	Specify	Specify

D	A	B
inches	inches	inches

Notes:

- 1) Neoprene gasket and plated bolts are standard



Fitting: **Access Door Flanged Stand Off**

Fitting No: **235**

Product Class: **FlameGuard**

Resin Types: **Vinylester such as Derekane™ 510B -400, Interplastic CORVE8400 and others**

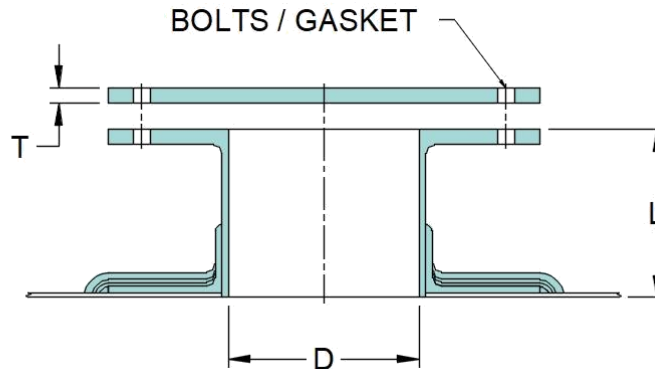
FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#235 - "D"**

Options: **Gasket Material (Specify)**

Bolts / Nuts (Specify)

Hinged Top (Specify)



D	T	L
inches	inches	inches
6	0.250	6
8	0.250	6
10	0.250	6
12	0.375	6
14	0.375	6
16	0.500	6
18	0.500	6
20	0.500	6
24	0.500	6
30	0.500	6
36	0.500	6
Specify	Specify	Specify

D	T	L
inches	inches	inches

Notes:

- 1) Neoprene gasket and plated bolts are standard

Fitting: **Stack Cap No Loss**

Fitting No: **250**

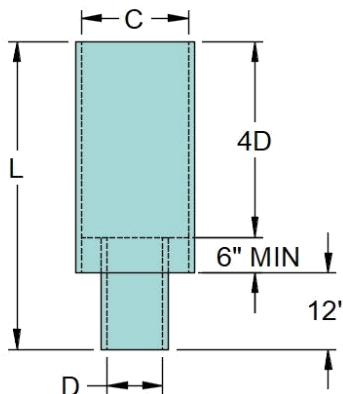
Product Class: **FlameGuard**

Resin Types: **Vinylester such as Derekane™ 510B -400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#250 - "D"**

#250—DF for flanged base



D	C	L
inches	inches	inches
4	6	34
5	7	38
6	8	42
7	9	46
8	10	50
9	11	54
10	12	58
12	14	66
14	16	74
16	18	82
18	20	90
20	22	98
22	24	106
24	26	114
26	28	122
28	30	130
30	32	138
32	34	146

D	C	L
inches	inches	inches
34	36	154
36	38	162
42	44	186
48	50	210
54	56	234
60	62	258
66	68	282
72	74	306
78	80	330
84	86	354
90	92	378
96	98	402
102	104	426
108	110	450
114	116	474
120	122	498
126	128	522
132	134	546

Notes:

1) Open top

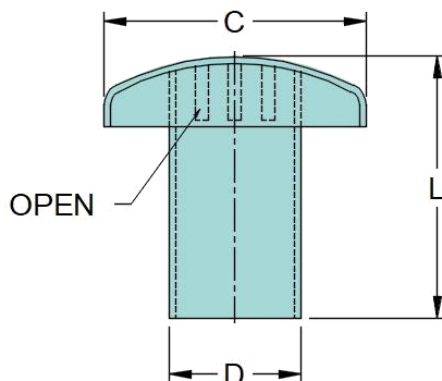
Fitting: **Stack Rain Cap**

Fitting No: **255**

Product Class: **FlameGuard**

Resin Types: **Vinylester such as Derekane™ 510B -400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#255 - "D"**
#255—DF for flanged base


D	C	L
inches	inches	inches
4	8	8
5	10	10
6	12	12
7	14	14
8	16	16
9	18	18
10	20	20
12	24	24
14	28	28
16	32	32
18	36	36
20	40	40
22	44	44
24	48	48
26	52	52
28	56	56
30	60	60
32	64	64

D	C	L
inches	inches	inches
34	68	68
36	72	72
42	84	84
48	96	96
54	108	108
60	120	120
66	132	132
72	144	144
78	156	156
84	168	168
90	180	180
96	192	192
102	204	204
108	216	216
114	228	228
120	240	240
126	252	252
132	264	264

Notes:

- 1) Protected top

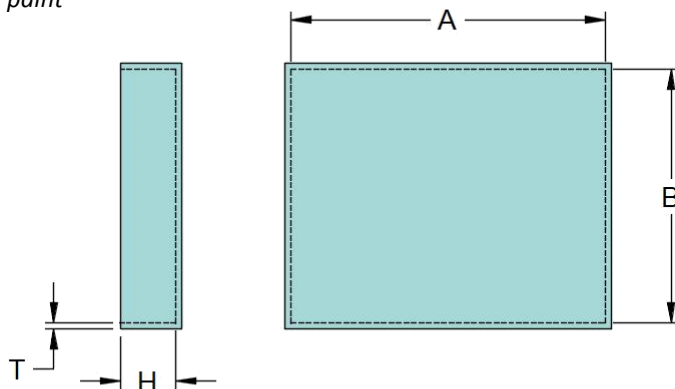
Fitting: **Roof Curb Cap**

Fitting No: **260**

Product Class: **FlameGuard**

Resin Types: **Vinylester such as Derekane™ 510B-400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#260 - "A" - "B" - "H"**


A	B	H	T
inches	inches	inches	inches
4	≤ A	Specify	0.23
5	≤ A	Specify	0.23
6	≤ A	Specify	0.23
7	≤ A	Specify	0.23
8	≤ A	Specify	0.23
9	≤ A	Specify	0.23
10	≤ A	Specify	0.23
12	≤ A	Specify	0.23
14	≤ A	Specify	0.23
16	≤ A	Specify	0.23
18	≤ A	Specify	0.23
20	≤ A	Specify	0.23
22	≤ A	Specify	0.23
24	≤ A	Specify	0.29
26	≤ A	Specify	0.29
28	≤ A	Specify	0.29
30	≤ A	Specify	0.29
32	≤ A	Specify	0.29

A	B	H	T
inches	inches	inches	inches
34	≤ A	Specify	0.29
36	≤ A	Specify	0.29
42	≤ A	Specify	0.29
48	≤ A	Specify	0.29
54	≤ A	Specify	0.38
60	≤ A	Specify	0.38
66	≤ A	Specify	0.38
72	≤ A	Specify	0.38
78	≤ A	Specify	0.47
84	≤ A	Specify	0.56
90	≤ A	Specify	0.56
96	≤ A	Specify	0.66
102	≤ A	Specify	0.75
108	≤ A	Specify	0.75
114	≤ A	Specify	0.75
120	≤ A	Specify	0.94
126	≤ A	Specify	0.94
132	≤ A	Specify	0.94

Notes:

- 1) Larger sizes available up to 168"

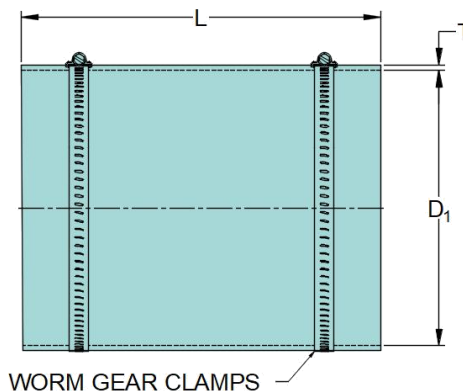
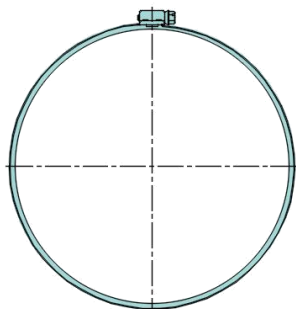
Fitting: **Flex Connector - Slip On**

Fitting No: **270**

Product Class: **FlameGuard**

Resin Types: **Vinylester such as Derekane™ 510B -400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#270 - "D"**


D	D ₁	L	T
inches	inches	inches	inches
1	1.43	8	0.13
1-1/2	1.93	8	0.13
2	2.43	8	0.13
2-1/2	2.93	8	0.13
3	3.43	8	0.13
4	4.43	8	0.13
5	5.43	8	0.13
6	6.43	8	0.13
7	7.43	8	0.13
8	8.43	8	0.13
9	9.43	8	0.13
10	10.43	8	0.13
12	12.43	12	0.25
14	14.43	12	0.25
16	16.43	12	0.25
18	18.43	12	0.25
20	20.43	12	0.25
22	22.43	12	0.25

D	D ₁	L	T
inches	inches	inches	inches
24	24.51	12	0.25
26			
28			
30			
32			
34			
36			
42			
48			
54			
60			
66			
72			
78			
84			
90			
96			
102			

Notes:

- 1) Call for sizes over 24"
- 2) Call for material options

Fitting: **Flex Connector - Flanged**

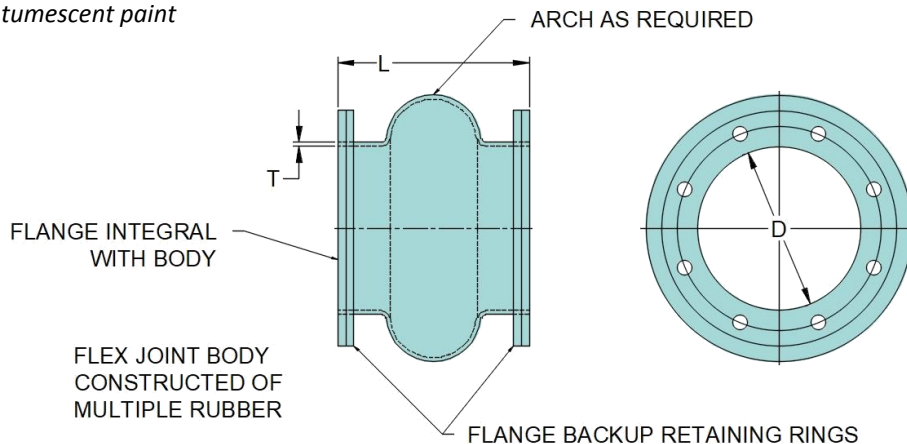
Fitting No: **275**

Product Class: **FlameGuard**

Order as: **#275 - "D"**

Resin Types: **Vinylester such as Derekane™ 510B -400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint



D	Flange Drilling		L	T
inches	# Holes	BC - inches	inches	inches
1	4	4	6	0.13
1-1/2	4	4.5	6	0.13
2	4	5	6	0.13
2-1/2	4	5.5	6	0.13
3	4	6	6	0.13
4	8	7	6	0.13
5	8	8	6	0.13
6	8	9	6	0.13
7	8	10	6	0.13
8	8	11	6	0.13
9	8	12	6	0.13
10	8	13	6	0.13
12	12	15	6	0.25
14	12	17	6	0.25
16	16	19	6	0.25
18	16	21	6	0.25
20	20	23	6	0.25
22	20	25	6	0.25

D	Flange Drilling		L	T
inches	# Holes	BC - inches	inches	inches
24	20	27	6	0.25
26				
28				
30				
32				
34				
36				
42				
48				
54				
60				
66				
72				
78				
84				
90				
96				
102				

Notes:

- 1) Call for sizes over 24"
- 2) Call for material options

Fitting: **Sample Tap - Flanged**

Fitting No: **280**

Product Class: **FlameGuard**

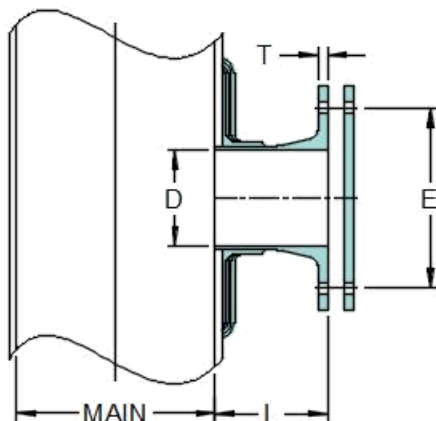
Resin Types: **Vinylester such as Derekane™ 510B -400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#280 - "D"**

Options: **FRP or CPVC Blind Flange**

Drilling Patterns, Bolts, Gaskets



D	Flange Drilling		L	T
inches	# Holes	BC - inches	inches	inches
1	4	3.13	6	0.25
1-1/2	4	3.88	6	0.25
2	4	4.75	6	0.25
2-1/2	4	5.5	6	0.25
3	4	6	6	0.25
4	8	7.5	6	0.25
5	8	8.5	6	0.25
6	8	9.5	6	0.25
Specify alternative sizes as required				

D	Flange Drilling		L	T
inches	# Holes	BC - inches	inches	inches

Notes:

- 1) ANSI 150lb drilling is standard on sample taps.
- 2) Sample tap to be flush with inside of main/stack.

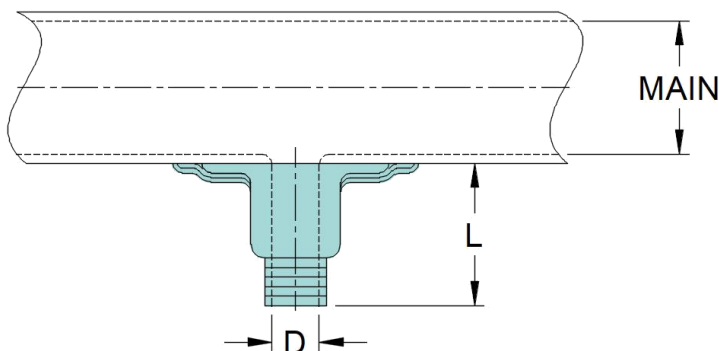
Fitting: Drain Tap - Threaded
Fitting No: 285

 Product Class: **FlameGuard**

 Resin Types: **Vinylester such as Derekane™ 510B -400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

 Order as: **#285 - "D"**

 Materials: **Coupling - FRP**
Plug - CPVC


D	L
inches	inches
1	2
1-1/2	2
2	2
2-1/2	2
3	2
4	2
5	2
6	2
Specify alternative sizes as required	

D	L
inches	inches

Notes:

- 1) Drain tap installed flush with pipe / duct ID.



Fitting: **Drain Tap Leg and Valve**

Fitting No: **286**

Product Class: **FlameGuard**

Resin Types: **Vinylester such as Derekane™ 510B -400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

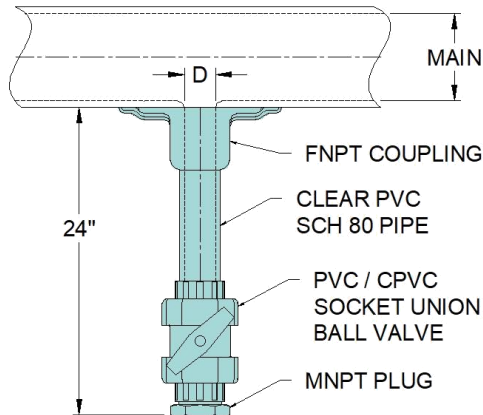
Order as: **#286 - "D"**

Materials: **Coupling - FRP**

Sight Tube - Clear PVC

Valve - PVC

Plug - CPVC



D	L
inches	inches
1	24
1-1/2	24
2	24
2-1/2	24
3	24
4	24
Specify alternative sizes as required	

D	L
inches	inches

1) Notes:

Fitting: **Volume Damper - Butterfly**

Fitting No: **300**

Product Class: **FlameGuard**

Resin Types: **Vinylester such as Derekane™ 510B -400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

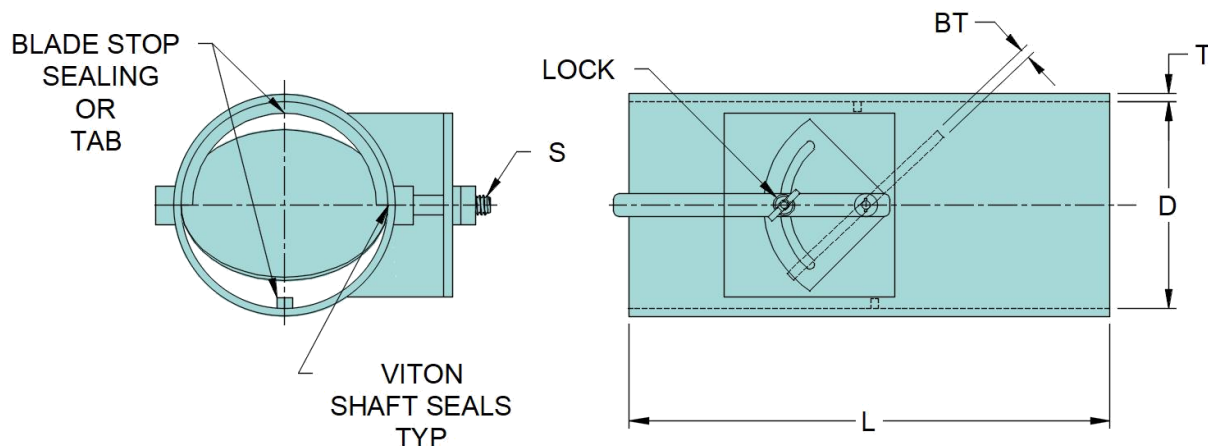
Order as: **#300 - "D"**

Materials: **Body and Blade - FlameGuard**

Shaft - FRP or Stainless Steel

Shaft Seal—Viton

Quadrant—Stainless Steel



D	T	BT	S	L
inches	inches	inches	inches	inches
2	0.180	0.125	0.375	12
2-1/2	0.180	0.125	0.375	12
3	0.180	0.125	0.375	12
4	0.180	0.125	0.500	12
5	0.180	0.125	0.500	12
6	0.180	0.125	0.500	12
7	0.180	0.125	0.500	12
8	0.180	0.125	0.750	12
9	0.180	0.188	0.750	12
10	0.180	0.188	0.750	12
12	0.180	0.188	0.750	12
14	0.180	0.260	0.750	12
16	0.220	0.260	0.750	12
18	0.220	0.313	0.750	12
20	0.220	0.313	0.750	12
22	0.220	0.350	0.750	12
24	0.220	0.390	0.750	12

D	T	BT	S	L
inches	inches	inches	inches	inches
26	0.220	0.390	1.000	12
28	0.260	0.440	1.000	12
30	0.260	0.480	1.000	12
32	0.260	0.480	1.000	12
34	0.260	0.520	1.000	12
36	0.260	0.560	1.000	12
42	0.260	0.650	1.250	12
48	0.300	0.740	1.500	12
54	0.300	0.820	1.880	12
60	0.300	0.910	1.880	12
66	0.340	0.990	2.000	12
72	0.340	1.080	2.000	12
78	0.340	1.250	2.000	24
84	0.340	1.250	2.000	24
90	0.380	1.500	2.000	24
96	0.380	1.500	2.000	24
102	0.380	1.750	2.000	24

Notes:

- Options: Blade Stop, Blade Seal
- Actuation: Electric, Pneumatic, Manual (Lever, Gear Wheel, Chain Operator)

Fitting: **Flanged Volume Damper - Butterfly**

Fitting No: **300 - FF**

Product Class: **FlameGuard**

Resin Types: **Vinylester such as Derekane™ 510B -400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

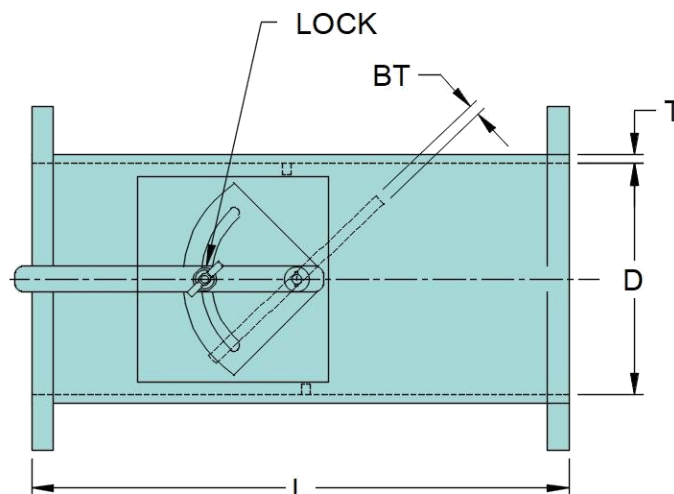
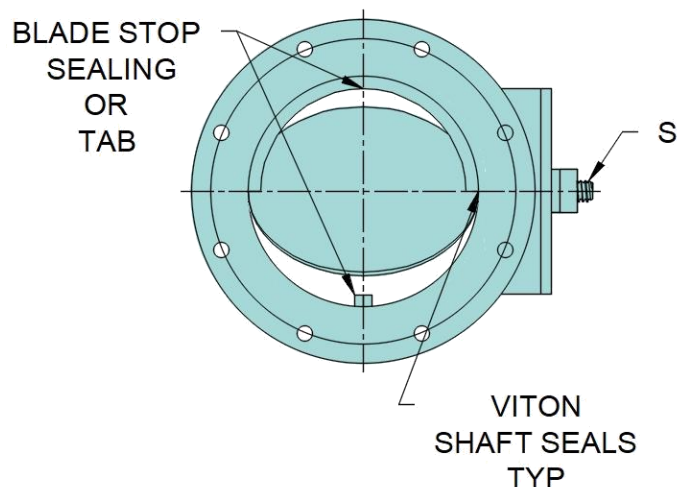
Order as: **#300 - FF - "D"**

Materials: **Body and Blade - FlameGuard**

Shaft - FRP or Stainless Steel

Shaft Seal—Viton

Quadrant—Stainless Steel



D	T	BT	S	L
inches	inches	inches	inches	inches
2	0.180	0.125	0.375	12
2-1/2	0.180	0.125	0.375	12
3	0.180	0.125	0.375	12
4	0.180	0.125	0.500	12
5	0.180	0.125	0.500	12
6	0.180	0.125	0.500	12
7	0.180	0.125	0.500	12
8	0.180	0.125	0.750	12
9	0.180	0.188	0.750	12
10	0.180	0.188	0.750	12
12	0.180	0.188	0.750	12
14	0.180	0.260	0.750	12
16	0.220	0.260	0.750	12
18	0.220	0.313	0.750	12
20	0.220	0.313	0.750	12

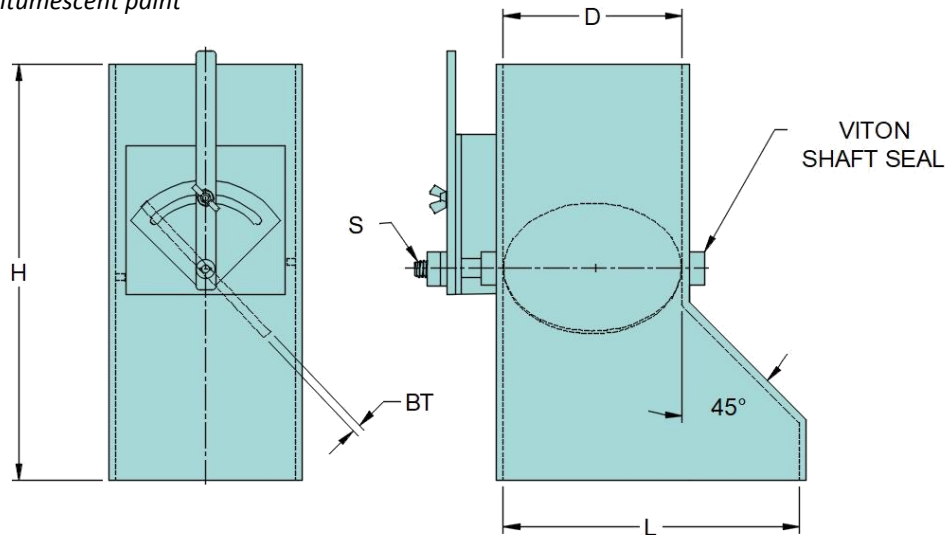
D	T	BT	S	L
inches	inches	inches	inches	inches
22	0.220	0.35	0.750	12
24	0.220	0.39	0.750	12
26	0.220	0.39	1.000	12
28	0.260	0.44	1.000	12
30	0.260	0.48	1.000	12
32	0.260	0.48	1.000	12
34	0.260	0.52	1.000	12
36	0.260	0.56	1.000	12
42	0.260	0.65	1.250	12
48	0.300	0.74	1.500	12
54	0.300	0.82	1.880	12
60	0.300	0.91	1.880	12
66	0.340	0.99	2.000	12
72	0.340	1.08	2.000	12
78	0.340	1.25	2.000	12

Notes:

- Options: Blade Stop, Blade Seal
- Actuation: Electric, Pneumatic, Manual (Lever, Gear Wheel, Chain Operator)
- Flange dimensions match those for Fitting No. 200 (Stub Flange) unless otherwise specified.

Fitting: **Volume Damper with Shoe Tap**Fitting No: **310**Product Class: **FlameGuard**Resin Types: **Vinylester such as Derekane™ 510B-400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#310 - "D" (#310 - F - "D" for flange only)**Materials: **Body and Blade - FlameGuard****Shaft - FRP or Stainless Steel****Shaft Seal—Viton****Quadrant—Stainless Steel**

D	L	BT	S	H
inches	inches	inches	inches	inches
2	8	0.125	0.375	19
2-1/2	8.5	0.125	0.375	19
3	9	0.125	0.375	20
4	10	0.125	0.500	20
5	11	0.125	0.500	21
6	12	0.125	0.500	21
7	13	0.125	0.500	22
8	14	0.125	0.750	22
9	15	0.188	0.750	23
10	16	0.188	0.750	23
12	18	0.188	0.750	24
14	20	0.260	0.750	25
16	24	0.260	0.750	26
18	27	0.313	0.750	27
20	30	0.313	0.750	28

D	L	BT	S	H
inches	inches	inches	inches	inches
22	33	0.35	0.750	29
24	36	0.39	0.750	30
26	39	0.39	1.000	31
28	42	0.44	1.000	32
30	45	0.48	1.000	33
32	48	0.48	1.000	34
34	51	0.52	1.000	35
36	54	0.56	1.000	36
42	63	0.65	1.250	39
48	72	0.74	1.500	42
54	81	0.82	1.880	45
60	90	0.91	1.880	48
66	99	0.99	2.000	51
72	108	1.08	2.000	54
78	117	1.25	2.000	69

Notes:

- Options: Blade Stop, Blade Seal
- Actuation: Electric, Pneumatic, Manual (Lever, Gear Wheel, Chain Operator)
- Optional #310 -F Flange dimensions match those for Fitting No. 200 (Stub Flange) unless otherwise specified.

CompositesUSA One Peninsula Drive, North East, MD 21901 T (410) 287-2700 F (410) 287-5222

Web: www.compositesusa.com Email: Info@compositesusa.com

Fitting: Slide Blast Gate Damper

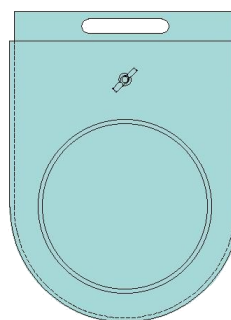
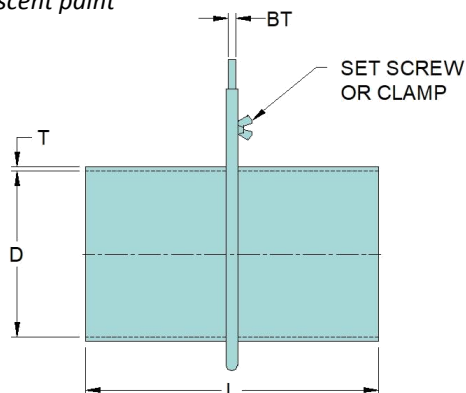
Fitting No: **325**

Product Class: **FlameGuard**

Resin Types: **Vinylester such as DerekanTM 510B -400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#325 - "D"**

Materials: **Body and Blade - FlameGuard**
Set Screw - Stainless Steel


D	T	BT	L
inches	inches	inches	inches
2	0.180	0.13	12
2-1/2	0.180	0.13	12
3	0.180	0.13	12
4	0.180	0.13	12
5	0.180	0.13	12
6	0.180	0.13	12
7	0.180	0.13	12
8	0.180	0.13	12
9	0.180	0.19	12
10	0.180	0.19	12
12	0.180	0.19	12
14	0.180	0.19	12
16	0.220	0.22	12
18	0.220	0.22	12
20	0.220	0.26	12
22	0.220	0.26	12
24	0.220	0.31	12
26	0.220	0.35	12

D	T	BT	L
inches	inches	inches	inches
28	0.260	0.35	12
30	0.260	0.39	12
32	0.260	0.39	12
34	0.260	0.44	12
36	0.260	0.44	12
42	0.260	0.52	12
48	0.300	0.52	12
54	0.300	0.65	12
60	0.300	0.74	12
66	0.340	0.78	12
72	0.340	0.88	12
78	0.340	1.00	24
84	0.340	1.50	24
90	0.380	1.50	24
96	0.380	1.50	24
102	0.380	1.50	24
108	0.380	1.50	24
114	0.380	1.50	24

Notes:

- Options: Top Slip Plug, Extended Pocket, Top Flange Cap
- Actuation: Electric, Pneumatic, Manual
- Single hand hole through 20", double hand hole through 42", Triple hand hole on dampers over 42".

Fitting: Easy Slide Gate Damper

Fitting No: **330 - ES**

Product Class: **FlameGuard**

Resin Types: **Vinylester such as Derekane™ 510B -400, Interplastic CORVE8400 and others**

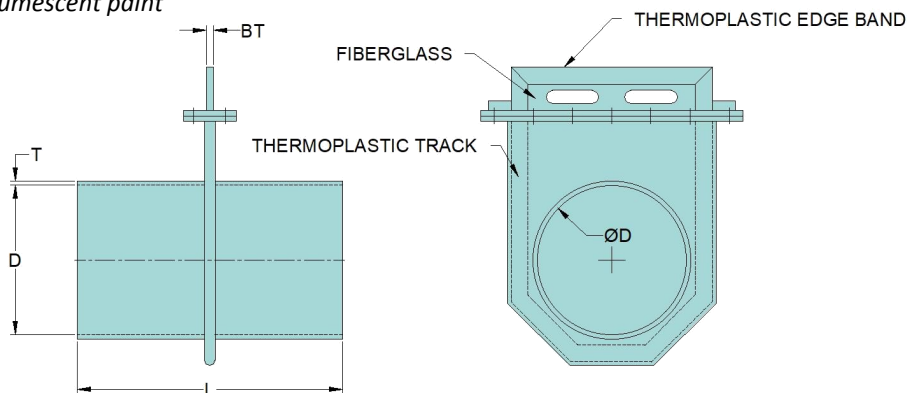
FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#330 - ES - "D"**

Materials: **Body and Blade: FlameGuard**

Trim: Polypropylene (PP)

Gasket: EPDM



D	T	BT	L
inches	inches	inches	inches
2	0.180	0.38	12
2-1/2	0.180	0.38	12
3	0.180	0.38	12
4	0.180	0.38	12
5	0.180	0.38	12
6	0.180	0.38	12
7	0.180	0.38	12
8	0.180	0.50	12
9	0.180	0.50	12
10	0.180	0.50	12
12	0.180	0.50	12
14	0.180	0.50	12
16	0.220	0.75	12
18	0.220	0.75	12
20	0.220	1.25	12
22	0.220	1.25	12
24	0.220	1.25	12
26	0.220	1.25	12

D	T	BT	L
inches	inches	inches	inches
28	0.260	1.25	12
30	0.260	1.25	12
32.000	0.260	1.250	12
34.000	0.260	1.250	12
36.000	0.260	1.250	12
42.000	0.260	1.250	12
48.000	0.300	1.250	12
54.000	0.300	1.250	12
60.000	0.300	1.250	12
66.000	0.340	1.250	12
72.000	0.340	1.250	12
78.000	0.340	1.250	24
84.000	0.340	1.250	24
90.000	0.380	1.250	24
96.000	0.380	1.250	24
102.000	0.380	2.000	24
108.000	0.380	2.000	24
114.000	0.380	2.000	24

Notes:

- Options: PP Trim, PVDF Trim, ECTFE Trim
- Dampers smaller than 20" have solid thermoplastic blades made of the same material as the trim.

Fitting: Shoe Tap with Slide Damper

Fitting No: **335**

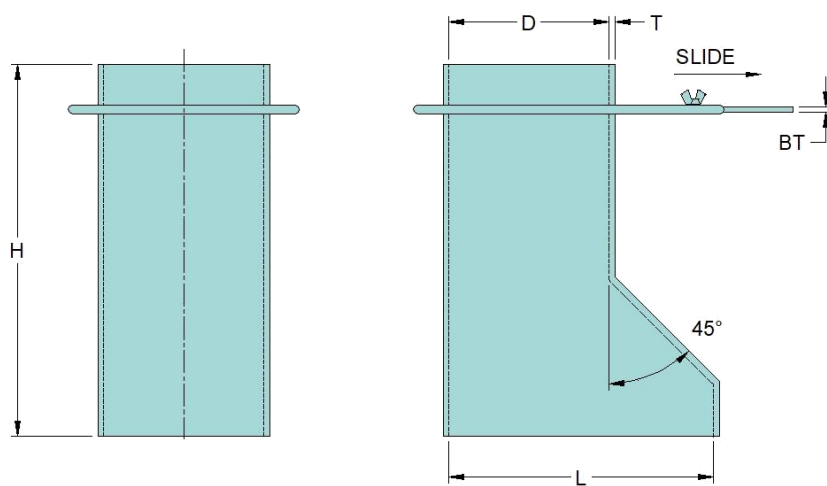
Product Class: **FlameGuard**

Resin Types: **Vinylester such as Derekane™ 510B -400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#335 - "D" (335 - F - "D" for flange end)**

Materials: **Body and Blade: FlameGuard**

Set Screw: **Stainless Steel**


D	L	BT	H
inches	inches	inches	inches
2	8	0.125	19
2-1/2	8.5	0.125	19
3	9	0.125	20
4	10	0.125	20
5	11	0.125	21
6	12	0.125	21
7	13	0.125	22
8	14	0.125	22
9	15	0.188	23
10	16	0.188	23
12	18	0.188	24
14	20	0.188	25
16	24	0.22	26
18	27	0.22	27
20	30	0.26	28

D	L	BT	H
inches	inches	inches	inches
22	33	0.35	29
24	36	0.39	30
26	39	0.39	31
28	42	0.44	32
30	45	0.48	33
32	48	0.48	34
34	51	0.52	35
36	54	0.56	36
42	63	0.65	39
48	72	0.74	42
54	81	0.82	45
60	90	0.91	48
66	99	0.99	51
72	108	1.08	54
78	117	1.25	69

Notes:

- Options: Top Slip Plug, Extended Pocket, Top Flange Cap
- Single hand hole through 20", double hand hole through 42", Triple hand hole on dampers over 42".

Fitting: Backdraft Damper - Wafer

Fitting No: **350**

Product Class: **FlameGuard**

Resin Types: **Vinylester such as Derekane™ 510B -400, Interplastic CORVE8400 and others**

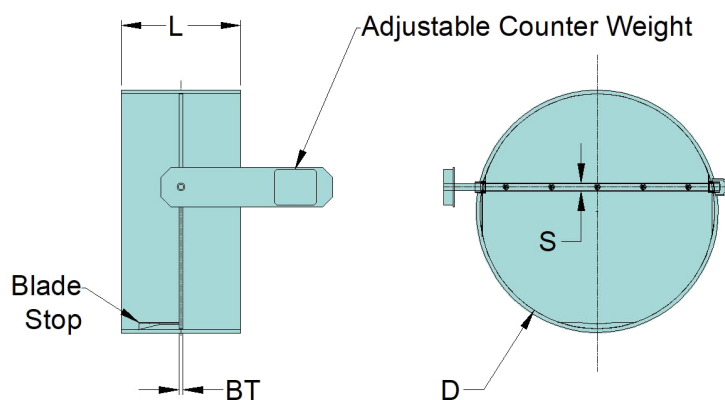
FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#350 - "D"**

#350 - FF - "D"

Materials: **Body and Blade: FlameGuard**

Shaft: FRP or Stainless Steel



D	T	BT	S	L
inches	inches	inches	inches	inches
2	0.180	0.125	0.375	12
2-1/2	0.180	0.125	0.375	12
3	0.180	0.125	0.375	12
4	0.180	0.125	0.5	12
5	0.180	0.125	0.5	12
6	0.180	0.125	0.5	12
7	0.180	0.125	0.5	12
8	0.180	0.125	0.75	12
9	0.180	0.188	0.75	12
10	0.180	0.188	0.75	12
12	0.180	0.188	0.75	12
14	0.180	0.260	0.75	12
16	0.220	0.260	0.75	12
18	0.220	0.313	0.75	12
20	0.220	0.313	0.75	12
22	0.220	0.350	0.75	12
24	0.220	0.390	0.75	12

D	T	BT	S	L
inches	inches	inches	inches	inches
26	0.220	0.390	1.00	12
28	0.260	0.440	1.00	12
30	0.260	0.480	1.00	12
32	0.260	0.480	1.00	12
34	0.260	0.520	1.00	12
36	0.260	0.560	1.00	12
42	0.260	0.650	1.25	12
48	0.300	0.740	1.50	12
54	0.300	0.820	1.88	12
60	0.300	0.910	1.88	12
66	0.340	0.990	2.00	12
72	0.340	1.080	2.00	12
78	0.340	1.250	2.00	24
84	0.340	1.250	2.00	24
90	0.380	1.500	2.00	24
96	0.380	1.500	2.00	24
102	0.380	1.750	2.000	24

Notes:

- 1) Call for Options on Blade Seals and Shaft Seals

Fitting: **Flanged Backdraft Damper**

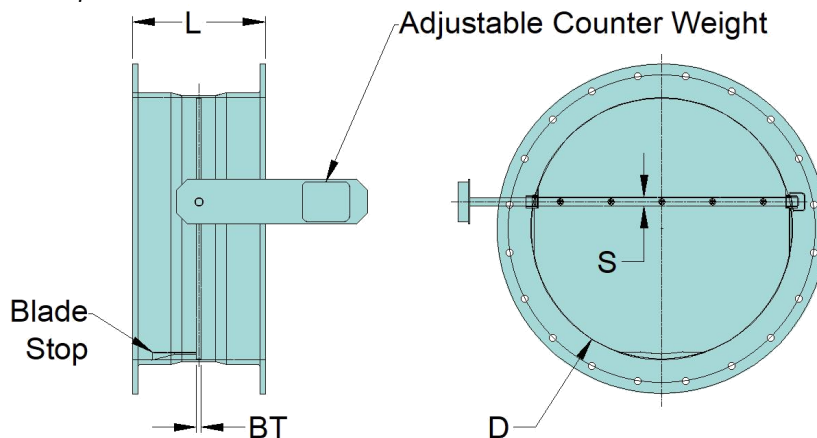
Fitting No: **350-FF**

Product Class: **FlameGuard**

Resin Types: **Vinylester such as Derekane™ 510B -400, Interplastic CORVE8400 and others**

FlameGuard is rated <25 for flame spread and >50 for smoke development (Class 1 Flame, Class 2 Smoke). The external smoke development for FlameGuard may be improved to a rating of 50 by application of an intumescent paint

Order as: **#350 - FF - "D"**

Materials: **Body and Blade: FlameGuard**
Shaft: FRP or Stainless Steel


D	T	BT	S	L
inches	inches	inches	inches	inches
2	0.180	0.125	0.375	12
2-1/2	0.180	0.125	0.375	12
3	0.180	0.125	0.375	12
4	0.180	0.125	0.5	12
5	0.180	0.125	0.5	12
6	0.180	0.125	0.5	12
7	0.180	0.125	0.5	12
8	0.180	0.125	0.75	12
9	0.180	0.188	0.75	12
10	0.180	0.188	0.75	12
12	0.180	0.188	0.75	12
14	0.180	0.260	0.75	12
16	0.220	0.260	0.75	12
18	0.220	0.313	0.75	12
20	0.220	0.313	0.75	12
22	0.220	0.350	0.75	12
24	0.220	0.390	0.75	12

D	T	BT	S	L
inches	inches	inches	inches	inches
26	0.220	0.390	1.00	12
28	0.260	0.440	1.00	12
30	0.260	0.480	1.00	12
32	0.260	0.480	1.00	12
34	0.260	0.520	1.00	12
36	0.260	0.560	1.00	12
42	0.260	0.650	1.25	12
48	0.300	0.740	1.50	12
54	0.300	0.820	1.88	12
60	0.300	0.910	1.88	12
66	0.340	0.990	2.00	12
72	0.340	1.080	2.00	12
78	0.340	1.250	2.00	24
84	0.340	1.250	2.00	24
90	0.380	1.500	2.00	24
96	0.380	1.500	2.00	24
102	0.380	1.750	2.000	24

Notes:

- 1) Call for Options on Blade Seals and Shaft Seals