



BreathSaver® XW

Fiberglass Fire Protection Conduit System



Atkore[™]
FRE Composites



FRE Composites produces high quality epoxy and phenolic fiberglass conduit products for worldwide installations. Having manufactured fiberglass products since 1958, FRE Composites is focused exclusively on the design, engineering, and production of composite filament-wound fiberglass conduit products and accessories. We serve numerous markets including, electrical, telecom, water and wastewater, data centers, utilities, transportation, commercial, and industrial.

Our BreathSaver® XW Conduit System products are UL Certified against UL 2196 - 2-Hour Fire rating for both vertical and horizontal installations when installed with Lifeline® RHW-2 cables per FHIT 25C of Prysmian. This system is ideal for applications in a confined space where flame resistance, smoke development, and toxicity emissions are key considerations or requirements.

Examples include:

- Subway tunnels and transit stations
- Emergency circuit raceways
- Elevator shafts
- Mines
- Plenums

The BreathSaver® XW Fiberglass Advantage

- 2-Hour fire Certified (Vertical and Horizontal)
- Complete range of product:
 - IPS DIMENSIONS : ¾" - 1 ½"
 - ID DIMENSIONS : 2" - 6"
 - ALL associated fittings
- Low smoke halogen-free (LSHF) construction
- Corrosion-free for long life
- Easy to install
- Non-conductive

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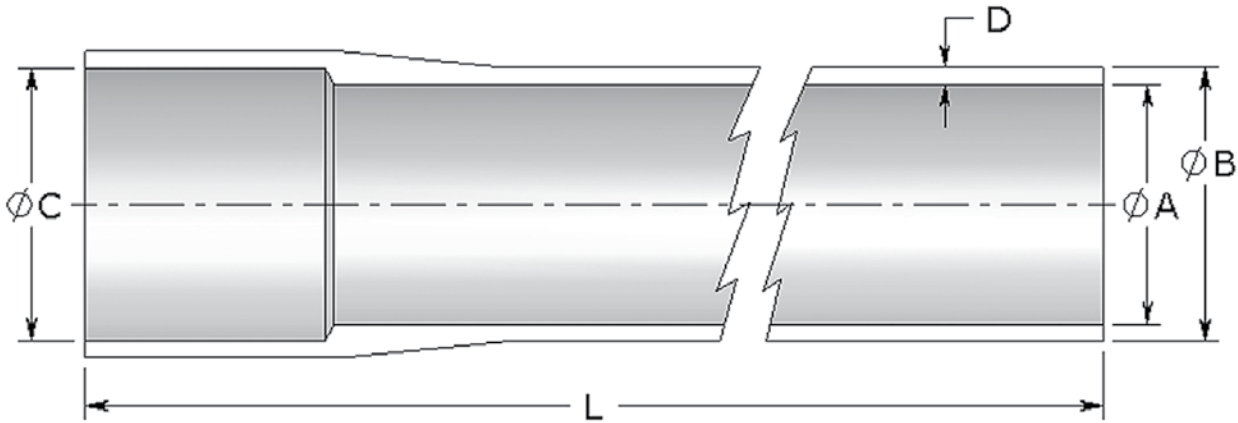


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IPS Extra Heavy Wall (XW) Conduit

Size		Part Number	ØA	ØB	ØC	D	L	ØA	ØB	ØC	D	L
(in)	(mm)		(in)					(mm)				
¾	21	74-7500	0.918	1.418	1.458	0.250	118.25	23.3	36.0	37.0	6.4	3
1	27	74-1000	1.183	1.683	1.723	0.250	118.25	30.0	42.7	43.8	6.4	3
1¼	35	74-1200	1.528	2.028	2.068	0.250	118.25	38.8	51.5	52.5	6.4	3
1½	41	74-1500	1.768	2.268	2.308	0.250	118.25	44.9	57.6	58.6	6.4	3
1½	41	74-1500-20	1.768	2.268	2.308	0.250	236.25	44.9	57.6	58.6	6.4	6
8*	203	74-8000	8.393	8.893	8.933	0.250	236.25	213.2	225.9	226.9	6.4	6

*Trade Size is not recognized by NEC/CEC hence not Certified to any applicable RTRC standards
BreathSaver® products are offered with a straight socket assembly requiring adhesive for assembly
Standard length is 9.84 ft (3m) for ¾" to 1½" conduit

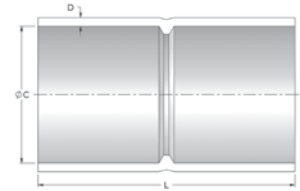


IPS Extra Heavy Wall (XW)

IPS XW Double Bell Coupling

Size		Part Number	ØC	D	L	ØC	D	L
(in)	(mm)		(in)			(mm)		
¾	21	74-7510	1.458	0.250	8.500	37.0	6.4	215.9
1	27	74-1010	1.723	0.250	8.500	43.8	6.4	215.9
1¼	35	74-1210	2.068	0.250	8.500	52.5	6.4	215.9
1½	41	74-1510	2.308	0.250	8.500	58.6	6.4	215.9
8*	203	74-8010	8.933	0.250	8.500	226.9	6.4	215.9

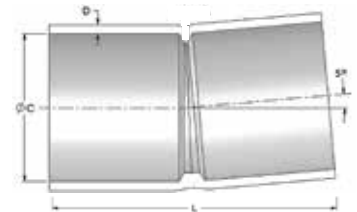
*Trade Size is not recognized by NEC/CEC hence not Certified to any applicable RTRC standards



IPS XW 5° Double Bell Coupling

Size		Part Number	ØC	D	L	ØC	D	L
(in)	(mm)		(in)			(mm)		
¾	21	74-7511	1.458	0.250	8.500	37.0	6.4	215.9
1	27	74-1011	1.723	0.250	8.500	43.8	6.4	215.9
1¼	35	74-1211	2.068	0.250	8.500	52.5	6.4	215.9
1½	41	74-1511	2.308	0.250	8.625	58.6	6.4	219.0
8*	203	74-8011	8.933	0.250	8.750	226.9	6.4	222.3

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IPS XW Sleeve

Size		Part Number	ØC	D	L	ØC	D	L
(in)	(mm)		(in)			(mm)		
¾	21	74-7516	1.458	0.250	12	37.0	6.4	304.8
1	27	74-1016	1.723	0.250	12	43.8	6.4	304.8
1¼	35	74-1216	2.068	0.250	12	52.5	6.4	304.8
1½	41	74-1516	2.308	0.250	12	58.6	6.4	304.8
8*	203	74-8016	8.933	0.250	12	226.9	6.4	304.8

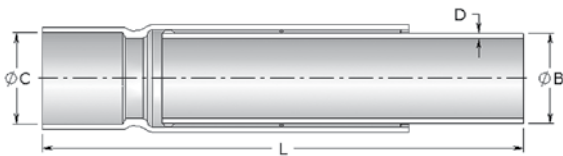
*Trade Size is not recognized by NEC/CEC hence not Certified to any applicable RTRC standards



IPS XW O-Ring Expansion Joint

Size		Part Number	ØB	ØC	D	L MIN	L MAX	ØB	ØC	D	L MIN	L MAX
(in)	(mm)											
¾	21	74-7517	1.418	1.458	0.250	23	35	36.0	37.0	6.4	584.2	889.0
1	27	74-1017	1.683	1.723	0.250	23	35	42.7	43.8	6.4	584.2	889.0
1¼	35	74-1217	2.028	2.068	0.250	23	35	51.5	52.5	6.4	584.2	889.0
1½	41	74-1517	2.268	2.308	0.250	23	35	57.6	58.6	6.4	584.2	889.0
8*	203	74-8017	8.893	8.933	0.250	23	35	225.9	225.9	6.4	584.2	889.0

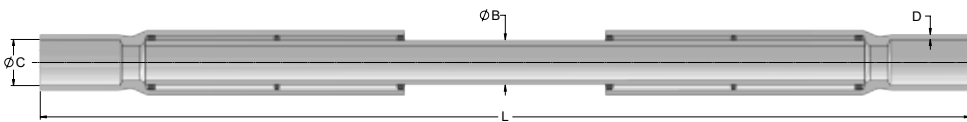
*Trade Size is not recognized by NEC/CEC hence not Certified to any applicable RTRC standards



IPS XW Double O-Ring Expansion Joint

Size		Part Number	ØB	ØC	D	L MIN	L MAX	ØB	ØC	D	L MIN	L MAX
(in)	(mm)											
¾	21	74-7567	1.418	1.458	0.250	46.5	70.5	36.0	36.0	6.4	1181.1	1790.7
1	27	74-1067	1.683	1.723	0.250	46.5	70.5	42.7	43.8	6.4	1181.1	1790.7
1¼	35	74-1267	2.028	2.068	0.250	46.5	70.5	51.5	52.5	6.4	1181.1	1790.7
1½	41	74-1567	2.268	2.308	0.250	46.5	70.5	57.6	58.6	6.4	1181.1	1790.7
8	203	74-8067	8.893	8.933	0.250	46.5	70.5	225.9	225.9	6.4	1181.1	1790.7

*Trade Size is not recognized by NEC/CEC hence not Certified to any applicable RTRC standards

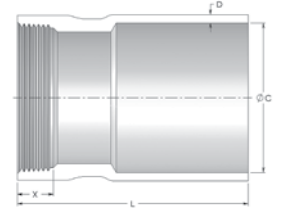


IPS Extra Heavy Wall (XW)

IPS XW NPT Female Threaded Adapter

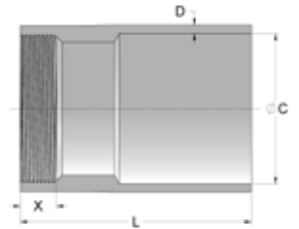
Size		Part Number	ØC	D	L	X	ØC	D	L	X
(in)	(mm)		(in)				(mm)			
¾	21	74-7544	1.458	0.250	7	0.553	37.0	6.4	177.8	14.0
1	27	74-1044	1.723	0.250	7	0.661	43.8	6.4	177.8	16.8
1¼	35	74-1244	2.068	0.250	7	0.681	52.5	6.4	177.8	17.3
1½	41	74-1544	2.308	0.250	7	0.681	58.6	6.4	177.8	17.3
8*	203	74-8044	8.933	0.250	7	1.313	226.9	6.4	177.8	33.4

*Trade Size is not recognized by NEC/CEC hence not Certified to any applicable RTRC standards



IPS XW NPSM Female Threaded Adapter-EMT

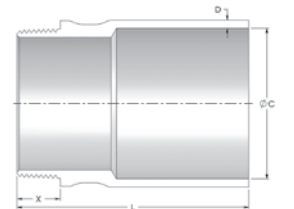
Size		Part Number	ØC	D	L	X	ØC	D	L	X
(in)	(mm)		(in)				(mm)			
¾	21	74-7545	1.458	0.250	7	0.650	37.0	6.4	177.8	16.5
1	27	74-1045	1.723	0.250	7	0.600	43.8	6.4	177.8	15.2
1¼	35	74-1245	2.068	0.250	7	0.700	52.5	6.4	177.8	17.8
1½	41	74-1545	2.308	0.250	7	0.750	58.6	6.4	177.8	19.1



IPS XW NPT Male Threaded Adapter

Size		Part Number	ØC	D	L	X	ØC	D	L	X
(in)	(mm)		(in)				(mm)			
¾	21	74-7527	1.458	0.250	6	0.546	37.0	6.4	152.4	13.9
1	27	74-1027	1.723	0.250	6	0.683	43.8	6.4	152.4	17.3
1¼	35	74-1227	2.068	0.250	6	0.707	52.5	6.4	152.4	18.0
1½	41	74-1527	2.308	0.250	6	0.724	58.6	6.4	152.4	18.4
8*	203	74-8027	8.933	0.250	7	1.713	226.9	6.4	177.8	43.5

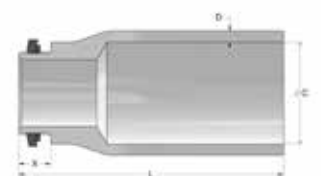
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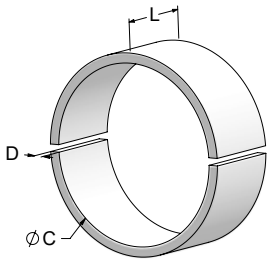


IPS XW Box Connector

Size		Part Number	ØC	D	L	X	ØC	D	L	X
(in)	(mm)		(in)				(mm)			
¾	21	74-7547	1.458	0.250	6	0.546	37.0	6.4	152.4	13.9
1	27	74-1047	1.723	0.250	6	0.683	43.8	6.4	152.4	17.3
1¼	35	74-1247	2.068	0.250	6	0.707	52.5	6.4	152.4	18.0
1½	41	74-1547	2.308	0.250	6	0.724	58.6	6.4	152.4	18.4
8*	203	74-8047	8.933	0.250	7	1.713	226.9	6.4	177.8	43.5

*Trade Size is not recognized by NEC/CEC hence not Certified to any applicable RTRC standards

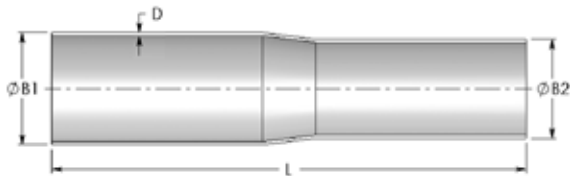




IPS XW Split Stop Ring

Size		Part Number	ØC	D	L	ØC	D	L
(in)	(mm)		(in)			(mm)		
¾	21	74-7564	1.458	0.250	2	37.0	6.4	50.8
1	27	74-1064	1.723	0.250	2	43.8	6.4	50.8
1¼	35	74-1264	2.068	0.250	2	52.5	6.4	50.8
1½	41	74-1564	2.308	0.250	2	58.6	6.4	50.8
8*	203	74-8064	8.933	0.250	2	226.9	6.4	50.8

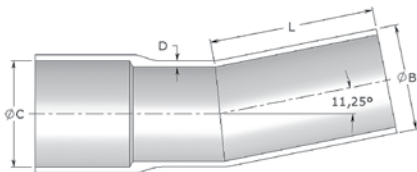
*Trade Size is not recognized by NEC/CEC hence not Certified to any applicable RTRC standards



IPS XW Reducer

Size		Part Number	ØB1	ØB2	D	L	ØB1	ØB2	D	L
(in)	(mm)		(in)				(mm)			
1	27	74-1029	1.683	1.418	0.250	18	42.7	36.0	6.4	457.2
1¼	35	74-1229	2.028	1.683	0.250	18	51.5	42.7	6.4	457.2
1½	41	74-1529	2.268	2.028	0.250	18	57.6	51.5	6.4	457.2

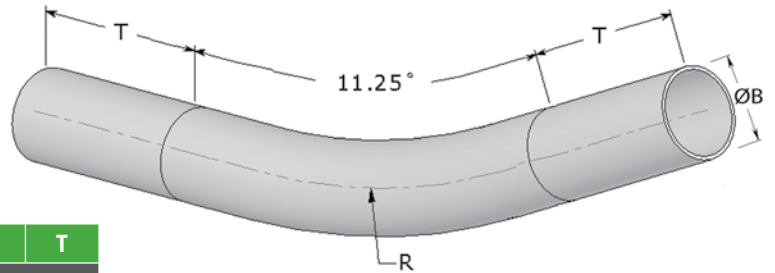
All reducers are by one trade size dimension



IPS XW 11.25° Fitting

Size		Part Number	ØB	ØC	D	L	ØB	ØC	D	L
(in)	(mm)		(in)				(mm)			
¾	21	74-7535	1.418	1.458	0.250	7	36.0	37.0	6.4	177.8
1	27	74-1035	1.683	1.723	0.250	7	42.7	43.8	6.4	177.8
1¼	35	74-1235	2.028	2.068	0.250	7	51.5	52.5	6.4	177.8
1½	41	74-1535	2.268	2.308	0.250	7	57.6	58.6	6.4	177.8

IPS Extra Heavy Wall (XW)

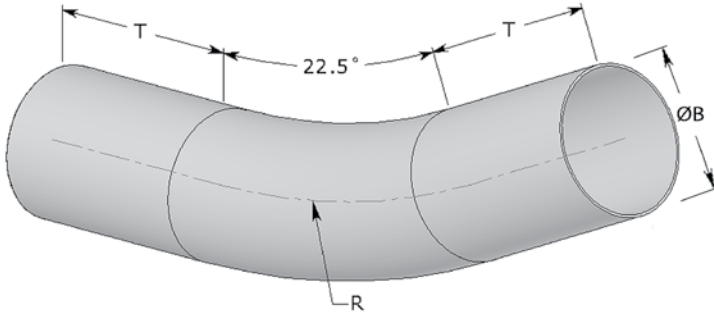


IPS XW 11.25° Elbow

Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
12" Radius								
¾	21	74-7535R12	1.418	12	6	36.0	304.8	152.4
1	27	74-1035R12	1.683	12	6	42.7	304.8	152.4
1¼	35	74-1235R12	2.028	12	6	51.5	304.8	152.4
1½	41	74-1535R12	2.268	12	6	57.6	304.8	152.4
18" Radius								
¾	21	74-7535R18	1.418	18	6	36.0	457.2	152.4
1	27	74-1035R18	1.683	18	6	42.7	457.2	152.4
1¼	35	74-1235R18	2.028	18	6	51.5	457.2	152.4
1½	41	74-1535R18	2.268	18	6	57.6	457.2	152.4
24" Radius								
¾	21	74-7535R24	1.418	24	6	36.0	609.6	152.4
1	27	74-1035R24	1.683	24	6	42.7	609.6	152.4
1¼	35	74-1235R24	2.028	24	6	51.5	609.6	152.4
1½	41	74-1535R24	2.268	24	6	57.6	609.6	152.4
36" Radius								
¾	21	74-7535R36	1.418	36	6	36.0	914.4	152.4
1	27	74-1035R36	1.683	36	6	42.7	914.4	152.4
1¼	35	74-1235R36	2.028	36	6	51.5	914.4	152.4
1½	41	74-1535R36	2.268	36	6	57.6	914.4	152.4
48" Radius								
¾	21	74-7535R48	1.418	48	6	36.0	1219.2	152.4
1	27	74-1035R48	1.683	48	6	42.7	1219.2	152.4
1¼	35	74-1235R48	2.028	48	6	51.5	1219.2	152.4
1½	41	74-1535R48	2.268	48	6	57.6	1219.2	152.4

Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
60" Radius								
¾	21	74-7535R60	1.418	60	6	36.0	1524.0	152.4
1	27	74-1035R60	1.683	60	6	42.7	1524.0	152.4
1¼	35	74-1235R60	2.028	60	6	51.5	1524.0	152.4
1½	41	74-1535R60	2.268	60	6	57.6	1524.0	152.4
72" Radius								
¾	21	74-7535R72	1.418	72	6	36.0	1828.8	152.4
1	27	74-1035R72	1.683	72	6	42.7	1828.8	152.4
1¼	35	74-1235R72	2.028	72	6	51.5	1828.8	152.4
1½	41	74-1535R72	2.268	72	6	57.6	1828.8	152.4
8*	203	74-8035R72	8.893	72	6	225.9	1828.8	152.4
84" Radius								
8*	203	74-8035R84	8.893	84	6	225.9	2133.6	152.4
96" Radius								
8*	203	74-8035R96	8.893	96	6	225.9	2438.4	152.4
108" Radius								
8*	203	74-8035R108	8.893	108	6	225.9	2743.2	152.4

*Trade Size is not recognized by NEC/CEC hence not Certified to any applicable RTRC standards



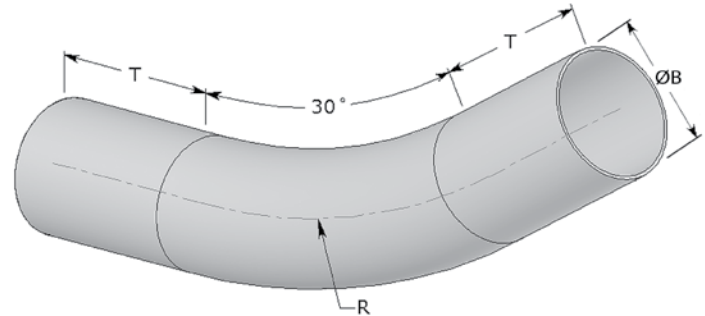
IPS XW 22.5° Elbow

Size		Part Number	ØB	R	T	ØB	R	T	Size	Part Number	ØB	R	T	ØB	R	T	
(in)	(mm)		(in)			(mm)			(in)		(mm)	(in)			(mm)		
12" Radius																	
¾	21	74-7534R12	1.418	12	6	36.0	304.8	152.4	¾	21	74-7534R48	1.418	48	6	36.0	1219.2	152.4
1	27	74-1034R12	1.683	12	6	42.7	304.8	152.4	1	27	74-1034R48	1.683	48	6	42.7	1219.2	152.4
1¼	35	74-1234R12	2.028	12	6	51.5	304.8	152.4	1¼	35	74-1234R48	2.028	48	6	51.5	1219.2	152.4
1½	41	74-1534R12	2.268	12	6	57.6	304.8	152.4	1½	41	74-1534R48	2.268	48	6	57.6	1219.2	152.4
18" Radius																	
¾	21	74-7534R18	1.418	18	6	36.0	457.2	152.4	¾	21	74-7534R60	1.418	60	6	36.0	1524.0	152.4
1	27	74-1034R18	1.683	18	6	42.7	457.2	152.4	1	27	74-1034R60	1.683	60	6	42.7	1524.0	152.4
1¼	35	74-1234R18	2.028	18	6	51.5	457.2	152.4	1¼	35	74-1234R60	2.028	60	6	51.5	1524.0	152.4
1½	41	74-1534R18	2.268	18	6	57.6	457.2	152.4	1½	41	74-1534R60	2.268	60	6	57.6	1524.0	152.4
24" Radius																	
¾	21	74-7534R24	1.418	24	6	36.0	609.6	152.4	¾	21	74-7534R72	1.418	72	6	36.0	1828.8	152.4
1	27	74-1034R24	1.683	24	6	42.7	609.6	152.4	1	27	74-1034R72	1.683	72	6	42.7	1828.8	152.4
1¼	35	74-1234R24	2.028	24	6	51.5	609.6	152.4	1¼	35	74-1234R72	2.028	72	6	51.5	1828.8	152.4
1½	41	74-1534R24	2.268	24	6	57.6	609.6	152.4	1½	41	74-1534R72	2.268	72	6	57.6	1828.8	152.4
36" Radius																	
¾	21	74-7534R36	1.418	36	6	36.0	914.4	152.4	8*	203	74-8034R72	8.893	72	6	225.9	1828.8	152.4
1	27	74-1034R36	1.683	36	6	42.7	914.4	152.4	84" Radius								
1¼	35	74-1234R36	2.028	36	6	51.5	914.4	152.4	8*	203	74-8034R84	8.893	84	6	225.9	2133.6	152.4
1½	41	74-1534R36	2.268	36	6	57.6	914.4	152.4	96" Radius								
48" Radius																	
8*	203	74-8034R96	8.893	96	6	225.9	2438.4	152.4	108" Radius								
8*	203	74-8034R108	8.893	108	6	225.9	2743.2	152.4									

*Trade Size is not recognized by NEC/CEC hence not Certified to any applicable RTRC standards



IPS Extra Heavy Wall (XW)

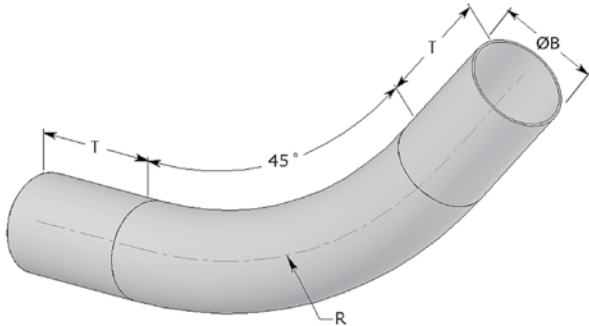


IPS XW 30° Elbow

Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
12" Radius								
¾	21	74-7533R12	1.418	12	6	36.0	304.8	152.4
1	27	74-1033R12	1.683	12	6	42.7	304.8	152.4
1¼	35	74-1233R12	2.028	12	6	51.5	304.8	152.4
1½	41	74-1533R12	2.268	12	6	57.6	304.8	152.4
18" Radius								
¾	21	74-7533R18	1.418	18	6	36.0	457.2	152.4
1	27	74-1033R18	1.683	18	6	42.7	457.2	152.4
1¼	35	74-1233R18	2.028	18	6	51.5	457.2	152.4
1½	41	74-1533R18	2.268	18	6	57.6	457.2	152.4
24" Radius								
¾	21	74-7533R24	1.418	24	6	36.0	609.6	152.4
1	27	74-1033R24	1.683	24	6	42.7	609.6	152.4
1¼	35	74-1233R24	2.028	24	6	51.5	609.6	152.4
1½	41	74-1533R24	2.268	24	6	57.6	609.6	152.4
36" Radius								
¾	21	74-7533R36	1.418	36	6	36.0	914.4	152.4
1	27	74-1033R36	1.683	36	6	42.7	914.4	152.4
1¼	35	74-1233R36	2.028	36	6	51.5	914.4	152.4
1½	41	74-1533R36	2.268	36	6	57.6	914.4	152.4

Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
48" Radius								
¾	21	74-7533R48	1.418	48	6	36.0	1219.2	152.4
1	27	74-1033R48	1.683	48	6	42.7	1219.2	152.4
1¼	35	74-1233R48	2.028	48	6	51.5	1219.2	152.4
1½	41	74-1533R48	2.268	48	6	57.6	1219.2	152.4
60" Radius								
¾	21	74-7533R60	1.418	60	6	36.0	1524.0	152.4
1	27	74-1033R60	1.683	60	6	42.7	1524.0	152.4
1¼	35	74-1233R60	2.028	60	6	51.5	1524.0	152.4
1½	41	74-1533R60	2.268	60	6	57.6	1524.0	152.4
72" Radius								
¾	21	74-7533R72	1.418	72	6	36.0	1828.8	152.4
1	27	74-1033R72	1.683	72	6	42.7	1828.8	152.4
1¼	35	74-1233R72	2.028	72	6	51.5	1828.8	152.4
1½	41	74-1533R72	2.268	72	6	57.6	1828.8	152.4
8*	203	74-8033R72	8.893	72	6	225.9	1828.8	152.4
84" Radius								
8*	203	74-8033R84	8.893	84	6	225.9	2133.6	152.4
96" Radius								
8*	203	74-8033R96	8.893	96	6	225.9	2438.4	152.4
108" Radius								
8*	203	74-8033R108	8.893	108	6	225.9	2743.2	152.4

*Trade Size is not recognized by NEC/CEC hence not Certified to any applicable RTRC standards



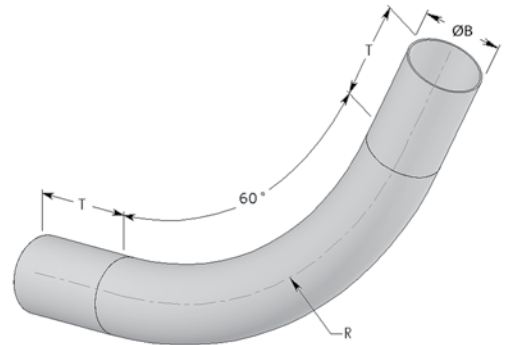
IPS XW 45° Elbow

Size		Part Number	ØB	R	T	ØB	R	T	Size	Part Number	ØB	R	T	ØB	R	T	
(in)	(mm)		(in)			(mm)			(in)		(mm)	(in)			(mm)		
12" Radius									48" Radius								
¾	21	74-7532R12	1.418	12	6	36.0	304.8	152.4	¾	21	74-7532R48	1.418	48	6	36.0	1219.2	152.4
1	27	74-1032R12	1.683	12	6	42.7	304.8	152.4	1	27	74-1032R48	1.683	48	6	42.7	1219.2	152.4
1¼	35	74-1232R12	2.028	12	6	51.5	304.8	152.4	1¼	35	74-1232R48	2.028	48	6	51.5	1219.2	152.4
1½	41	74-1532R12	2.268	12	6	57.6	304.8	152.4	1½	41	74-1532R48	2.268	48	6	57.6	1219.2	152.4
18" Radius									60" Radius								
¾	21	74-7532R18	1.418	18	6	36.0	457.2	152.4	¾	21	74-7532R60	1.418	60	6	36.0	1524.0	152.4
1	27	74-1032R18	1.683	18	6	42.7	457.2	152.4	1	27	74-1032R60	1.683	60	6	42.7	1524.0	152.4
1¼	35	74-1232R18	2.028	18	6	51.5	457.2	152.4	1¼	35	74-1232R60	2.028	60	6	51.5	1524.0	152.4
1½	41	74-1532R18	2.268	18	6	57.6	457.2	152.4	1½	41	74-1532R60	2.268	60	6	57.6	1524.0	152.4
24" Radius									72" Radius								
¾	21	74-7532R24	1.418	24	6	36.0	609.6	152.4	¾	21	74-7532R72	1.418	72	6	36.0	1828.8	152.4
1	27	74-1032R24	1.683	24	6	42.7	609.6	152.4	1	27	74-1032R72	1.683	72	6	42.7	1828.8	152.4
1¼	35	74-1232R24	2.028	24	6	51.5	609.6	152.4	1¼	35	74-1232R72	2.028	72	6	51.5	1828.8	152.4
1½	41	74-1532R24	2.268	24	6	57.6	609.6	152.4	1½	41	74-1532R72	2.268	72	6	57.6	1828.8	152.4
36" Radius									8*	203	74-8032R72	8.893	72	6	225.9	1828.8	152.4
¾	21	74-7532R36	1.418	36	6	36.0	914.4	152.4	84" Radius								
1	27	74-1032R36	1.683	36	6	42.7	914.4	152.4	8*	203	74-8032R84	8.893	84	6	225.9	2133.6	152.4
1¼	35	74-1232R36	2.028	36	6	51.5	914.4	152.4	96" Radius								
1½	41	74-1532R36	2.268	36	6	57.6	914.4	152.4	8*	203	74-8032R96	8.893	96	6	225.9	2438.4	152.4
36" Radius									108" Radius								
¾	21	74-7532R36	1.418	36	6	36.0	914.4	152.4	8*	203	74-8032R108	8.893	108	6	225.9	2743.2	152.4

*Trade Size is not recognized by NEC/CEC hence not Certified to any applicable RTRC standards



IPS Extra Heavy Wall (XW)

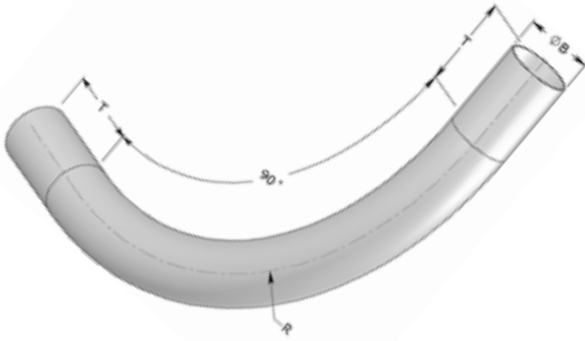


IPS XW 60° Elbow

Size		Part Number	ØB	R	T	ØB	R	T	Size	Part Number	ØB	R	T	ØB	R	T	
(in)	(mm)		(in)			(mm)			(in)		(mm)	(in)			(mm)		
12" Radius									48" Radius								
¾	21	74-7531R12	1.418	12	6	36.0	304.8	152.4	¾	21	74-7531R48	1.418	48	6	36.0	1219.2	152.4
1	27	74-1031R12	1.683	12	6	42.7	304.8	152.4	1	27	74-1031R48	1.683	48	6	42.7	1219.2	152.4
1¼	35	74-1231R12	2.028	12	6	51.5	304.8	152.4	1¼	35	74-1231R48	2.028	48	6	51.5	1219.2	152.4
1½	41	74-1531R12	2.268	12	6	57.6	304.8	152.4	1½	41	74-1531R48	2.268	48	6	57.6	1219.2	152.4
18" Radius									60" Radius								
¾	21	74-7531R18	1.418	18	6	36.0	457.2	152.4	¾	21	74-7531R60	1.418	60	6	36.0	1524.0	152.4
1	27	74-1031R18	1.683	18	6	42.7	457.2	152.4	1	27	74-1031R60	1.683	60	6	42.7	1524.0	152.4
1¼	35	74-1231R18	2.028	18	6	51.5	457.2	152.4	1¼	35	74-1231R60	2.028	60	6	51.5	1524.0	152.4
1½	41	74-1531R18	2.268	18	6	57.6	457.2	152.4	1½	41	74-1531R60	2.268	60	6	57.6	1524.0	152.4
24" Radius									72" Radius								
¾	21	74-7531R24	1.418	24	6	36.0	609.6	152.4	¾	21	74-7531R72	1.418	72	6	36.0	1828.8	152.4
1	27	74-1031R24	1.683	24	6	42.7	609.6	152.4	1	27	74-1031R72	1.683	72	6	42.7	1828.8	152.4
1¼	35	74-1231R24	2.028	24	6	51.5	609.6	152.4	1¼	35	74-1231R72	2.028	72	6	51.5	1828.8	152.4
1½	41	74-1531R24	2.268	24	6	57.6	609.6	152.4	1½	41	74-1531R72	2.268	72	6	57.6	1828.8	152.4
36" Radius									84" Radius								
¾	21	74-7531R36	1.418	36	6	36.0	914.4	152.4	8*	203	74-8031R84	8.893	84	6	225.9	2133.6	152.4
1	27	74-1031R36	1.683	36	6	42.7	914.4	152.4	96" Radius								
1¼	35	74-1231R36	2.028	36	6	51.5	914.4	152.4	8*	203	74-8031R96	8.893	96	6	225.9	2438.4	152.4
1½	41	74-1531R36	2.268	36	6	57.6	914.4	152.4	108" Radius								
									8*	203	74-8031R108	8.893	108	6	225.9	2743.2	152.4

*Trade Size is not recognized by NEC/CEC hence not Certified to any applicable RTRC standards





IPS XW 90° Elbow

Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
12" Radius								
¾	21	74-7530R12	1.418	12	6	36.0	304.8	152.4
1	27	74-1030R12	1.683	12	6	42.7	304.8	152.4
1¼	35	74-1230R12	2.028	12	6	51.5	304.8	152.4
1½	41	74-1530R12	2.268	12	6	57.6	304.8	152.4
18" Radius								
¾	21	74-7530R18	1.418	18	6	36.0	457.2	152.4
1	27	74-1030R18	1.683	18	6	42.7	457.2	152.4
1¼	35	74-1230R18	2.028	18	6	51.5	457.2	152.4
1½	41	74-1530R18	2.268	18	6	57.6	457.2	152.4
24" Radius								
¾	21	74-7530R24	1.418	24	6	36.0	609.6	152.4
1	27	74-1030R24	1.683	24	6	42.7	609.6	152.4
1¼	35	74-1230R24	2.028	24	6	51.5	609.6	152.4
1½	41	74-1530R24	2.268	24	6	57.6	609.6	152.4
36" Radius								
¾	21	74-7530R36	1.418	36	6	36.0	914.4	152.4
1	27	74-1030R36	1.683	36	6	42.7	914.4	152.4
1¼	35	74-1230R36	2.028	36	6	51.5	914.4	152.4
1½	41	74-1530R36	2.268	36	6	57.6	914.4	152.4

Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
48" Radius								
¾	21	74-7530R48	1.418	48	6	36.0	1219.2	152.4
1	27	74-1030R48	1.683	48	6	42.7	1219.2	152.4
1¼	35	74-1230R48	2.028	48	6	51.5	1219.2	152.4
1½	41	74-1530R48	2.268	48	6	57.6	1219.2	152.4
60" Radius								
¾	21	74-7530R60	1.418	60	6	36.0	1524.0	152.4
1	27	74-1030R60	1.683	60	6	42.7	1524.0	152.4
1¼	35	74-1230R60	2.028	60	6	51.5	1524.0	152.4
1½	41	74-1530R60	2.268	60	6	57.6	1524.0	152.4
72" Radius								
8*	203	74-8030R72	8.893	72	6	225.9	1828.8	152.4
84" Radius								
8*	203	74-8030R84	8.893	84	6	225.9	2133.6	152.4
96" Radius								
8*	203	74-8030R96	8.893	96	6	225.9	2438.4	152.4
108" Radius								
8*	203	74-8030R108	8.893	108	6	225.9	2743.2	152.4

*Trade Size is not recognized by NEC/CEC hence not Certified to any applicable RTRC standards

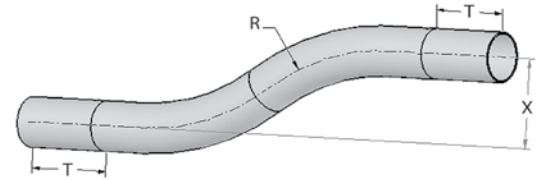


IPS Extra Heavy Wall (XW)

IPS XW Offset Elbow

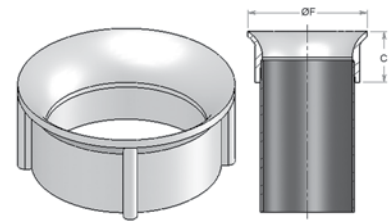
Size	Part Number
All	Special

*Please contact our local agent for quotes and feasibility.

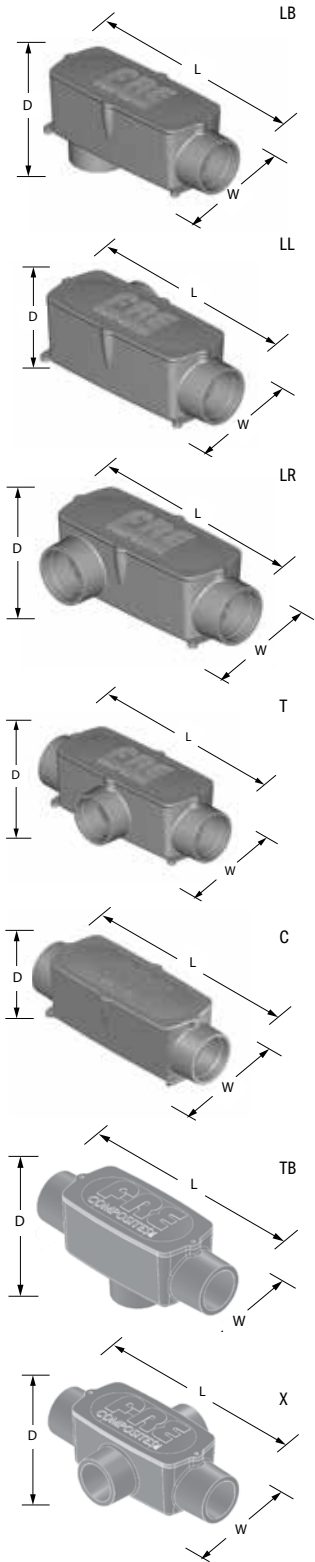


IPS XW Radius Bell End

Size		Part Number	C	ØF	C	ØF
(in)	(mm)		(in)	(mm)	(in)	(mm)
¾	21	74-7518	1.7	1.918	43.18	48.72
1	27	74-1018	1.7	2.183	43.18	55.45
1¼	35	74-1218	1.7	2.528	43.18	64.21
1½	41	74-1518	1.7	2.768	43.18	70.31
8*	203	74-8018	2.4	9.393	60.96	238.58



IPS Extra Heavy Wall (XW)



IPS XW Conduit Bodies

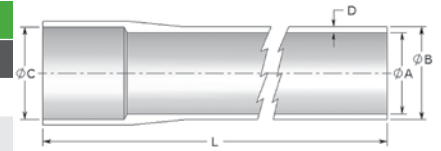
Size		Part Number	Length	Width	Depth	Length	Width	Depth
(in)	(mm)							
LB								
¾	21	74-7591	7.60	2.75	3.88	193	70	98
1	27	74-1091	7.60	2.75	3.88	193	70	98
1¼	35	74-1291	9.55	3.84	4.63	242	98	117
1½	41	74-1591	9.55	3.84	4.63	242	98	117
LL								
¾	21	74-7592	7.60	4.19	2.38	193	106	60
1	27	74-1092	7.60	4.19	2.38	193	106	60
1¼	35	74-1292	9.55	5.31	3.13	242	135	79
1½	41	74-1592	9.55	5.31	3.13	242	135	79
LR								
¾	21	74-7593	7.60	4.19	2.38	193	106	60
1	27	74-1093	7.60	4.19	2.38	193	106	60
1¼	35	74-1293	9.55	5.31	3.13	242	135	79
1½	41	74-1593	9.55	5.31	3.13	242	135	79
T								
¾	21	74-7594	9.00	4.19	2.38	229	106	60
1	27	74-1094	9.00	4.19	2.38	229	106	60
1¼	35	74-1294	11.00	5.31	3.13	279	135	79
1½	41	74-1594	11.00	5.31	3.13	279	135	79
C								
¾	21	74-7595	9.00	2.75	2.38	229	70	60
1	27	74-1095	9.00	2.75	2.38	229	70	60
1¼	35	74-1295	11.00	3.84	3.13	279	98	79
1½	41	74-1595	11.00	3.84	3.13	279	98	79
TB								
¾	21	74-7596	9.00	2.75	3.88	229	70	98
1	27	74-1096	9.00	2.75	3.88	229	70	98
1¼	35	74-1296	11.00	3.84	4.63	279	98	117
1½	41	74-1596	11.00	3.84	4.63	279	98	117
X								
¾	21	74-7597	9.00	5.63	2.38	229	143	60
1	27	74-1097	9.00	5.63	2.38	229	143	60
1¼	35	74-1297	11.00	3.13	6.78	279	79	172
1½	41	74-1597	11.00	3.13	6.78	279	79	172



ID Extra Heavy Wall (XW)

ID Extra Heavy Wall (XW) Conduit

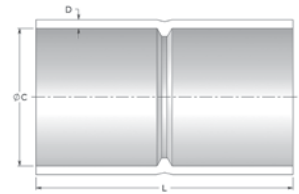
Size		Part Number	ØA	ØB	ØC	D	L	ØA	ØB	ØC	D	L
(in)	(mm)		(in)					(mm)				
2	53	84-2000	2.000	2.500	2.540	0.250	236.25	50.8	63.5	64.5	6.4	6
2½	63	84-2500	2.500	3.000	3.040	0.250	236.25	63.5	76.2	77.2	6.4	6
3	78	84-3000	3.000	3.500	3.540	0.250	236.25	76.2	88.9	89.9	6.4	6
3½	91	84-3500	3.500	4.000	4.040	0.250	236.25	88.9	101.6	102.6	6.4	6
4	103	84-4000	4.000	4.500	4.540	0.250	236.25	101.6	114.3	115.3	6.4	6
5	129	84-5000	5.000	5.500	5.540	0.250	236.25	127	139.7	140.7	6.4	6
6	155	84-6000	6.000	6.500	6.540	0.250	236.25	152.4	165.1	166.1	6.4	6



BreathSaver® products are offered with a straight socket assembly requiring adhesive for assembly
Standard length is 19.68 ft (6m) for 2" to 6" conduit

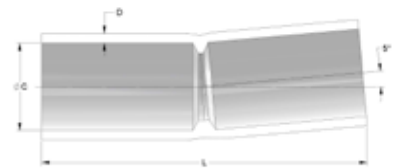
ID XW Double Bell Coupling

Size		Part Number	ØC	D	L	ØC	D	L
(in)	(mm)		(in)			(mm)		
2	53	84-2010	2.540	0.250	8.500	64.5	6.4	215.9
2½	63	84-2510	3.040	0.250	8.500	77.2	6.4	215.9
3	78	84-3010	3.540	0.250	8.500	89.9	6.4	215.9
3½	91	84-3510	4.040	0.250	8.500	102.6	6.4	215.9
4	103	84-4010	4.540	0.250	8.500	115.3	6.4	215.9
5	129	84-5010	5.540	0.250	8.500	140.7	6.4	215.9
6	155	84-6010	6.540	0.250	8.500	166.1	6.4	215.9



ID XW 5° Double Bell Coupling

Size		Part Number	ØC	D	L	ØC	D	L
(in)	(mm)		(in)			(mm)		
2	53	84-2011	2.540	0.250	8.625	64.5	6.4	219.0
2½	63	84-2511	3.040	0.250	8.625	77.2	6.4	219.0
3	78	84-3011	3.540	0.250	8.750	89.9	6.4	222.3
3½	91	84-3511	4.040	0.250	8.750	102.6	6.4	222.3
4	103	84-4011	4.540	0.250	8.875	115.3	6.4	225.4
5	129	84-5011	5.540	0.250	9.000	140.7	6.4	228.6
6	155	84-6011	6.540	0.250	9.000	166.1	6.4	228.6



ID XW Sleeve

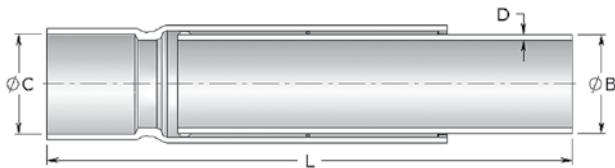
Size		Part Number	ØC	D	L	ØC	D	L
(in)	(mm)		(in)			(mm)		
2	53	84-2016	2.540	0.250	12	64.5	6.4	304.8
2½	63	84-2516	3.040	0.250	12	77.2	6.4	304.8
3	78	84-3016	3.540	0.250	12	89.9	6.4	304.8
3½	91	84-3516	4.040	0.250	12	102.6	6.4	304.8
4	103	84-4016	4.540	0.250	12	115.3	6.4	304.8
5	129	84-5016	5.540	0.250	12	140.7	6.4	304.8
6	155	84-6016	6.540	0.250	12	166.1	6.4	304.8



ID Extra Heavy Wall (XW)

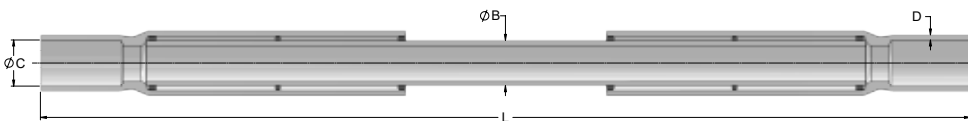
ID XW O-Ring Expansion Joint

Size		Part Number	ØB	ØC	D	L	L	ØB	ØC	D	L	L
(in)	(mm)		(in)					(mm)				
2	53	84-2017	2.500	2.540	0.250	23	35	63.5	64.7	6.4	584.2	889.0
2½	63	84-2517	3.000	3.004	0.250	23	35	76.2	77.2	6.4	584.2	889.0
3	78	84-3017	3.500	3.540	0.250	23	35	88.9	89.9	6.4	584.2	889.0
3½	91	84-3517	4.000	4.040	0.250	23	35	101.6	102.6	6.4	584.2	889.0
4	103	84-4017	4.500	4.540	0.250	23	35	114.3	115.3	6.4	584.2	889.0
5	129	84-5017	5.500	5.540	0.250	23	35	139.7	140.7	6.4	584.2	889.0
6	155	84-6017	6.500	6.540	0.250	23	35	165.1	166.1	6.4	584.2	889.0



ID XW Double O-Ring Expansion Joint

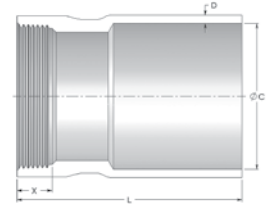
Size		Part Number	ØB	ØC	D	L	L	ØB	ØC	D	L	L
(in)	(mm)		(in)					(mm)				
2	53	84-2067	2.500	2.540	0.250	46.5	70.5	63.5	64.7	6.4	1181.1	1790.7
2½	63	84-2567	3.000	3.040	0.250	46.5	70.5	76.2	77.2	6.4	1181.1	1790.7
3	78	84-3067	3.500	3.540	0.250	46.5	70.5	88.9	89.9	6.4	1181.1	1790.7
3½	91	84-3567	4.000	4.040	0.250	46.5	70.5	102.6	102.6	6.4	1181.1	1790.7
4	103	84-4067	4.500	4.540	0.250	46.5	70.5	115.3	115.3	6.4	1181.1	1790.7
5	129	84-5067	5.500	5.540	0.250	46.5	70.5	140.7	140.7	6.4	1181.1	1790.7
6	155	84-6067	6.500	6.540	0.250	46.5	70.5	166.1	166.1	6.4	1181.1	1790.7



ID Extra Heavy Wall (XW)

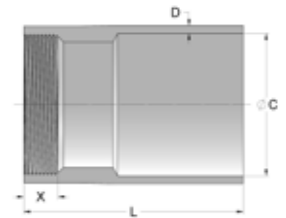
ID XW NPT Female Threaded Adapter

Size		Part Number	ØC	D	L	X	ØC	D	L	X
(in)	(mm)									
2	53	84-2044	2.540	0.250	7	0.697	64.5	6.4	177.8	17.70
2½	63	84-2544	3.040	0.250	7	0.932	77.2	6.4	177.8	23.70
3	78	84-3044	3.540	0.250	7	1.016	89.9	6.4	177.8	25.80
3½	91	84-3544	4.040	0.250	7	1.071	102.6	6.4	177.8	27.20
4	103	84-4044	4.540	0.250	7	1.094	115.3	6.4	177.8	27.80
5	129	84-5044	5.540	0.250	7	1.187	140.7	6.4	177.8	30.10
6	155	84-6044	6.540	0.250	7	1.208	166.1	6.4	177.8	30.70



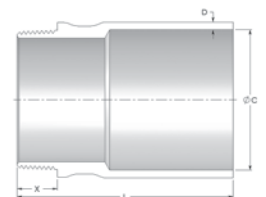
ID XW NPSM Female Threaded Adapter-EMT

Size		Part Number	ØC	D	L	X	ØC	D	L	X
(in)	(mm)									
2	53	84-2045	2.540	0.250	7	0.800	64.5	6.4	177.8	20.3
2½	63	84-2545	3.040	0.250	7	0.932	77.2	6.4	177.8	23.7
3	78	84-3045	3.540	0.250	7	1.016	89.9	6.4	177.8	25.8
3½	91	84-3545	4.040	0.250	7	1.071	102.6	6.4	177.8	27.2
4	103	84-4045	4.540	0.250	7	1.094	115.3	6.4	177.8	27.8



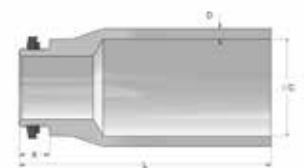
ID XW NPT Male Threaded Adapter

Size		Part Number	ØC	D	L	X	ØC	D	L	X
(in)	(mm)									
2	53	84-2027	2.540	0.250	7	0.757	64.5	6.4	177.8	19.20
2½	63	84-2527	3.040	0.250	7	1.138	77.2	6.4	177.8	28.90
3	78	84-3027	3.540	0.250	7	1.200	89.9	6.4	177.8	30.50
3½	91	84-3527	4.040	0.250	7	1.250	102.6	6.4	177.8	31.75
4	103	84-4027	4.540	0.250	7	1.300	115.3	6.4	177.8	33.00
5	129	84-5027	5.540	0.250	7	1.406	140.7	6.4	177.8	35.70
6	155	84-6027	6.540	0.250	7	1.513	166.1	6.4	177.8	38.40



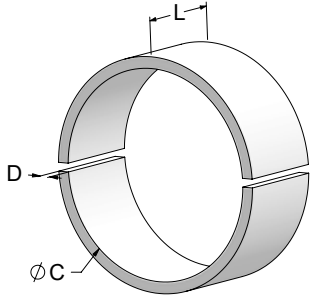
ID XW Box Connector

Size		Part Number	ØC	D	L	X	ØC	D	L	X
(in)	(mm)									
2	53	84-2047	2.540	0.250	7	0.757	64.5	6.4	177.8	19.20
2½	63	84-2547	3.040	0.250	7	1.138	77.2	6.4	177.8	28.90
3	78	84-3047	3.540	0.250	7	1.200	89.9	6.4	177.8	30.50
3½	91	84-3547	4.040	0.250	7	1.250	102.6	6.4	177.8	31.75
4	103	84-4047	4.540	0.250	7	1.300	115.3	6.4	177.8	33.00
5	129	84-5047	5.540	0.250	7	1.406	140.7	6.4	177.8	35.70
6	155	84-6047	6.540	0.250	7	1.513	166.1	6.4	177.8	38.40



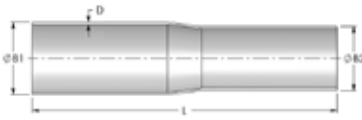
ID Extra Heavy Wall (XW)

ID XW Split Stop Ring



Size		Part Number	ØC	D	L	ØC	D	L
(in)	(mm)		(in)			(mm)		
2	53	84-2064	2.540	0.250	2	64.5	6.4	50.8
2½	63	84-2564	3.040	0.250	2	77.2	6.4	50.8
3	78	84-3064	3.540	0.250	2	89.9	6.4	50.8
3½	91	84-3564	4.040	0.250	2	102.6	6.4	50.8
4	103	84-4064	4.540	0.250	2	115.3	6.4	50.8
5	129	84-5064	5.540	0.250	2	140.7	6.4	50.8
6	155	84-6064	6.540	0.250	2	166.1	6.4	50.8

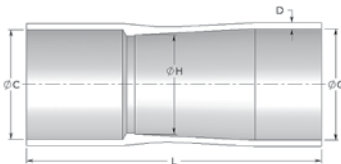
ID XW Reducer



Size		Part Number	ØB1	ØB2	D	L	ØB1	ØB2	D	L
(in)	(mm)		(in)				(mm)			
2	53	84-2029	2.500	2.268	0.250	18	63.5	57.6	6.4	457.2
2½	63	84-2529	3.000	2.500	0.250	18	76.2	63.5	6.4	457.2
3	78	84-3029	3.500	3.000	0.250	18	88.9	76.2	6.4	457.2
3½	91	84-3529	4.000	3.500	0.250	18	101.6	88.9	6.4	457.2
4	103	84-4029	4.500	4.000	0.250	18	114.3	88.9	6.4	457.2
5	129	84-5029	5.500	4.500	0.250	18	139.7	114.3	6.4	457.2
6	155	84-6029	6.500	5.500	0.250	18	165.1	139.7	6.4	457.2

All reducers are by one trade size dimension

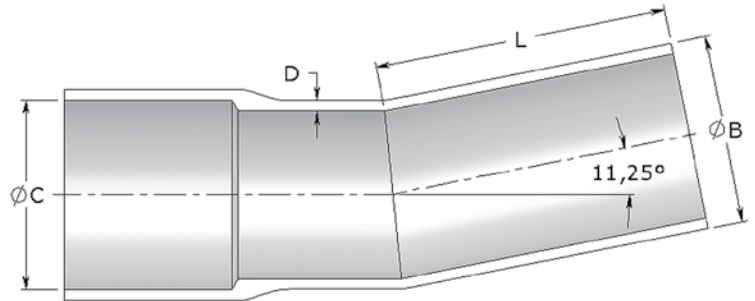
ID XW Multifit Adapter



Size		Part Number	ØC	D	ØG	ØH	L	ØC	D	ØG	ØH	L
(in)	(mm)		(in)					(mm)				
2	53	84-2037	2.540	0.250	2.424	2.239	12.25	64.5	6.4	61.6	56.9	311.2
2½	63	84-2537	3.040	0.250	2.924	2.739	12.25	77.2	6.4	74.3	69.6	311.2
3	78	84-3037	3.540	0.250	3.549	3.239	12.25	89.9	6.4	90.1	82.3	311.2
3½	91	84-3537	4.040	0.250	4.061	3.709	12.25	102.6	6.4	103.1	94.2	311.2
4	103	84-4037	4.540	0.250	4.620	4.109	12.25	115.3	6.4	117.3	104.4	311.2
5	129	84-5037	5.540	0.250	5.650	5.289	12.25	140.7	6.4	143.5	134.3	311.2
6	155	84-6037	6.540	0.250	6.686	6.259	12.25	166.1	6.4	169.8	159.0	311.2



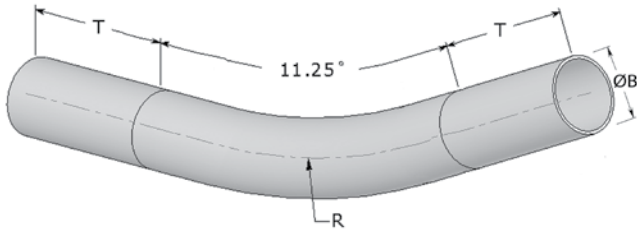
ID Extra Heavy Wall (XW)



ID XW 11.25° Fitting

Size		Part Number	ØB	ØC	D	L	ØB	ØC	D	L
(in)	(mm)		(in)				(mm)			
2	53	84-2035	2.500	2.540	0.250	7	63.5	64.5	6.4	177.8
2½	63	84-2535	3.000	3.040	0.250	7	76.2	77.2	6.4	177.8
3	78	84-3035	3.500	3.540	0.250	7	88.9	89.9	6.4	177.8
3½	91	84-3535	4.000	4.040	0.250	7	101.6	102.6	6.4	177.8
4	103	84-4035	4.500	4.540	0.250	7	114.3	115.3	6.4	177.8
5	129	84-5035	5.500	5.540	0.250	7	139.7	140.7	6.4	177.8
6	155	84-6035	6.500	6.540	0.250	7	165.1	166.1	6.4	177.8





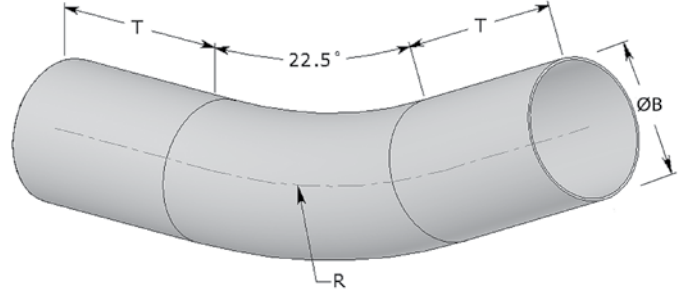
ID XW 11.25° Elbow

Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
12" Radius								
2	53	84-2035R12	2.500	12	6	63.5	304.8	152.4
2½	63	84-2535R12	3.000	12	6	76.2	304.8	152.4
18" Radius								
2	53	84-2035R18	2.500	18	6	63.5	457.2	152.4
2½	63	84-2535R18	3.000	18	6	76.2	457.2	152.4
3	78	84-3035R18	3.500	18	6	76.2	457.2	152.4
24" Radius								
2	53	84-2035R24	2.500	24	6	63.5	609.6	152.4
2½	63	84-2535R24	3.000	24	6	76.2	609.6	152.4
3	78	84-3035R24	3.500	24	6	88.9	609.6	152.4
3½	91	84-3535R24	4.000	24	6	101.6	609.6	152.4
4	103	84-4035R24	4.500	24	6	114.3	609.6	152.4
36" Radius								
2	53	84-2035R36	2.500	36	6	63.5	914.4	152.4
2½	63	84-2535R36	3.000	36	6	76.2	914.4	152.4
3	78	84-3035R36	3.500	36	6	88.9	914.4	152.4
3½	91	84-3535R36	4.000	36	6	101.6	914.4	152.4
4	103	84-4035R36	4.500	36	6	114.3	914.4	152.4
5	129	84-5035R36	5.500	36	6	139.7	914.4	152.4
6	155	84-6035R36	6.500	36	6	165.1	914.4	152.4

Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
48" Radius								
2	53	84-2035R48	2.500	48	6	63.5	1219.2	152.4
2½	63	84-2535R48	3.000	48	6	76.2	1219.2	152.4
3	78	84-3035R48	3.500	48	6	88.9	1219.2	152.4
3½	91	84-3535R48	4.000	48	6	101.6	1219.2	152.4
4	103	84-4035R48	4.500	48	6	114.3	1219.2	152.4
5	129	84-5035R48	5.500	48	6	139.7	1219.2	152.4
6	155	84-6035R48	6.500	48	6	165.1	1219.2	152.4
60" Radius								
2	53	84-2035R60	2.500	60	6	63.5	1524.0	152.4
2½	63	84-2535R60	3.000	60	6	76.2	1524.0	152.4
3	78	84-3035R60	3.500	60	6	88.9	1524.0	152.4
3½	91	84-3535R60	4.000	60	6	101.6	1524.0	152.4
4	103	84-4035R60	4.500	60	6	114.3	1524.0	152.4
5	129	84-5035R60	5.500	60	6	139.7	1524.0	152.4
6	155	84-6035R60	6.500	60	6	165.1	1524.0	152.4
72" Radius								
2	53	84-2035R72	2.500	72	6	63.5	1828.8	152.4
2½	63	84-2535R72	3.000	72	6	76.2	1828.8	152.4
3	78	84-3035R72	3.500	72	6	88.9	1828.8	152.4
3½	91	84-3535R72	4.000	72	6	101.6	1828.8	152.4
4	103	84-4035R72	4.500	72	6	114.3	1828.8	152.4
5	129	84-5035R72	5.500	72	6	139.7	1828.8	152.4
6	155	84-6035R72	6.500	72	6	165.1	1828.8	152.4



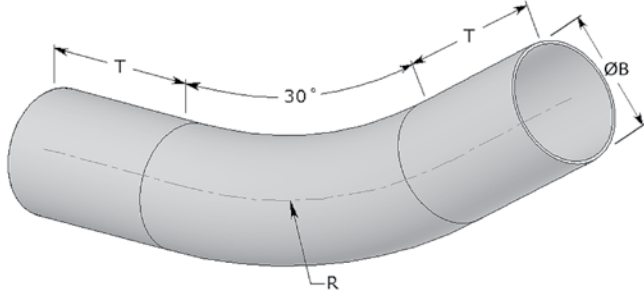
ID Extra Heavy Wall (XW)



ID XW 22.5° Elbow

Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
12" Radius								
2	53	84-2034R12	2.500	12	6	63.5	304.8	152.4
2½	63	84-2534R12	3.000	12	6	76.2	304.8	152.4
18" Radius								
2	53	84-2034R18	2.500	18	6	63.5	457.2	152.4
2½	63	84-2534R18	3.000	18	6	76.2	457.2	152.4
3	78	84-3034R18	3.500	18	6	76.2	457.2	152.4
24" Radius								
2	53	84-2034R24	2.500	24	6	63.5	609.6	152.4
2½	63	84-2534R24	3.000	24	6	76.2	609.6	152.4
3	78	84-3034R24	3.500	24	6	88.9	609.6	152.4
3½	91	84-3534R24	4.000	24	6	101.6	609.6	152.4
4	103	84-4034R24	4.500	24	6	114.3	609.6	152.4
36" Radius								
2	53	84-2034R36	2.500	36	6	63.5	914.4	152.4
2½	63	84-2534R36	3.000	36	6	76.2	914.4	152.4
3	78	84-3034R36	3.500	36	6	88.9	914.4	152.4
3½	91	84-3534R36	4.000	36	6	101.6	914.4	152.4
4	103	84-4034R36	4.500	36	6	114.3	914.4	152.4
5	129	84-5034R36	5.500	36	6	139.7	914.4	152.4
6	155	84-6034R36	6.500	36	6	165.1	914.4	152.4

Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
48" Radius								
2	53	84-2034R48	2.500	48	6	63.5	1219.2	152.4
2½	63	84-2534R48	3.000	48	6	76.2	1219.2	152.4
3	78	84-3034R48	3.500	48	6	88.9	1219.2	152.4
3½	91	84-3534R48	4.000	48	6	101.6	1219.2	152.4
4	103	84-4034R48	4.500	48	6	114.3	1219.2	152.4
5	129	84-5034R48	5.500	48	6	139.7	1219.2	152.4
6	155	84-6034R48	6.500	48	6	165.1	1219.2	152.4
60" Radius								
2	53	84-2034R60	2.500	60	6	63.5	1524.0	152.4
2½	63	84-2534R60	3.000	60	6	76.2	1524.0	152.4
3	78	84-3034R60	3.500	60	6	88.9	1524.0	152.4
3½	91	84-3534R60	4.000	60	6	101.6	1524.0	152.4
4	103	84-4034R60	4.500	60	6	114.3	1524.0	152.4
5	129	84-5034R60	5.500	60	6	139.7	1524.0	152.4
6	155	84-6034R60	6.500	60	6	165.1	1524.0	152.4
72" Radius								
2	53	84-2034R72	2.500	72	6	63.5	1828.8	152.4
2½	63	84-2534R72	3.000	72	6	76.2	1828.8	152.4
3	78	84-3034R72	3.500	72	6	88.9	1828.8	152.4
3½	91	84-3534R72	4.000	72	6	101.6	1828.8	152.4
4	103	84-4034R72	4.500	72	6	114.3	1828.8	152.4
5	129	84-5034R72	5.500	72	6	139.7	1828.8	152.4
6	155	84-6034R72	6.500	72	6	165.1	1828.8	152.4

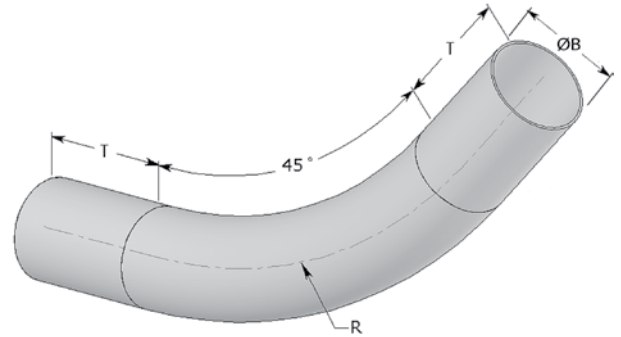


ID XW 30° Elbow

Size		Part Number	ØB	R	T	ØB	R	T	Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)			(in)	(mm)		(in)			(mm)		
12" Radius									48" Radius								
2	53	84-2033R12	2.500	12	6	63.5	304.8	152.4	2	53	84-2033R48	2.500	48	6	63.5	1219.2	152.4
2½	63	84-2533R12	3.000	12	6	76.2	304.8	152.4	2½	63	84-2533R48	3.000	48	6	76.2	1219.2	152.4
18" Radius									60" Radius								
2	53	84-2033R18	2.500	18	6	63.5	457.2	152.4	2	53	84-2033R60	2.500	60	6	63.5	1524.0	152.4
2½	63	84-2533R18	3.000	18	6	76.2	457.2	152.4	2½	63	84-2533R60	3.000	60	6	76.2	1524.0	152.4
3	78	84-3033R18	3.500	18	6	76.2	457.2	152.4	3	78	84-3033R60	3.500	60	6	88.9	1524.0	152.4
24" Radius									72" Radius								
2	53	84-2033R24	2.500	24	6	63.5	609.6	152.4	2	53	84-2033R72	2.500	72	6	63.5	1828.8	152.4
2½	63	84-2533R24	3.000	24	6	76.2	609.6	152.4	2½	63	84-2533R72	3.000	72	6	76.2	1828.8	152.4
3	78	84-3033R24	3.500	24	6	88.9	609.6	152.4	3	78	84-3033R72	3.500	72	6	88.9	1828.8	152.4
3½	91	84-3533R24	4.000	24	6	101.6	609.6	152.4	3½	91	84-3533R72	4.000	72	6	101.6	1828.8	152.4
4	103	84-4033R24	4.500	24	6	114.3	609.6	152.4	4	103	84-4033R72	4.500	72	6	114.3	1828.8	152.4
36" Radius									84" Radius								
2	53	84-2033R36	2.500	36	6	63.5	914.4	152.4	2	53	84-2033R84	2.500	84	6	63.5	2133.6	152.4
2½	63	84-2533R36	3.000	36	6	76.2	914.4	152.4	2½	63	84-2533R84	3.000	84	6	76.2	2133.6	152.4
3	78	84-3033R36	3.500	36	6	88.9	914.4	152.4	3	78	84-3033R84	3.500	84	6	88.9	2133.6	152.4
3½	91	84-3533R36	4.000	36	6	101.6	914.4	152.4	3½	91	84-3533R84	4.000	84	6	101.6	2133.6	152.4
4	103	84-4033R36	4.500	36	6	114.3	914.4	152.4	4	103	84-4033R84	4.500	84	6	114.3	2133.6	152.4
5	129	84-5033R36	5.500	36	6	139.7	914.4	152.4	5	129	84-5033R84	5.500	84	6	139.7	2133.6	152.4
6	155	84-6033R36	6.500	36	6	165.1	914.4	152.4	6	155	84-6033R84	6.500	84	6	165.1	2133.6	152.4

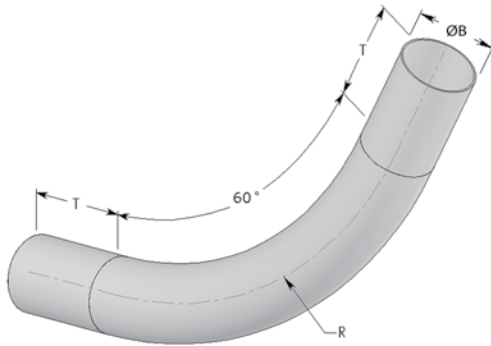


ID Extra Heavy Wall (XW)



ID XW 45° Elbow

Size		Part Number	ØB	R	T	ØB	R	T	Size	Part Number	ØB	R	T	ØB	R	T	
(in)	(mm)		(in)			(mm)			(in)		(mm)	(in)			(mm)		
12" Radius									48" Radius								
2	53	84-2032R12	2.500	12	6	63.5	304.8	152.4	2	53	84-2032R48	2.500	48	6	63.5	1219.2	152.4
2½	63	84-2532R12	3.000	12	6	76.2	304.8	152.4	2½	63	84-2532R48	3.000	48	6	76.2	1219.2	152.4
18" Radius									60" Radius								
2	53	84-2032R18	2.500	18	6	63.5	457.2	152.4	2	53	84-2032R60	2.500	60	6	63.5	1524.0	152.4
2½	63	84-2532R18	3.000	18	6	76.2	457.2	152.4	2½	63	84-2532R60	3.000	60	6	76.2	1524.0	152.4
3	78	84-3032R18	3.500	18	6	76.2	457.2	152.4	3	78	84-3032R60	3.500	60	6	88.9	1524.0	152.4
24" Radius									72" Radius								
2	53	84-2032R24	2.500	24	6	63.5	609.6	152.4	2	53	84-2032R72	2.500	72	6	63.5	1828.8	152.4
2½	63	84-2532R24	3.000	24	6	76.2	609.6	152.4	2½	63	84-2532R72	3.000	72	6	76.2	1828.8	152.4
3	78	84-3032R24	3.500	24	6	88.9	609.6	152.4	3	78	84-3032R72	3.500	72	6	88.9	1828.8	152.4
3½	91	84-3532R24	4.000	24	6	101.6	609.6	152.4	3½	91	84-3532R72	4.000	72	6	101.6	1828.8	152.4
4	103	84-4032R24	4.500	24	6	114.3	609.6	152.4	4	103	84-4032R72	4.500	72	6	114.3	1828.8	152.4
36" Radius									84" Radius								
2	53	84-2032R36	2.500	36	6	63.5	914.4	152.4	2	53	84-2032R84	2.500	84	6	63.5	2133.6	152.4
2½	63	84-2532R36	3.000	36	6	76.2	914.4	152.4	2½	63	84-2532R84	3.000	84	6	76.2	2133.6	152.4
3	78	84-3032R36	3.500	36	6	88.9	914.4	152.4	3	78	84-3032R84	3.500	84	6	88.9	2133.6	152.4
3½	91	84-3532R36	4.000	36	6	101.6	914.4	152.4	3½	91	84-3532R84	4.000	84	6	101.6	2133.6	152.4
4	103	84-4032R36	4.500	36	6	114.3	914.4	152.4	4	103	84-4032R84	4.500	84	6	114.3	2133.6	152.4
5	129	84-5032R36	5.500	36	6	139.7	914.4	152.4	5	129	84-5032R84	5.500	84	6	139.7	2133.6	152.4
6	155	84-6032R36	6.500	36	6	165.1	914.4	152.4	6	155	84-6032R84	6.500	84	6	165.1	2133.6	152.4



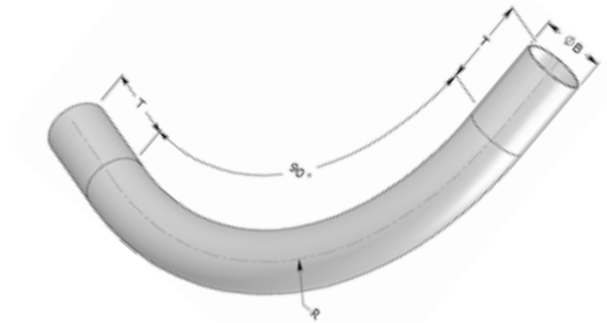
ID XW 60° Elbow

Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
12" Radius								
2	53	84-2031R12	2.500	12	6	63.5	304.8	152.4
2½	63	84-2531R12	3.000	12	6	76.2	304.8	152.4
18" Radius								
2	53	84-2031R18	2.500	18	6	63.5	457.2	152.4
2½	63	84-2531R18	3.000	18	6	76.2	457.2	152.4
3	78	84-3031R18	3.500	18	6	76.2	457.2	152.4
24" Radius								
2	53	84-2031R24	2.500	24	6	63.5	609.6	152.4
2½	63	84-2531R24	3.000	24	6	76.2	609.6	152.4
3	78	84-3031R24	3.500	24	6	88.9	609.6	152.4
3½	91	84-3531R24	4.000	24	6	101.6	609.6	152.4
4	103	84-4031R24	4.500	24	6	114.3	609.6	152.4
36" Radius								
2	53	84-2031R36	2.500	36	6	63.5	914.4	152.4
2½	63	84-2531R36	3.000	36	6	76.2	914.4	152.4
3	78	84-3031R36	3.500	36	6	88.9	914.4	152.4
3½	91	84-3531R36	4.000	36	6	101.6	914.4	152.4
4	103	84-4031R36	4.500	36	6	114.3	914.4	152.4
5	129	84-5031R36	5.500	36	6	139.7	914.4	152.4
6	155	84-6031R36	6.500	36	6	165.1	914.4	152.4

Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
48" Radius								
2	53	84-2031R48	2.500	48	6	63.5	1219.2	152.4
2½	63	84-2531R48	3.000	48	6	76.2	1219.2	152.4
3	78	84-3031R48	3.500	48	6	88.9	1219.2	152.4
3½	91	84-3531R48	4.000	48	6	101.6	1219.2	152.4
4	103	84-4031R48	4.500	48	6	114.6	1219.2	152.4
5	129	84-5031R48	5.500	48	6	139.7	1219.2	152.4
6	155	84-6031R48	6.500	48	6	165.1	1219.2	152.4
60" Radius								
2	53	84-2031R60	2.500	60	6	63.4	1524.0	152.4
2½	63	84-2531R60	3.000	60	6	76.2	1524.0	152.4
3	78	84-3031R60	3.500	60	6	88.9	1524.0	152.4
3½	91	84-3531R60	4.000	60	6	101.6	1524.0	152.4
4	103	84-4031R60	4.500	60	6	114.6	1524.0	152.4
5	129	84-5031R60	5.500	60	6	139.7	1524.0	152.4
6	155	84-6031R60	6.500	60	6	165.1	1524.0	152.4
72" Radius								
2	53	84-2031R72	2.500	72	6	63.5	1828.8	152.4
2½	63	84-2531R72	3.000	72	6	76.2	1828.8	152.4
3	78	84-3031R72	3.500	72	6	88.9	1828.8	152.4
3½	91	84-3531R72	4.000	72	6	101.6	1828.8	152.4
4	103	84-4031R72	4.500	72	6	114.3	1828.8	152.4
5	129	84-5031R72	5.500	72	6	139.7	1828.8	152.4
6	155	84-6031R72	6.500	72	6	165.1	1828.8	152.4



ID Extra Heavy Wall (XW)



ID XW 90° Elbow

Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
12" Radius								
2	53	84-2030R12	2.500	12	6	63.5	304.8	152.4
2½	63	84-2530R12	3.000	12	6	76.2	304.8	152.4
18" Radius								
2	53	84-2030R18	2.500	18	6	63.5	457.2	152.4
2½	63	84-2530R18	3.000	18	6	76.2	457.2	152.4
3	78	84-3030R18	3.500	18	6	76.2	457.2	152.4
24" Radius								
2	53	84-2030R24	2.500	24	6	63.5	609.6	152.4
2½	63	84-2530R24	3.000	24	6	76.2	609.6	152.4
3	78	84-2530R24	3.500	24	6	88.9	609.6	152.4
3½	91	84-3530R24	4.000	24	6	101.6	609.6	152.4
4	103	84-4030R24	4.500	24	6	114.3	609.6	152.4
36" Radius								
2	53	84-2030R36	2.500	36	6	63.5	914.4	152.4
2½	63	84-2530R36	3.000	36	6	76.2	914.4	152.4
3	78	84-3030R36	3.500	36	6	88.9	914.4	152.4
3½	91	84-3530R36	4.000	36	6	101.6	914.4	152.4
4	103	84-4030R36	4.500	36	6	114.3	914.4	152.4
5	129	84-5030R36	5.500	36	6	139.7	914.4	152.4
6	155	84-6030R36	6.500	36	6	165.1	914.4	152.4

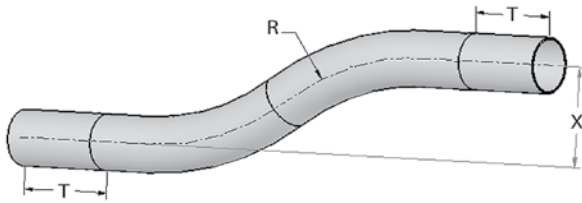
Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
48" Radius								
2	53	84-2030R48	2.500	48	6	63.5	1219.2	152.4
2½	63	84-2530R48	3.000	48	6	76.2	1219.2	152.4
3	78	84-3030R48	3.500	48	6	88.9	1219.2	152.4
3½	91	84-3530R48	4.000	48	6	101.6	1219.2	152.4
4	103	84-4030R48	4.500	48	6	114.3	1219.2	152.4
5	129	84-5030R48	5.500	48	6	139.7	1219.2	152.4
6	155	84-6030R48	6.500	48	6	165.1	1219.2	152.4
60" Radius								
2	53	84-2030R60	2.500	60	6	63.5	1524.0	152.4
2½	63	84-2530R60	3.000	60	6	76.2	1524.0	152.4
3	78	84-3030R60	3.500	60	6	88.9	1524.0	152.4
3½	91	84-3530R60	4.000	60	6	101.6	1524.0	152.4
4	103	84-4030R60	4.500	60	6	114.3	1524.0	152.4
5	129	84-5030R60	5.500	60	6	139.7	1524.0	152.4
6	155	84-6030R60	6.500	60	6	165.1	1524.0	152.4
72" Radius								
2	53	84-2030R72	2.500	72	6	63.5	1828.8	152.4
2½	63	84-2530R72	3.000	72	6	76.2	1828.8	152.4
3	78	84-3030R72	3.500	72	6	88.9	1828.8	152.4
3½	91	84-3530R72	4.000	72	6	101.6	1828.8	152.4
4	103	84-4030R72	4.500	72	6	114.3	1828.8	152.4
5	129	84-5030R72	5.500	72	6	139.7	1828.8	152.4
6	155	84-6030R72	6.500	72	6	165.1	1828.8	152.4

ID Extra Heavy Wall (XW)

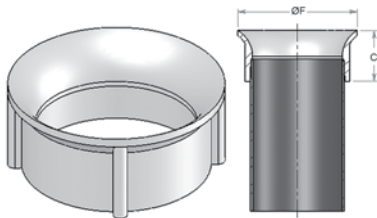
ID XW Offset Elbow

Size	Part Number
All	Special

*Please contact our local agent for quotes and feasibility.



ID XW Radius Bell End



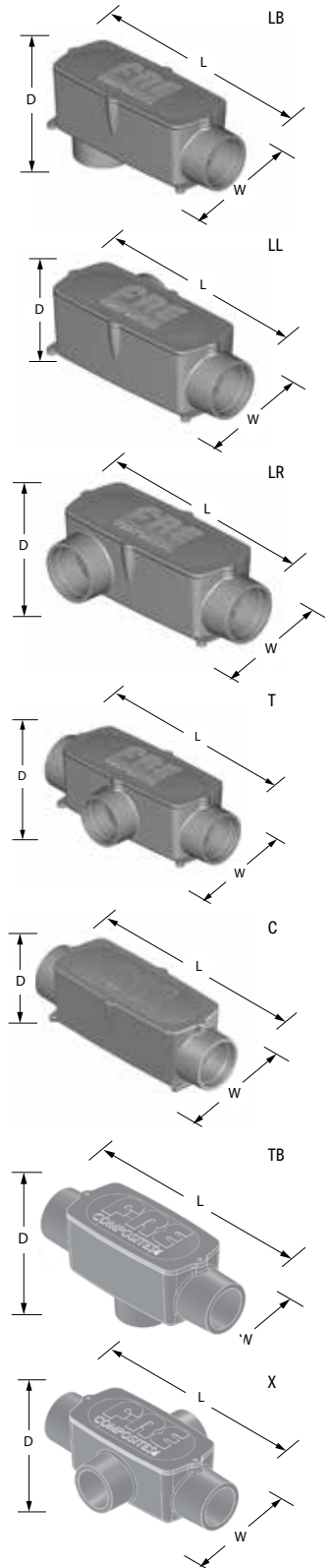
Size		Part Number	C	ØF	C	ØF
(in)	(mm)		(in)		(mm)	
2	53	84-2018	1.700	3.000	43.18	76.2
2½	63	84-2518	1.700	3.500	43.18	88.9
3	78	84-3018	1.700	4.000	43.18	101.6
3½	91	84-3518	1.700	4.500	43.18	114.3
4	103	84-4018	2.162	5.000	54.91	127.0
5	129	84-5018	2.162	6.000	54.91	152.4
6	155	84-6018	2.416	7.000	61.37	177.8



ID Extra Heavy Wall (XW)

ID XW Conduit Bodies

Size		Part Number	Length	Width	Depth	Length	Width	Depth
(in)	(mm)		(in)			(mm)		
LB								
2	53	84-2091	11.63	4.38	5.47	295	111	139
LL								
2	53	84-2092	11.63	6.09	3.59	295	155	91
LR								
2	53	84-2093	11.63	6.09	3.59	295	155	91
T								
2	53	84-2094	13.40	6.09	3.59	340	155	91
C								
2	53	84-2095	13.40	4.38	3.59	340	111	91
TB								
2	53	84-2096	13.40	4.38	5.47	340	111	139
X								
2	53	84-2097	13.40	7.81	3.59	340	198	91



Size	Part Number	
All	40-0161	Epoxy Kit
All	20-0163	Adhesive Kit Dual Cartridge (Fast Cure)
All	20-0164	Adhesive Kit Dual Cartridge (Ambient Conditions)
All	20-0165	Dual Cartridge Applicator



Mechanical Properties	
(40-0161)	
Shore D Hardness	81
Tensile strength	3 060 Psi
Lap shear strength	252 Psi
Viscosity	3 700 cP
Mix ratio	2 : 1
Color	Opaque
Solid content	100%

Mechanical Properties	
(20-0163)	
Shore D Hardness	72
Tensile strength	8,000 Psi
Lap shear strength	3,500 Psi
Viscosity	13,500 cP
Mix ratio	1 : 1
Color	Yellow
Solid content	100%

Mechanical Properties	
(20-0164)	
Shore D Hardness	90
Tensile strength	9,900 Psi
Viscosity	40,000 cP
Mix ratio	2 : 1
Color	Opaque
Solid content	100%

20-0163 / 20-0164



(1) Mixer Tip is included per kit

Joint Calculation Table (Adhesive Kit)

IPS Based				
Size		Joints Made	Pull-Out Strength	
(in)	(mm)	per kit	(lbs)	(kg)
¾	21	28	1 700	771
1	27	26	2,000	907
1¼	35	24	2,000	907
1½	41	20	2,000	907
8*	203	3	8,000	3,628

*Trade Size is not recognized by NEC/CEC hence not Certified to any applicable RTRC standards

ID Based				
Size		Joints Made	Pull-Out Strength	
(in)	(mm)	per kit	(lbs)	(kg)
2	53	18	2,000	907
2½	63	16	2,500	1,134
3	78	13	3,000	1,360
3½	91	11	3,500	1,587
4	103	10	4,000	1,814
5	129	7	5,000	2,268
6	155	6	6,000	2,722

Mixer Tip (Fast Cure Orange)

Size	Part Number
All	20-0162



Note: (Orange) use with 20-0163

(Ambient Conditions Green)

Size	Part Number
All	20-0166



Note: (Green) use with 20-0164





- Maximum allowable percentage wire fill from National Electrical Code (NEC) and Canadian Electrical Code (CEC)
- For 2-hour fire, certified installations, please consult FHIT 25C from Underwriters Laboratories (p.33) for allowable fill rates
- For 1-hour fire, certified installations, please consult FHIT 25D from Underwriters Laboratories for allowable fill rates
- For 1-hour fire, certified installations in Canada, please consult FHIT7 25D from Underwriters Laboratories for allowable fill rates



FOR CERTIFIED BreathSaver® XW FOR CORROSION PROOF 2-HOUR RATED CABLE SYSTEM (UL 2196 | FHIT 25C)

SECTION 1: DESCRIPTION & LISTING

1.1 Description

This specification outlines the requirements for the design, construction and performance of the Extra Heavy Wall (Type XW) BreathSaver reinforced thermosetting resin conduit (RTRC) and fittings.

1.2 Product Application & Use

Conduits and fittings are Class 1, Division 2 which can be subject to physical damage per NEC®.

1.3 Materials

Conduits and fittings shall consist of continuous E or E-CR glass roving in a cured corrosion-resistant phenolic resin system, which is pigmented with UV-inhibiting carbon black dispersed homogeneously. Conduit and fittings are manufactured for use at temperatures ranging from -40° F (-40° C) to 1850° F (1010° C). No resorcinol resin based system shall be allowed.

Phenolic resin system shall be impervious to a wide spectrum of chemicals. Conduit shall contain no halogens as chlorine and shall not contain other toxic materials in excess of trace level limits compliant with OSHA requirements.

1.4 Joining Method

Each length of conduit is supplied with an integral bell on one end and spigot on the other end. All joints shall be adhesive bonded inside a bell end of even socket depth throughout the raceway. Adhesive shall be supplied by the manufacturer of the conduit and shall have a minimum joint pull-out load of 1000 lb (454 kg) per inch diameter trade size.

1.5 Fittings

All fittings, adapters and elbows shall be constructed in the same manner as the conduit (filament wound) and shall have a socket depth and an inside bell design consistent with the conduit.

SECTION 2: DIMENSIONS

2.1 Sizes & Wall Thicknesses

Conduits and fittings shall be manufactured with nominal wall thicknesses as outlined below:

IPS Iron Pipe Size			
Diameter		Wall Thickness	
(in)	(mm)	(in)	(mm)
¾	21	0.250	6.4
1	27	0.250	6.4
1¼	35	0.250	6.4
1½	41	0.250	6.4
8*	203	0.250	6.4

*Trade Size is not recognized by NEC/CEC hence not Certified to any applicable RTRC standards

ID Tubular Size			
Diameter		Wall Thickness	
(in)	(mm)	(in)	(mm)
2	53	0.250	6.4
2½	63	0.250	6.4
3	78	0.250	6.4
3½	91	0.250	6.4
4	103	0.250	6.4
5	129	0.250	6.4
6	155	0.250	6.4

SECTION 3: REQUIREMENTS

3.1 Workmanship

Conduits and fittings shall be free from defects and commercially practicable in color, opacity, density and other physical properties. The exterior surface finish shall be smooth per acceptable industry practices.



3.2 Marking

Conduits and fittings shall be marked with a suitable identifying mark printed on the outside of the product. Such marking shall contain:

(1) RTRC, (2) for use -40°F (40°C) to 1850°F (1010°C), (3) trade size, (4) manufacturer's name or trademark, (5) part number, (6) degrees and radii (elbows only), and (7) date of manufacture.

3.2 Specifications

All conduits and fittings are UL Listed against UL 2515A following tests made in laboratory by Underwriters Laboratories (UL file #E53373).

Furthermore, products comply with the NFPA 130 as well as NFPA 502 for exposed installations, FT4 rated (CSA) and UL 2515A. Product identified in section 2.1 with "*" is not UL Listed as 8" is not a recognized trade size dimension per National Electric Code (NEC) and Canadian Electric Code (CEC).

SECTION 4: PRODUCT PROPERTIES & CHARACTERISTICS

4.1 Physical Properties	Test Results	Test Protocol
Glass Content	71% \pm 3%	API 15LR
Specific Gravity	1.93 g/cm ³ \pm 2	ASTM D792
Barcol Hardness	50 \pm 2	ASTM D2583
Water Absorption	\leq 1.5%	ASTM D570, CSA C22.2 No. 2515
U.V. Resistance	> 3,500 hrs (Xenon Arc)	CSA C22.2 No. 2515
4.2 Flame & Smoke Properties	Test Results	Test Protocol
Flame Spread Index	0	(max: 35)
Smoke Optical Density @ 4 minutes	1	(max: 200)
Light Absorption	0%	(no smoke generated)
Emissions NO ²	5 ppm	(max: 100 ppm)
Emissions SO ²	1 ppm	(max: 500 ppm)
Emissions HCl	< 2 ppm	(max: 100 ppm)
Emissions HF	< 2 ppm	(max: 100 ppm)
Emissions HBr	< 1 ppm	(max: 100 ppm)
Emissions HCN	< 1 ppm	(max: 100 ppm)
Emissions CO	604 ppm	(max: 3,500 ppm)
Emissions CO ²	9585 ppm	(max: 90 000 ppm)
4.3 Electrical Properties	Test Results	Test Protocol
Dielectric Strength	500 volts/mil (19.68 kV/mm)	ASTM D149
Dielectric Breakdown Voltage	29.7 kV	ASTM D149
4.4 Surface finish		
Exterior (average)	<2000 microinches (50.8 micrometers)	
Interior (average)	<250 microinches (6.4 micrometers)	
Color	Black (standard)	
4.5 Thermal Properties	Test Results	Test Protocol
Coefficient of Thermal Expansion	1.40 E ⁻⁵ m / m / °C	ASTM D696
Thermal Conductivity	1.067 Btu.in/ft ² .h. °F (0.154W/ m.K)	ASTM D335
Thermal Resistivity	0.938 °F.ft ² .h/Btu.in (6.502 mK/W)	ASTM D335
Heat Deflection Temperature (HDT)	>482 °F (>250 °C)	ASTM D648

SECTION 5: MANUFACTURERS

Conduits and fittings shall be manufactured Atkore FRE Composites. No substitute shall be accepted.



**FOR CERTIFIED BreathSaver® XW FOR CORROSION PROOF
1-HOUR RATED CABLE SYSTEM (UL 2196 | FHIT7 25D)**

SECTION 1: DESCRIPTION & LISTING

1.1 Description

This specification outlines the requirements for the design, construction and performance of the Extra Heavy Wall (XW) BreathSaver® Reinforced Thermosetting

Resin Conduit (RTRC) and fittings.

1.2 Product Application & Use

Conduits and fittings are Class 1, Division 2 which can be subject to physical damage per NEC®.

1.3 Materials

Conduits and fittings shall consist of continuous E or E-CR glass roving in a cured corrosion resistant phenolic resin system pigmented with UV inhibiting carbon black dispersed homogeneously manufactured for use at temperatures ranging from -40 °F (-40 °C) to 1850 °F (1010 °C). No resorcinol resinbased system shall be allowed.

Phenolic resin system shall be impervious to a wide spectrum of chemicals. Conduit shall contain no halogens as chlorine and shall not contain other toxic materials in excess of trace levels limits compliant with OSHA requirements.

1.4 Joining Method

Each length of conduit is supplied with an integral bell on one end and spigot on the other end. All joints shall be adhesive bonded inside a bell end of even socket depth throughout the raceway. Adhesive shall be supplied by the manufacturer of the conduit and shall have a minimum joint pull out load of 1 000 lb, (454 kg) per inch diameter trade size.

1.5 Fittings

All fittings, adapters and elbows shall be constructed in the same manner as the conduit (filament wound) and shall have a socket depth and an inside bell design consistent with the conduit.

SECTION 2: DIMENSIONS

2.1 Sizes & Wall Thicknesses

Conduits and fittings shall be manufactured with nominal wall thicknesses as outlined below:

IPS EXTRA HEAVY WALL (XW)			
Diameter		Wall Thickness	
(in)	(mm)	(in)	(mm)
¾	21	0.250	6.4
1	27	0.250	6.4
1¼	34	0.250	6.4
1½	41	0.250	6.4

SECTION 3: REQUIREMENTS

3.1 Workmanship

Conduits and fittings shall be free from defects and commercially practicable in color, opacity, density and other physical properties. The exterior surface finish shall be smooth per acceptable industry practices.



3.2 Marking

Conduits and fittings shall be marked with a suitable identifying mark printed on the outside of the product. Such marking shall contain:

(1) RTRC (2) for use -40 °F (40 °C) to 1850 °F (1010 °C) (3) trade size (4) manufacturer's name or trademark (5) part number (6) degrees and radii (elbows only) (7) date of manufacture.

3.2 Specifications

All Conduits and Fittings are UL listed against UL 2515A following tests made in laboratory by Underwriters Laboratories (UL file #E53373). Furthermore, products comply with the NFPA 130 as well as NFPA 502 for exposed installations, FT4 rated (CSA). Product identified in Section 2.1 with “*” is not UL Listed as 8” is not a recognized trade size dimension per National Electric Code (NEC) and Canadian Electric Code (CEC).

SECTION 4: PRODUCT PROPERTIES & CHARACTERISTICS

4.1 Physical Properties	Test Results	Test Protocol
Glass Content	71% ± 3%	API 15LR
Specific Gravity	1.93 g/cm ³ ± 2	ASTM D792
Barcol Hardness	50 ± 2	ASTM D2583
Water Absorption	≤ 1.5%	ASTM D570, CSA C22.2 No. 2515
U.V. Resistance	> 3,500 hrs (Xenon Arc)	CSA C22.2 No. 2515
4.2 Flame & Smoke Properties	Test Results	Test Protocol
Flame Spread Index	0 (max: 35)	ASTM E84
Smoke Optical Density @ 4 minutes	1 (max: 200)	ASTM E662
Light Absorption	0% (no smoke generated)	SAV 242
Emissions NO ²	5 ppm (max: 100 ppm)	SMP 800C
Emissions SO ²	1 ppm (max: 500 ppm)	SMP 800C
Emissions HCl	< 2 ppm (max: 100 ppm)	SMP 800C
Emissions HF	< 2 ppm (max: 100 ppm)	SMP 800C
Emissions HBr	< 1 ppm (max: 100 ppm)	SMP 800C
Emissions HCN	< 1 ppm (max: 100 ppm)	SMP 800C
Emissions CO	604 ppm (max: 3,500 ppm)	SMP 800C
Emissions CO ²	9585 ppm (max: 90 000 ppm)	SMP 800C
4.3 Electrical Properties	Test Results	Test Protocol
Dielectric Strength	500 volts/mil (19.68 kV/mm)	ASTM D149
Dielectric Breakdown Voltage	29.7 kV	ASTM D149
4.4 Surface finish		
Exterior (average)	<2000 microinches (50.8 micrometers)	
Interior (average)	<250 microinches (6.4 micrometers)	
Color	Black (standard)	
4.5 Thermal Properties	Test Results	Test Protocol
Coefficient of Thermal Expansion	1.40 E ⁻⁵ m / m / °C	ASTM D696
Thermal Conductivity	1.067 Btu-in/ft ² -h. °F (0.154W/ m·K)	ASTM D335
Thermal Resistivity	0.938 °F·ft ² -h/Btu-in (6.502 mK/W)	ASTM D335
Heat Deflection Temperature (HDT)	>482 °F (>250 °C)	ASTM D648

SECTION 5: MANUFACTURERS

Conduits and fittings shall be manufactured by FRE Composites. No substitute shall be accepted.



Design/System/Construction/Assembly Usage Disclaimer

FHIT.25C - Electrical Circuit Integrity Systems

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

FHIT.25C - Electrical Circuit Integrity Systems System No. 25C

October 15, 2020

Fire-Resistive Rating (FRR) - 2 Hr.

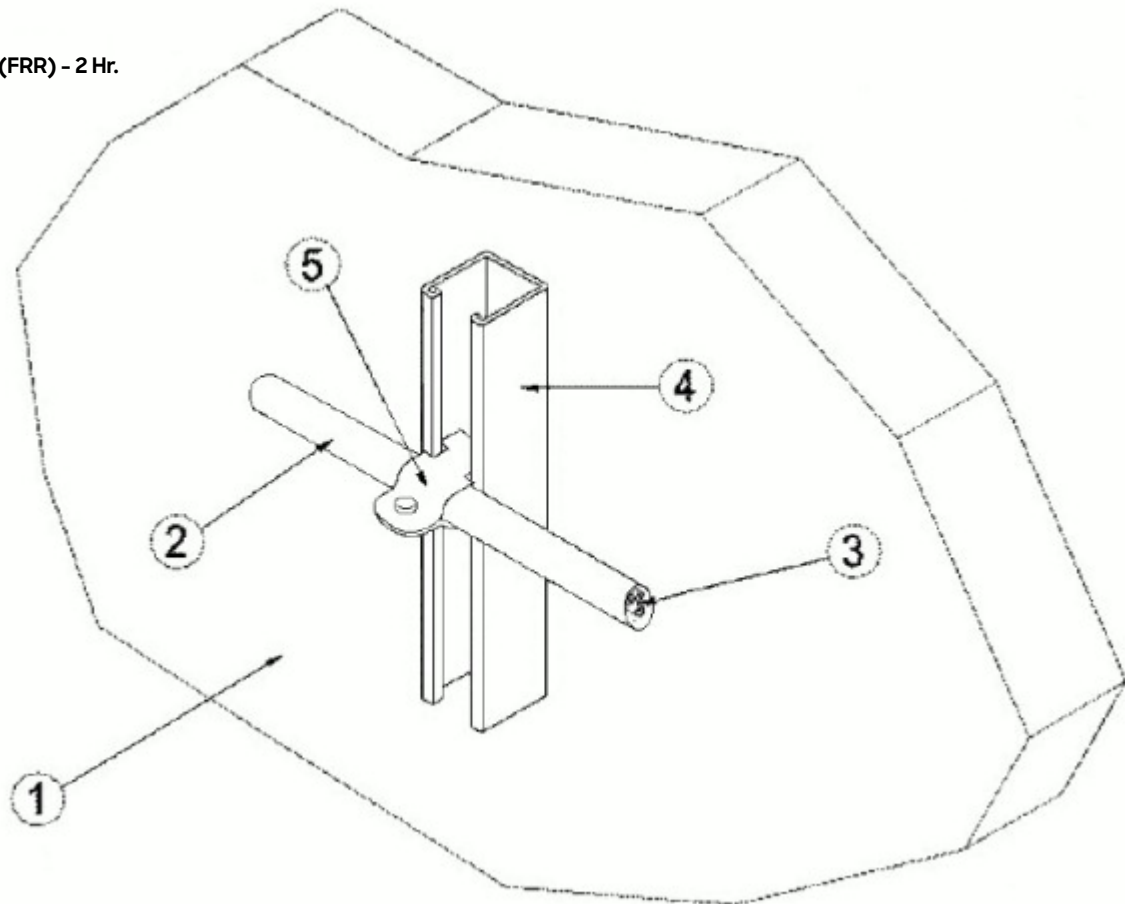


Fig. 1

Two-piece Single-bolt Pipe Clamp



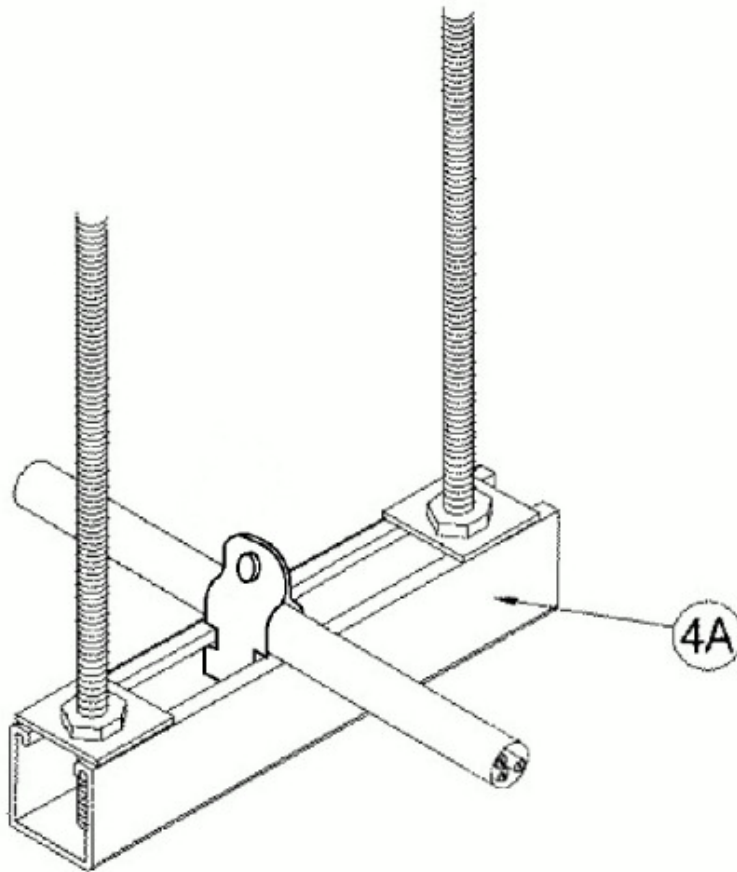


Fig. 2
Steel Strut Trapeze

1. Wall or Floor Assembly*

Minimum 2 hour fire rated concrete or masonry wall or concrete floor. Opening in wall or floorthrough which raceway passes is to be sized to closely follow the contour of the raceway. Through opening in wall or floor to be firestopped using a compatible firestop system.

See **Through-penetration Firestop Systems** (XHEZ) category for presently Certified firestop systems.

2. Raceway*

Reinforced Thermosetting Resin Conduit. Horizontal or Vertical installation; or EMT type steel conduit. Horizontal installation.

FRE COMPOSITES INC

BreathSaver Brand Type XW Conduit and Type XW elbows as follows:

Cable Size (AWG/kcmil)	Minimum XW Raceway Trade Size (in)							
	Horizontal Installation: No. of Cables				Vertical Installation: No. of Cables			
	1	2	3	4	1	2	3	4
8	¾	¾	1	1	¾	1	1¼	1¼
6	¾	1	1¼	1¼	1	1½	2½	2½
4	¾	1	1¼	1½	1¼	2	2½	3
3	¾	1¼	1¼	1½	1¼	2	2½	3
2	¾	1¼	1½	1½	1¼	2½	3	3
1	1	1½	2	2½	1½	2½	3½	3½
1/0	1¼	1½	2½	2½	2	3	3½	3½
2/0	1¼	2	2½	3	2	3	3½	4
3/0	1¼	1½	2½	2½	2½	3½	4	4
4/0	1¼	2	2½	3	2½	3½	4	5
250	1¼	2½	3	3	2½	3½	4	5
300	1½	2½	3	3½	2½	3½	5	5
350	1½	2½	3	3½	3	3½	5	5
400	1½	2½	3½	4	3	4	5	6
500	2	3	3½	4	2½	3½	5	6
600	2½	3	4	5	3	4	5	5
750	2½	3½	4	5	3	4	5	6



UL Product Category

Cable Size (AWG/kcmil)	Minimum EMT Raceway Trade Size (in)			
	Horizontal Installation: No. of Cables			
	1	2	3	4
8	1/2	1	1 1/4	1 1/4
6	3/4	1 1/4	1 1/4	1 1/2
4	1	1 1/4	1 1/2	2
3	1	1 1/4	1 1/2	2
2	1	1 1/4	1 1/2	2
1	1 1/4	2	2	2 1/2
1 / 0	1 1/4	2	2 1/2	2 1/2
2 / 0	1 1/2	2	2 1/2	3
3 / 0	1 1/2	2 1/2	2 1/2	3
4 / 0	2	2 1/2	3	3
250	2	2 1/2	3	3
300	2	2 1/2	3	3 1/2
350	2	2 1/2	3	3 1/2
400	2	3	4	4
500	2 1/2	3	3 1/2	4
600	2 1/2	3	4	-
750	2 1/2	3 1/2	-	-



2A. Raceway Coupling*

(Not Shown).

FRE COMPOSITES INC

BreathSaver Brand Type XW coupling. Trade size to correspond with the type XW raceway size.

RACO

Steel (all components) EMT Compression Couplings. Trade size to correspond with the EMT raceway size.

3. Fire Resistive Cables*

The hourly fire rating applies to cable passing completely through a fire zone and terminating a minimum of 12 inches beyond the fire rated wall or floor bounding the fire zone.

PRYSMIAN CABLES AND SYSTEMS USA LLC

Type RHW-2 Lifeline Brand of the following part numbers: G300 followed by 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 77, 78; or G31501 or G31496. To be installed as described herein and in accordance with the manufacturer's installation instructions SPL-FPT-0013 (TIS301H) dated Sep 2020, SPL-FPT-0012 dated Sep 2020.

4. Supports

(Figure 1) – Min 12 gauge, by 1-½ in. wide or 1-⅝ in wide, painted or unpainted, slotted steel channels with hemmed flange edges. Channel bottom with or without holes. Lengths of slotted steel channels 5 ft and less shall be secured to the wall or floor with a minimum of two ¼ in. diameter (or larger) by 2-¼ in. min long concrete screws, or ¼ in. diameter (or larger) by 1-¾ in. long min steel masonry anchors. One screw or anchor to be located at each end of the slotted steel channel. Lengths of slotted steel channel in excess of 5 ft require a minimum of three screws or anchors, one at each end of the channel and one centrally located within the length of the channel. The supports shall be spaced a maximum of 5 ft. OC. When installing cable(s) in vertical runs, the maximum distance of cable within raceway shall be 24 ft.

4A. Trapeze-type Supports

(Figure 2) – The raceways shall be installed on/from trapeze-type supports. The trapeze-type supports shall be secured from the surface of the floor. The supports shall be spaced a maximum of 5 ft. OC.

5. Clamps

Steel 1-¼ in. wide two-piece single-bolt pipe clamps. Size to correspond with the outside diameter of the raceway and as follows: Trade size ¾-2 in. conduit, min 14-gauge; Trade size 2-½ in. conduit, min 12-gauge; Trade size 3 in. and larger conduit, min 11-gauge.

6. Pulling Lubricant

(Not Shown) – When installing cables within a raceway, the cables shall be coated with pulling lubricant.

AMERICAN POLYWATER CORP

Polywater LZ

7. Pull Box

(Optional Not Shown) – Cables installed in the horizontal or vertical orientation within type XW raceway, or in the horizontal orientation within EMT raceway, may utilize a Resolve One NEMA-4X stainless steel industrial control panel enclosure. Refer to the manufacturer's installation instructions, for additional details.



7A. Box Connector

(Not Shown) - For installation with item 7.

FRE COMPOSITES INC

BreathSaver Brand Type XW box connector. Trade size to correspond with the type XW raceway size.

8. Pull Box

(Optional Not Shown) – Cables installed in the horizontal orientation within EMT raceway may utilize aWiegmann NEMA-1 steel cutout box enclosure. Refer to the manufacturer's installation instructions, for additional details.

8A. Box Connector

(Not Shown) - For installation with item 8.

RACO

Steel (all components) EMT Compression Box Connector. Trade size to correspond with the raceway size

9. Insulating Bushing

For installation with item 8A. Prysmian P/N CUSEMT. Refer to the manufacturer's installationinstructions, for additional details..

*Bearing the UL Classification Mark

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Design/System/Construction/Assembly Usage Disclaimer

FHIT.25D - Electrical Circuit Integrity Systems

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of the fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only product which bear the UL's Mark are considered Certified.

FHIT.25D - Electrical Circuit Integrity Systems System No. 25D

November 15, 2021

Fire-Resistive Rating (FRR) - 1 Hr.

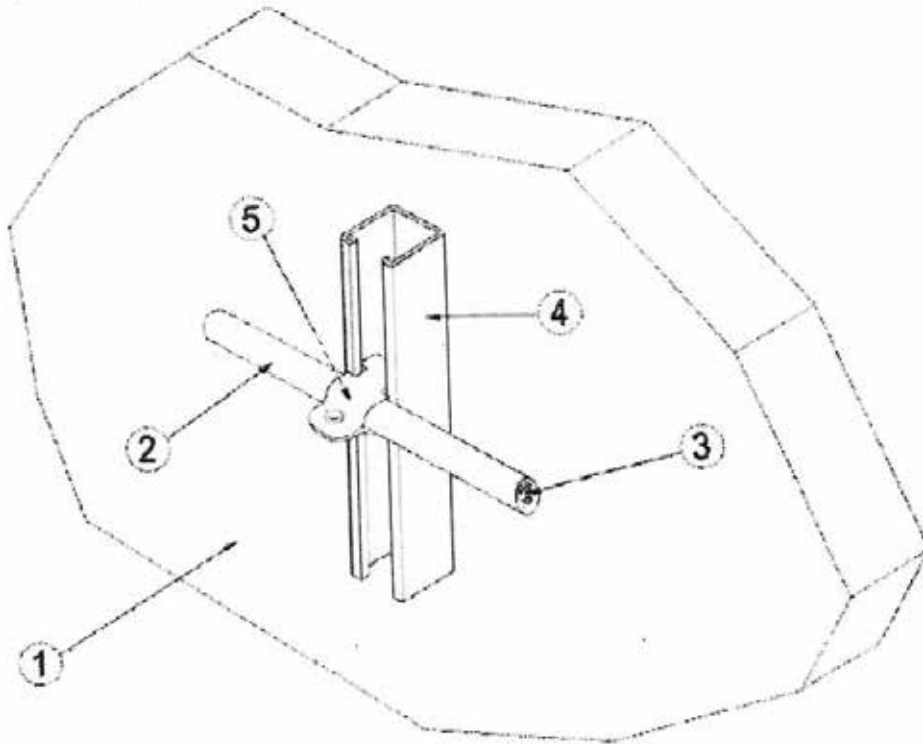


Fig. 1

Two-piece Single-bolt Pipe Clamp

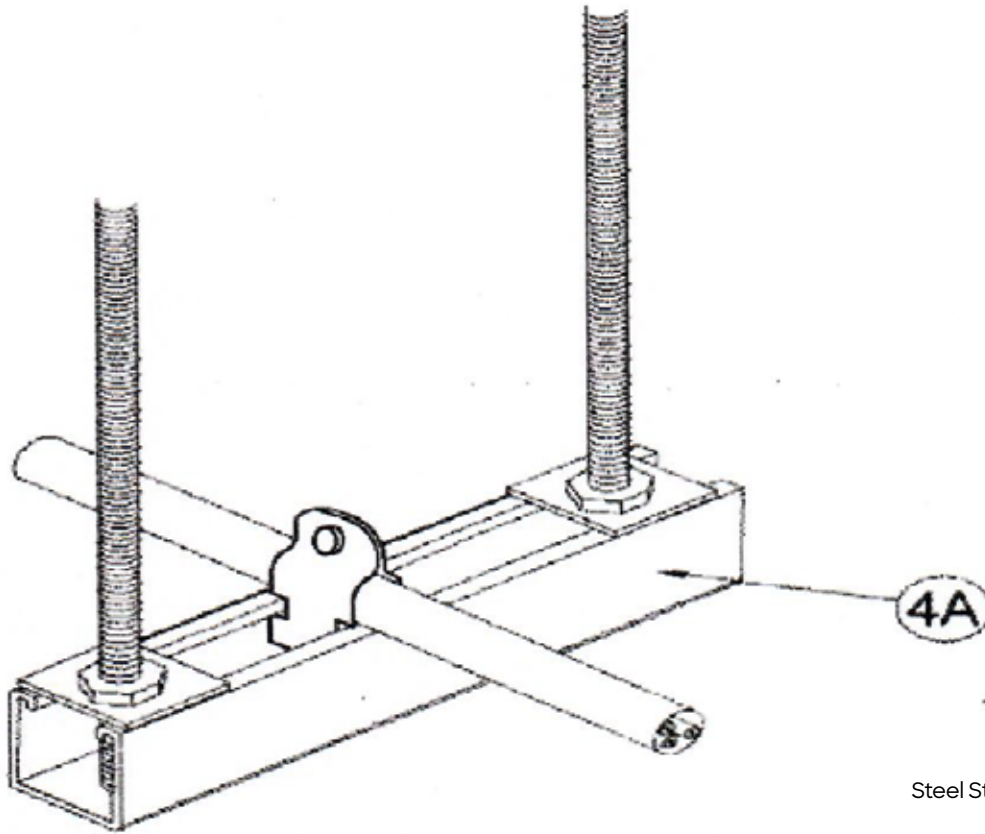


Fig. 2

Steel Strut Trapeze

1. Wall or Floor Assembly*

Minimum 1 hour fire rated concrete or masonry wall or concrete floor. Opening in wall or floor through which raceway passes is to be sized to closely follow the contour of the raceway. Through opening in wall or floor to be firestopped using compatible firestop system.

See **Through-penetration Firestop Systems** (XHEZ) category for presently Certified firestop systems.

2. Raceway Coupling*

Reinforced Thermosetting Resin Conduit. Horizontal or Vertical installation.

FRE COMPOSITES INC

BreathSaver Brand Type XW phenolic conduit and elbows ($\frac{3}{4}$, 1, 1- $\frac{1}{4}$, 1- $\frac{1}{2}$ in).

Fill Ratio: 38% Maximum.

Number of Conductors in a raceway: Any combination of cable sizes not exceeding seven inside the raceway.

2A. Raceway Coupling*

(Not Shown)

FRE COMPOSITES INC

BreathSaver Brand Type XW phenolic coupling. Trade size to correspond with the type XW raceway size.

3. Fire Resistive Cables*

The hourly fire rating applies to cable passing completely through a fire zone and terminating a minimum of 12 inches beyond the fire rated wall or floor bounding the fire zone.

PRYSMIAN CABLES AND SYSTEMS USA LLC

Type RHW-2 Lifeline Brand of the following part numbers: G300 followed by 62 or 63. To be installed as described herein and in accordance with the manufacturer's installation instructions SPL-FPT-0024 (TIS301J) dated Oct 2021.

4. Supports

(Figure 1)—Min 12 gauge, by 1- $\frac{1}{2}$ in. wide or 1- $\frac{5}{8}$ in wide, painted or unpainted, slotted steel channels with hemmed flange edges. Channel bottom with or without holes. Lengths of slotted steel channels 5 ft and less shall be secured to the wall or floor with a min of two $\frac{1}{4}$ in. diameter (or larger) by 2- $\frac{1}{4}$ in. min long concrete screws, or $\frac{1}{4}$ in. diameter (or larger) by 1- $\frac{3}{4}$ in long min steel masonry anchors. One screw or anchor to be located at each end of the slotted steel channel. Lengths of slotted steel channel in excess of 5 ft require a min of three screws or anchors, one at each end of the channel and one centrally located within the length of the channel. The supports shall be spaced a maximum of 5 ft. OC. When installing cable(s) in vertical runs, the maximum distance of cable within raceway shall be 45 ft.

4A. Trapeze-type Supports

(Figure 2)—The raceways shall be installed on/from trapeze-type supports. The trapeze-type supports shall be secured from the surface of the floor. The supports shall be spaced a maximum of 5 ft. OC.

5. Clamps

Steel 1- $\frac{1}{4}$ in. wide two-piece single-bolt pipe clamps. Size to correspond with the outside diameter of the raceway.

6. Pulling Lubricant

(Not Shown)—When installing cables within a raceway, the cables shall be coated with pulling lubricant.

AMERICAN POLYWATER CORP

Polywater LZ



7. Pull Box

(Optional Not Shown)—Cables installed in the horizontal or vertical orientation may utilize a Resolve One NEMA-4X stainless-steel industrial control panel enclosure. Refer to the manufacturer's installation instructions, for additional details.

8. Splice

(Optional Not Shown)—Cables may be installed with terminal block splices. The following components are required: Resolve One NEMA-4X stainless steel industrial control panel enclosure, Draka Lifeline RHW Splice Kit. Refer to the manufacturer's installation instructions SPL-FPT-0024 (TIS301J) dated Oct 2021.

9. Box Connector

(Not Shown)— For installation with items 7 and 8.

FRE COMPOSITES INC

BreathSaver Brand Type XW phenolic box connector. Trade size to correspond with the type XW raceway size.

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FHIT7.25D - Electrical Circuit Integrity Systems Certificate for Canada
System No. 25D

November 15, 2021

Fire-Resistive Rating (FRR) - 1 Hr.

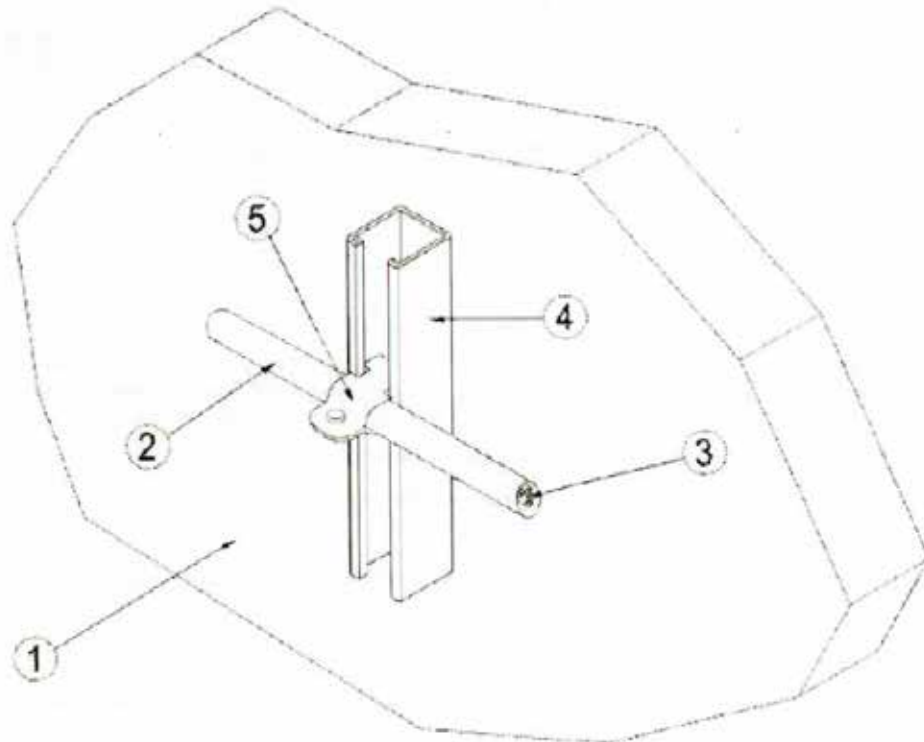


Fig. 1

Two-piece Single-bolt Pipe Clamp

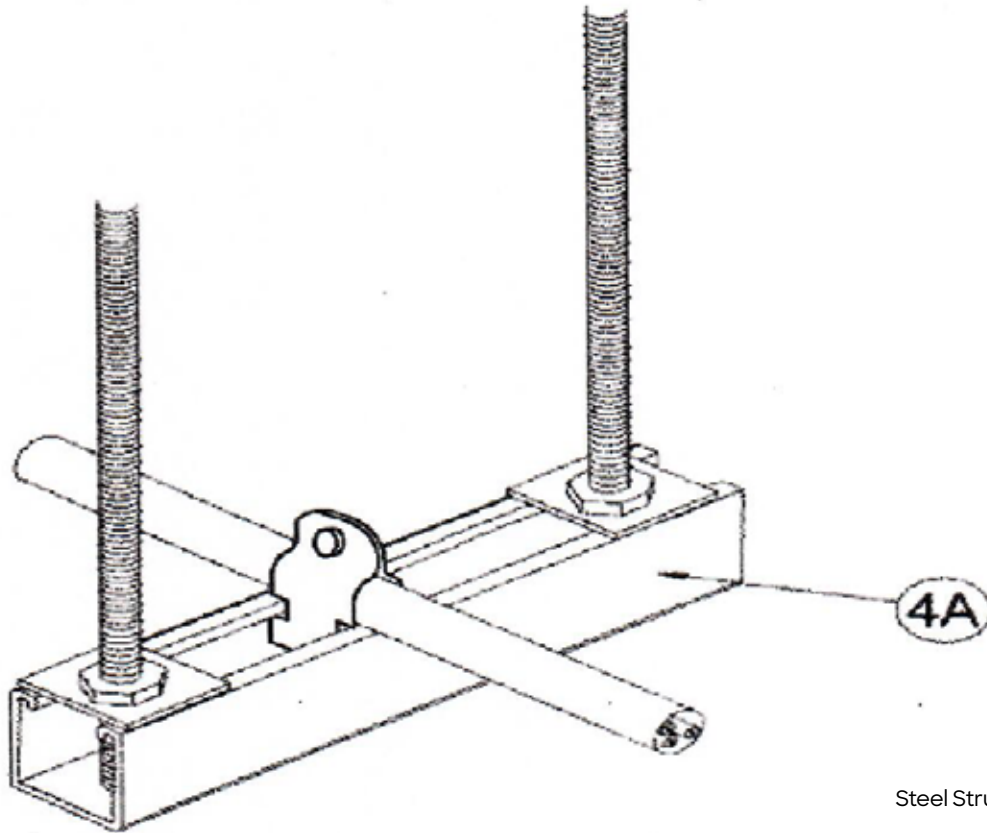


Fig. 2

Steel Strut Trapeze

1. Wall or Floor Assembly*

Minimum 1 hour fire rated concrete or masonry wall or concrete floor. Opening in wall or floor through which raceway passes is to be sized to closely follow the contour of the raceway. Through opening in wall or floor to be firestopped using compatible firestop system.

See **Through-penetration Firestop Systems** (XHEZ) category for presently Certified firestop systems.

2. Raceway*

Reinforced Thermosetting Resin Conduit. Horizontal or Vertical installation.

FRE COMPOSITES INC

BreathSaver Brand Type XW phenolic conduit and elbows ($\frac{3}{4}$, 1, 1- $\frac{1}{4}$, 1- $\frac{1}{2}$ in).

Fill Ratio: 38% Maximum.

Number of Conductors in a raceway: Any combination of cable sizes not exceeding seven inside the raceway.

2A. Raceway Coupling*

(Not Shown)

FRE COMPOSITES INC

BreathSaver Brand Type XW phenolic coupling. Trade size to correspond with the type XW raceway size.

3. Fire Resistive Cables*

The hourly fire rating applies to cable passing completely through a fire zone and terminating a minimum of 12 inches beyond the fire rated wall or floor bounding the fire zone.

PRYSMIAN CABLES AND SYSTEMS USA LLC

Type RC-90 Lifeline Brand of the following part numbers: G300 followed by 62 or 63. To be installed as described herein and in accordance with the manufacturer's installation instructions SPL-FPT-0024 (TIS301J) dated Oct 2021.

4. Supports

(Figure 1)—Min 12 gauge, by 1- $\frac{1}{2}$ in. wide or 1- $\frac{5}{8}$ in wide, painted or unpainted, slotted steel channels with hemmed flange edges. Channel bottom with or without holes. Lengths of slotted steel channels 5 ft and less shall be secured to the wall or floor with a min of two $\frac{1}{4}$ in. diameter (or larger) by 2- $\frac{1}{4}$ in. min long concrete screws, or $\frac{1}{4}$ in. diameter (or larger) by 1- $\frac{3}{4}$ in long min steel masonry anchors. One screw or anchor to be located at each end of the slotted steel channel. Lengths of slotted steel channel in excess of 5 ft require a min of three screws or anchors, one at each end of the channel and one centrally located within the length of the channel. The supports shall be spaced a maximum of t 5 ft. OC. When installing cable(s) in vertical runs, the maximum distance of cable within raceway shall be 45 ft.

4A. Trapeze-type Supports

(Figure 2)—The raceways shall be installed on/from trapeze-type supports. The trapeze-type supports shall be secured from the surface of the floor. The supports shall be spaced a maximum of 5 ft. OC.

5. Clamps

Steel 1- $\frac{1}{4}$ in. wide two-piece single-bolt pipe clamps. Size to correspond with the outside diameter of the raceway.

6. Pulling Lubricant

(Not Shown)—When installing cables within a raceway, the cables shall be coated with pulling lubricant.

AMERICAN POLYWATER CORP

Polywater LZ



7. Pull Box

(Optional Not Shown)—Cables installed in the horizontal or vertical orientation may utilize a Resolve One NEMA-4X stainless-steel industrial control panel enclosure. Refer to the manufacturer's installation instructions, for additional details.

8. Splice

(Optional Not Shown)—Cables may be installed with terminal block splices. The following components are required: Resolve One NEMA-4X stainless steel industrial control panel enclosure, Draka Lifeline RHW Splice Kit. Refer to the manufacturer's installation instructions SPL-FPT-0024 (TIS301J) dated Oct 2021.

9. Box Connector

(Not Shown)— For installation with items 7 and 8.

FRE COMPOSITES INC

BreathSaver Brand Type XW phenolic box connector. Trade size to correspond with the type XW raceway size.

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Standard Conduit Packaging

IPS Extra Heavy Wall (XW)										
Size		Length		Weight per Stick		Weight per Crate		Sticks per Crate	Footage per Crate	
(in)	(mm)	(ft)	(m)	(lb)	(kg)	(lb)	(kg)		(ft)	(m)
¾	21	9.84	3	7.70	3	1,155	524	150	1,476	450
1	27	9.84	3	9.50	4	1,425	646	150	1,476	450
1¼	35	9.84	3	11.00	5	1,650	748	150	1,476	450
1½	41	9.84	3	13.50	6	2,025	919	150	1,476	450
8*	203	19.68	6	114.63	52	1,032	468	9	177	54

*Trade Size is not recognized by NEC/CEC hence not Certified to any applicable RTRC standards

ID Extra Heavy Wall (XW)										
Size		Length		Weight per Stick		Weight per Crate		Sticks per Crate	Footage per Crate	
(in)	(mm)	(ft)	(m)	(lb)	(kg)	(lb)	(kg)		(ft)	(m)
2	53	19.68	6	29.84	14	1,969	893	66	1,299	396
2½	63	19.68	6	35.28	16	2,858	1,296	81	1,594	486
3	78	19.68	6	43.10	20	3,491	1,583	81	1,594	486
3½	91	19.68	6	50.72	23	2,688	1,219	53	1,043	318
4	103	19.68	6	56.37	26	2,424	1,100	43	846	258
5	129	19.68	6	69.63	32	2,089	948	30	590	180
6	155	19.68	6	82.89	38	1,658	752	20	394	120

Standard Accessories Packaging					Ordering in multiple of standard packaging is highly recommended.									
Product	Size		Amount	Package	Product	Size		Amount	Package	Product	Size		Amount	Package
	(in)	(mm)				(in)	(mm)				(in)	(mm)		
Coupling	2	53	20	Bag	O-Ring	2	53	10	Bag	Adapters	2	53	20	Bag
Coupling	3-5	78-129	10	Bag	O-Ring	3-5	78-129	5	Bag	Adapters	3-6	78-155	10	Bag
Coupling	6	155	8	Bag	Reducers			A/R	Bag	Elbows	1-2	27-53	10	Bundle
-	-	-	-	-	Expansion Joint	2-6	53-129	5	Bundle	Bends	3-6	78-155	5	Bundle
-	-	-	-	-	Adapters	1-1½	27-41	50	Bag	Bell Ends			A/R	Carton



Standard Conduit Packaging

IPS Extra Heavy Wall (XW) (Continued)								
Crate per Truck	Footage per Truck		Weight per Truck		Width per Crate		Height per Crate	
	(ft)	(m)	(lb)	(kg)	(in)	(mm)	(in)	(mm)
80	118,080	36,000	92,400	42,000	45	1,143	12	305
80	188,080	36,000	114,000	51,000	45	1,143	12	305
80	118,080	36,000	132,000	60,000	45	1,143	12	305
40	59,040	18,000	81,000	36,600	45	1,143	12	305
16	1,574	480	18,341	8,319	45	1,143	24	610

ID Extra Heavy Wall (XW) (Continued)								
Crate per Truck	Footage per Truck		Weight per Truck		Width per Crate		Height per Crate	
	(ft)	(m)	(lb)	(kg)	(in)	(mm)	(in)	(mm)
40	51,960	15,837	78,778	35,733	45	1,143	12	305
16	25,504	7,774	45,728	20,742	45	1,143	24	610
16	25,504	7,774	55,858	25,337	45	1,143	24	610
16	16,688	5,087	43,008	19,508	45	1,143	24	610
16	13,540	4,127	38,783	17,592	45	1,143	24	610
16	9,446	2,879	33,422	15,160	45	1,143	24	610
16	6,298	1,920	2,525	1,145	45	1,143	24	610



BreathSaver® Conduit

Fiberglass conduit manufactured by FRE Composites, BreathSaver® is a registered trademark in Canada and the United States and is a recognized and trusted name worldwide since the 1990s for superior quality advanced composite products.

General

RTRC

(Reinforced Thermosetting Resin Conduit)

An industry acronym for conduits that are manufactured using a mineral reinforcement such as fiberglass in a fully cured thermoset resin.

IPS (Iron Pipe Size)

Dimensional standard widely utilized in North America for both metallic (such as RMC, EMT, IMC) and rigid non-metallic (RTRC, PVC and HDPE) electrical conduit. This trade size has established its Outside Diameter as the constant value.

ID (Inside Diameter)

Dimensional standard widely utilized in North America for electrical and telecommunication raceways. This trade size has established its Inside Diameter as the constant value.

Conduit

Straight section available in 9.84 ft (3m) or 19.68 ft (6m) length, and in standard diameters from ¾" to 8" (21 to 203 mm).

Wall Thicknesses

Standard Wall (SW) conduit

Conduit built with a standard wall thickness that varies based on the conduit diameter and is recommended for exposed non-hazardous locations. While made available SW is not compliant to UL 2196—2 Hour Fire rating requirements.

Extra heavy Wall (XW) conduit

Conduit built for hazardous locations, subject to physical damage locations (Class 1 Division 2). Every product shall have a nominal wall thickness of 0.250" or 6.4mm.

Key Products

Split conduit (Patented design)

Section of fiberglass conduit cut completely on its longitudinal axis while being hinged at 180° to the longitudinal cut. It can be opened and closed, allowing its installation over existing cables to protect them without having to remove them. The original Split conduit invention was issued to General Electric of Canada (CGE), our former parent company, under U.S. Patent No. 4175593 and Canadian Patent No. 1043277.

H strip

Thermoplastic strip utilized to seal the split side of a split conduit.

T strip

Thermoplastic strip utilized to seal the hinged side of a split conduit.

Sleeve

Oversized section (12" or 305 mm in length) of straight conduit used to repair a damaged section of a conduit.

O-Ring Expansion Joint

Section of conduit including a deep socket unthreaded female section and a gasketed male section of conduit. It is designed to accommodate the thermal expansion and contraction of long sections of straight conduit resulting from ambient temperature variation. This guarantees the water tightness of the joint and no dislocation of the fitting.

O-Ring Expansion/Deflection Joint

Similar to O-Ring expansion joint described above, but designed to accommodate slight vertical changes in the direction of the incoming conduit by means of a flexible neoprene sleeve located at the exit of the expansion joint.

Key Technical Descriptions

Glass content

Weight percent of glass fiber present in the conduit, as % of total weight.

Span distance

Distance between conduit supports which varies based on the selected cable weight and conduit trade size.

Deflection

Deformation of conduit due to the weight of the cable installed inside it. Deflection is a function of the diameter and weight of the cables, and of the distance between conduit supports. Measured in inches.

Coefficient of thermal expansion

Ratio representing the change in linear dimension of a section of conduit resulting from changes in temperature (ΔT).



One of the Most Cost Effective Cable Fire Protection Conduit Systems in the Industry



What is BreathSaver Conduit?

BreathSaver is a phenolic Reinforced Thermosetting Resin Conduit (RTRC) system which offers high performance in terms of flame resistance, smoke development, toxicity emission and corrosion resistance.

What are the typical installations for BreathSaver?

BreathSaver products are typically utilized in areas with highly stringent safety requirements for flame resistance, smoke development and toxicity emissions. These include roadway tunnels, transit facilities (tunnels and stations), high-rise emergency circuits, power plants, plenums and other air-handling spaces, vent shafts and mines.

Is BreathSaver plenum rated?

BreathSaver conduit products have demonstrated a flame spread index below 25 and a smoke developed index below 50 (i.e., a 25/50 rating) when tested in accordance with ASTM E84, ASTM E162, ASTM E662 and ASTM 800C. UL considers products that meet this rating to be compliant with the U.S. electrical, building or mechanical codes for surface burning requirements for materials intended for installation in plenums or air-handling spaces.

Does BreathSaver meet the Noncombustible Material and Limited-Combustible Material requirements of NFPA 130?

Yes, BreathSaver products meet the requirements of NFPA 130 in Section 4.6 because it is made from a material that, in the form in which it is used and under the conditions anticipated, will not ignite, burn, support combustion, or release flammable vapors, when subjected to fire or heat.

How is the support spacing determined in a 2-hour FHIT listed System?

FHIT systems are listed/Certified as a whole system. This means in order to keep the 2-hour listing it has to be installed as tested and listed in the certification. Everything from the conduit, cable and fitting manufacturers are listed in the system documentation as well as how many cables or maximum fill rates are allowed in each size conduit. Supports and spacing of the supports are no different. They are tested as part of the 2-hour system and must be installed as tested.

Many people become confused and think if you are using Fiberglass Conduit (RTRC) you would follow the support requirements in Article 355 but in reality the installation is of a listed system and not fiberglass conduit. You have to install the whole system as listed. For the System that includes BreathSaver please see System No 25.C which should be dated October 29, 2020 and will give complete instructions for installing the system. In this system the maximum space of supports is 5 feet on center.

Is BreathSaver product line a RTRC UL Listed product?

Our BreathSaver product line is UL Listed against UL 2515A Supplemental Requirements for Extra Heavy Wall Reinforced Thermosetting Resin Conduit (RTRC) and Fittings. This Class 1 Division 2 – suitable for physical damage locations raceway listing is also UL2196 2-Hour Fire Certified when installed in compliance to FHIT 25C. We are offering complete raceway system products ranging from ¾” to 6” trade size with unmatched fiberglass industry vertical and horizontal wire fill rates.



One of the Most Cost Effective Cable Fire Protection Conduit Systems in the Industry

BreathSaver® XW Product Specifications:

- Corrosion resistant 2-Hour Fire-Rated Cable System (UL 2196 | FHIT 25C)
- Ideal for roadway tunnels, transit and subway stations, vent shafts, mines and confined areas
- UL listed system per UL 2196 for 2 hours both vertical and horizontal (FHIT 25C)
- Available in ¾" IPS (21mm) to 1-½" IPS (41mm) and 2" ID (51mm) to 6" ID (152mm) dimensions
- No threading or masking of joints required
- Bell and spigot joint for fast, easy bonding installation

Benefits:

- Most complete 2-hour certified conduit (¾ - 6") system for vertical and horizontal installations
- Lightweight 4" Conduit: 56lbs (26Kg) for a 20' (6 M) conduit vs. EMT at 109lbs (49Kg) for a 10' (3 M) conduit
- Emits no toxic halogen (ASTM 800C)
- Non conductive, reliable easy to install raceway protecting critical systems against fire and corrosion

Certifications:

- Fire Resistive Cables (bearing the UL Classification Mark) – The hourly fire rating applies to cable systems passing completely through a fire zone and terminating a minimum of 12 inches beyond the fire rated wall or floor bounding the fire zones
- PRYSMIAN CABLES AND SYSTEMS USA LLC – Type RHW-2 Lifeline Brand of the following part numbers: G300 followed by 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78; or G31501 or G31496. To be installed as described herein and in accordance with the manufacturer’s installation instructions SPL-FPT-0013 (TIS301H) dated Sept. 2020, SPL-FPT-0012 dated Sept. 2020.

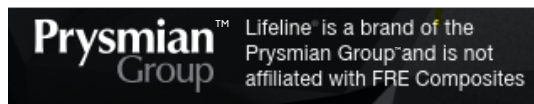
1 Hour Fire Rating - NFPA 130

	Competition	Lifeline RHW-2 / XW BreathSaver® XW
FHIT	28E	25C
Hours	1	2
Conduits	1" - 2"	¾" - 6"
Cables	Radix or RSCC	Prysmian Draka - Lifeline RHW-2
Sizes	#12 - #2 AWG	#12 AWG to 750 Kcmil
Fill	38% max	Varies - no more than 32% horizontal and 21% vertical
Vertical rise	45 Feet	24 Feet
Pulling lube	Polywater LZ	Polywater LZ
Pull Box	Yes – (NEMA 1 and 4X)	Yes – (NEMA 4X) Resolve One

2 Hour Fire Rating - Emergency Circuits + NFPA 502

	Competition (No Wet Location Listing)	Lifeline RHW-2 / XW BreathSaver® XW
FHIT	N/A	25C
Hours	N/A	2
Conduits	N/A	XW BreathSaver
Cables	N/A	Prysmian Draka - Lifeline RHW-2
Sizes	N/A	#8 AWG to 750 Kcmil
Fill	N/A	Varies - no more than 32% horizontal and 21% vertical
Vertical rise	N/A	24 Feet
Pulling lube	N/A	Polywater LZ
Pull Box	N/A	Yes – (NEMA 4X) Resolve One

Notes: FHIT.25C system is designed to meet and has successfully passed the two hour fire rating certification test per UL 2196, Standard for Tests for Fire Resistive Cables. The system holds a one hour rating for horizontal and vertical installations both in EMT conduit and BreathSaver® XW Phenolic conduit, while it holds a two hour rating for horizontal installations in EMT conduit or BreathSaver® XW Phenolic conduit and vertical installations in BreathSaver® XW Phenolic conduit. Since the system was tested and passed the more rigorous two hour rating certification, the same parameters and requirements apply to the one hour rating (e.g. Fill, Vertical Rise) making it a robust and extremely safe solution for NFPA 130 1-hour applications. FHIT.130 system has successfully passed the less stringent one hour fire rating certification per UL 2196 only and is not certified for two hour applications. The gap in the hour ratings between the two systems explain the difference in the maximum allowed fill rates and vertical rises.





Allied Tube & Conduit ▲ AFC Cable Systems ▲ Heritage Plastics ▲ Marco ▲ Unistrut
Unistrut Construction ▲ Cii ▲ Calpipe Security ▲ Calbrite ▲ Calbond ▲ US Tray ▲ Flexicon
Power-Strut ▲ Calconduit ▲ Razor Ribbon ▲ United Poly Systems ▲ Vergokan ▲ Columbia-MBF
Cope ▲ Four Star Industries ▲ Eastern Wire + Conduit ▲ ACS/Uni-Fab ▲ Sasco Strut ▲ Kaf-Tech
Northwest Polymers ▲ Cascade Poly Pipe + Conduit ▲ FRE Composites ▲ Queen City Plastics

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