EPOXY SYSTEMS

Atkore™

FRE Composites

Introduction

Atkore FRE® Composites produces the highest 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.

FRE's Epoxy System provides power, telecommunications, and transit companies with a reliable, easily installed solution for applications that are environmentally exposed or buried. All fiberglass products are UL Listed and CSA Certified and offer the highest strength to weight ratio of any conduit, assuring a safe system for Direct Burial, Encased Burial, or Above Ground applications. This complete line of conduit, conduit bodies, elbows, fittings, and adaptors can meet a wide range of needs due to their tremendous mechanical and engineering properties. FRE Epoxy System conduits are light weight, flexible, resistant to corrosion, and feature high temperature ratings and a low coefficient of friction, assuring easy installations with reduced maintenance costs. These non-metallic fiberglass system products are operational in temperatures ranging from -40°F to +230°F and are impermeable to a wide spectrum of chemicals and fuels. Other features include:

- Superior impact and crush resistance
- Rot and rodent proof
- No chlorine, halogen or other toxic materials
- UV Resistance
- TriSeal™ watertight joints eliminate the need for adhesive, saving time and money during installation

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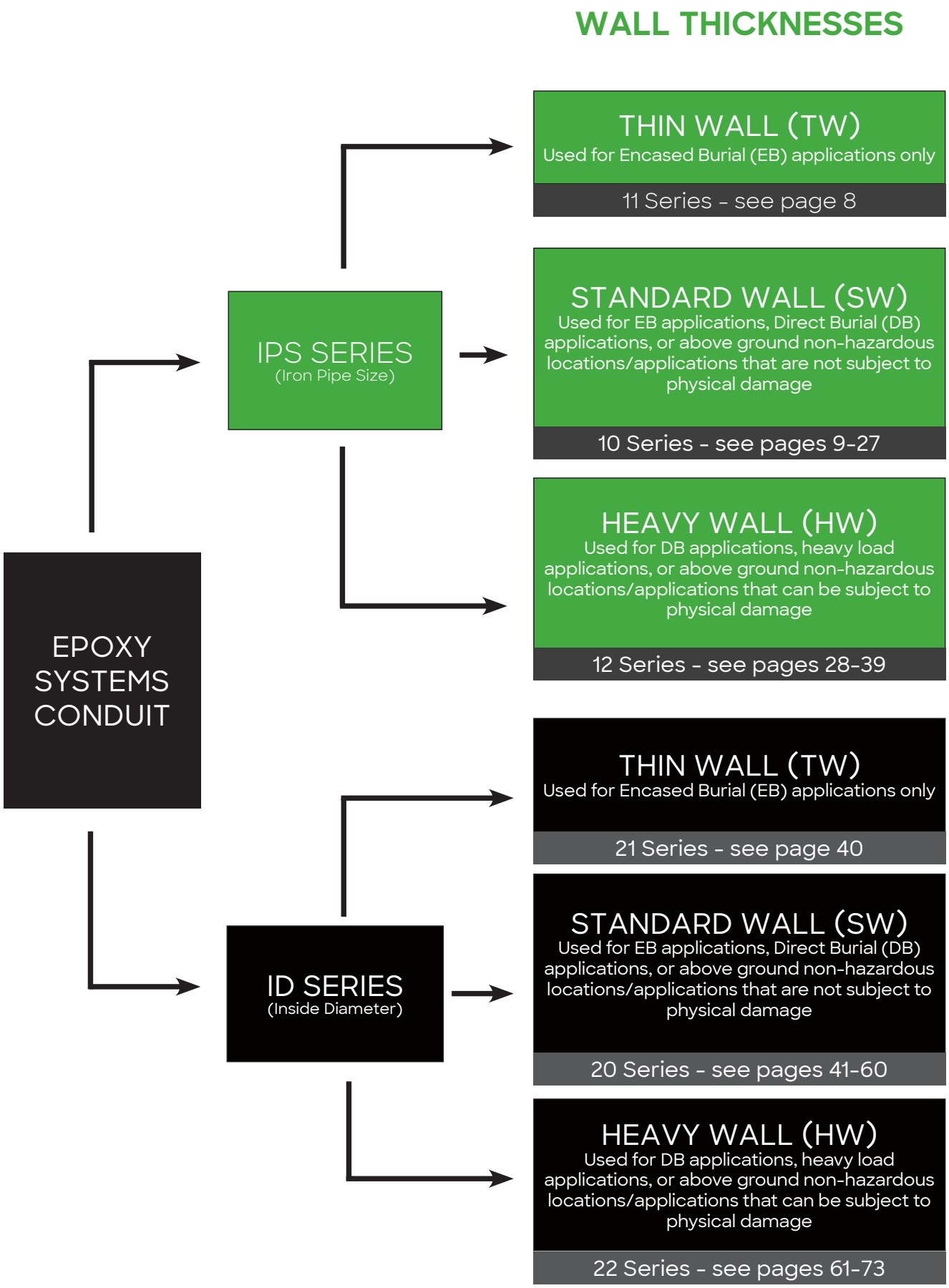
Conduit System Chart



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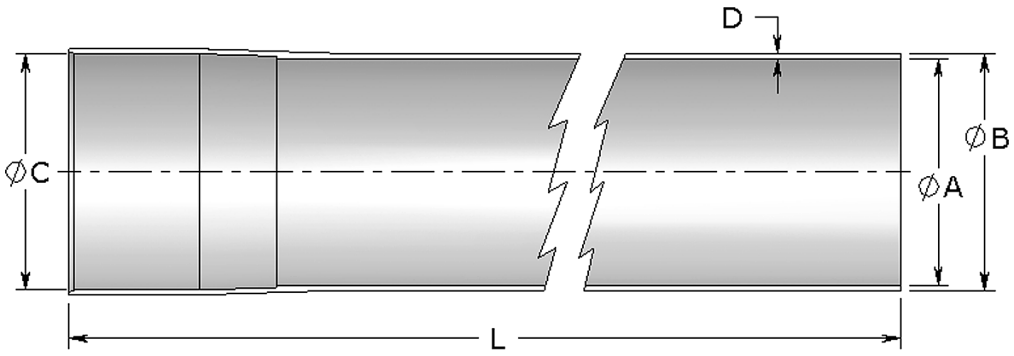
IPS Thin Wall

IPS Thin Wall (TW) Conduit

- Standard length is 19.68 ft. (6m). Also available in 9.84 ft. section (3m), if required.



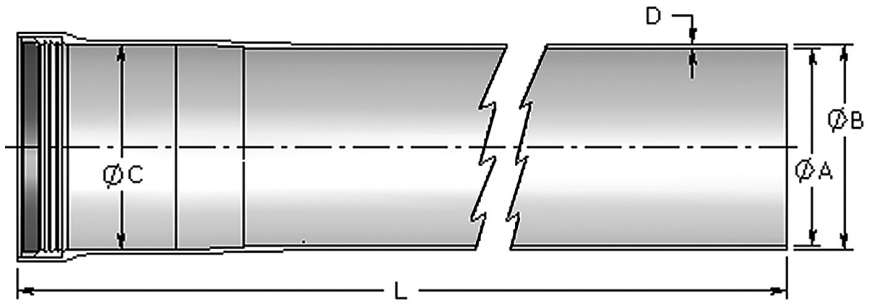
Size		Part Number	ØA	ØB	ØC	D	L	ØA	ØB	ØC	D	L
(in)	(mm)		(in)					(mm)				(m)
4	103	11-4000	4.360	4.470	4.542	0.055	236.25	110.7	113.5	115.4	1.4	6
5	129	11-5000	5.373	5.513	5.610	0.070	236.25	136.5	140.0	142.5	1.8	6
6	155	11-6000	6.405	6.575	6.669	0.085	236.25	162.7	167.0	169.4	2.2	6
8*	203	11-8000	8.393	8.573	8.667	0.095	236.25	213.2	217.8	220.1	2.4	6

* 8" is not a recognized trade size per electrical code (NEC/CEC), therefore cannot be UL listed and CSA certified.

IPS Standard Wall

IPS Standard Wall (SW) Conduit

- Typical Exposed Applications (non-hazardous locations)
- Standard length is 9.84 ft (3m) for ¾ (19mm) to 1½" (38mm) and 19.68 ft (6m) for 2" (51mm) to 8" (203mm) but is also available in 9.84 ft (3m) upon special request.



Size		Part Number	ØA	ØB	ØC	D	L	ØA	ØB	ØC	D	L
(in)	(mm)		(in)					(mm)				(m)
¾	21	10-7500	0.918	1.050	1.086	0.066	118.25	23.3	26.7	27.6	1.7	3
1	27	10-1000	1.183	1.315	1.351	0.066	118.25	30.0	33.4	34.3	1.7	3
1¼	35	10-1200	1.528	1.660	1.698	0.066	118.25	38.8	42.2	43.1	1.7	3
1½	41	10-1500	1.768	1.900	1.938	0.066	118.25	44.9	48.3	49.2	1.7	3
2	53	10-2000	2.235	2.375	2.417	0.070	236.25	56.8	60.3	61.4	1.8	6
2½	63	10-2500	2.750	2.890	2.932	0.070	236.25	69.9	73.4	74.5	1.8	6
3	78	10-3000	3.360	3.500	3.542	0.070	236.25	85.3	88.9	90.0	1.8	6
4	103	10-4000	4.360	4.500	4.542	0.070	236.25	110.7	114.3	115.4	1.8	6
5	129	10-5000	5.373	5.563	5.610	0.095	236.25	136.5	141.3	142.5	2.4	6
6	155	10-6000	6.405	6.625	6.669	0.110	236.25	162.7	168.3	169.4	2.8	6
8*	203	10-8000	8.393	8.623	8.667	0.115	236.25	213.2	219.0	220.1	2.9	6

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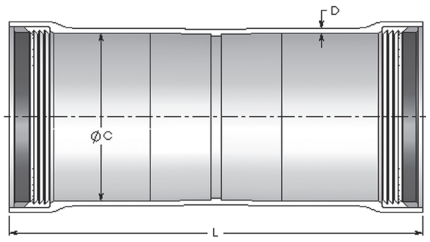
IPS Standard Wall

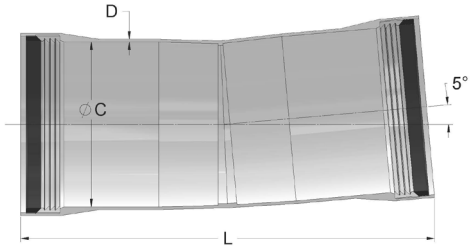
IPS SW Double Bell Coupling



Size		Part Number	ØC	D	L	ØC	D	L
(in)	(mm)		(in)			(mm)		
¾	21	10-7510	1.086	0.066	9.750	27.6	1.7	247.7
1	27	10-1010	1.351	0.066	9.750	34.3	1.7	247.7
1¼	35	10-1210	1.698	0.066	9.750	43.1	1.7	247.7
1½	41	10-1510	1.938	0.066	9.750	49.2	1.7	247.7
2	53	10-2010	2.417	0.070	10.250	61.4	1.8	260.4
2½	63	10-2510	2.932	0.070	10.250	74.5	1.8	260.4
3	78	10-3010	3.542	0.070	10.250	90.0	1.8	260.4
4	103	10-4010	4.542	0.070	10.250	115.4	1.8	260.4
5	129	10-5010	5.610	0.095	10.250	142.5	2.4	260.4
6	155	10-6010	6.669	0.110	10.250	169.4	2.8	260.4
8*	203	10-8010	8.667	0.115	10.250	220.1	2.9	260.4

* 8" is not a recognized trade size per electrical code (NEC/CEC), therefore cannot be UL listed and CSA certified.

IPS SW 5° Double Bell Coupling

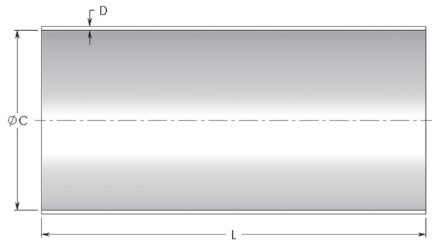


Size		Part Number	ØC	D	L	ØC	D	L
(in)	(mm)		(in)			(mm)		
¾	21	10-7511	1.086	0.066	9.7	27.6	1.7	246.4
1	27	10-1011	1.351	0.066	9.7	34.3	1.7	246.4
1¼	35	10-1211	1.698	0.066	9.8	43.1	1.7	248.9
1½	41	10-1511	1.938	0.066	9.8	49.2	1.7	248.9
2	53	10-2011	2.417	0.070	10.3	61.4	1.8	261.6
2½	63	10-2511	2.932	0.070	10.4	74.5	1.8	264.2
3	78	10-3011	3.542	0.070	10.4	90.0	1.8	264.2
4	103	10-4011	4.542	0.070	10.5	115.4	1.8	266.7
5	129	10-5011	5.610	0.095	10.6	142.5	2.4	269.2
6	155	10-6011	6.669	0.110	10.7	169.4	2.8	271.8
8*	203	10-8011	8.667	0.115	10.9	220.1	2.9	276.9

* 8" is not a recognized trade size per electrical code (NEC/CEC), therefore cannot be UL listed and CSA certified.

IPS Standard Wall

IPS SW Sleeve (Repair Fitting)



Size		Part Number	ØC	D	L	ØC	D	L
(in)	(mm)		(in)			(mm)		
¾	21	10-7516	1.086	0.066	12	27.6	1.7	304.8
1	27	10-1016	1.351	0.066	12	34.3	1.7	304.8
1¼	35	10-1216	1.698	0.066	12	43.1	1.7	304.8
1½	41	10-1516	1.938	0.066	12	49.2	1.7	304.8
2	53	10-2016	2.417	0.070	12	61.4	1.8	304.8
2½	63	10-2516	2.932	0.070	12	74.5	1.8	304.8
3	78	10-3016	3.542	0.070	12	90.0	1.8	304.8
4	103	10-4016	4.542	0.070	12	115.4	1.8	304.8
5	129	10-5016	5.610	0.095	12	142.5	2.4	304.8
6	155	10-6016	6.669	0.110	12	169.4	2.8	304.8
8*	203	10-8016	8.667	0.115	12	220.1	2.9	304.8

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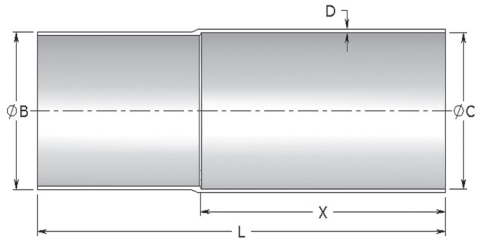
IPS SW Single Expansion Joint



Size		Part Number	ØB	ØC	D	L	X	ØB	ØC	D	L	X
(in)	(mm)		(in)					(mm)				
¾	21	10-7512	1.050	1.086	0.066	20	12	26.7	27.6	1.7	508.0	304.8
1	27	10-1012	1.315	1.351	0.066	20	12	33.4	34.3	1.7	508.0	304.8
1¼	35	10-1212	1.660	1.698	0.066	20	12	42.2	43.1	1.7	508.0	304.8
1½	41	10-1512	1.900	1.938	0.066	20	12	48.3	49.2	1.7	508.0	304.8
2	53	10-2012	2.375	2.417	0.070	20	12	60.3	61.4	1.8	508.0	304.8
2½	63	10-2512	2.890	2.932	0.070	20	12	73.4	74.5	1.8	508.0	304.8
3	78	10-3012	3.500	3.542	0.070	20	12	88.9	90.0	1.8	508.0	304.8
4	103	10-4012	4.500	4.542	0.070	20	12	114.3	115.4	1.8	508.0	304.8
5	129	10-5012	5.563	5.610	0.095	20	12	141.3	142.5	2.4	508.0	304.8
6	155	10-6012	6.625	6.669	0.110	20	12	168.3	169.4	2.8	508.0	304.8
8*	203	10-8012	8.623	8.667	0.115	20	12	219.0	220.1	2.9	508.0	304.8

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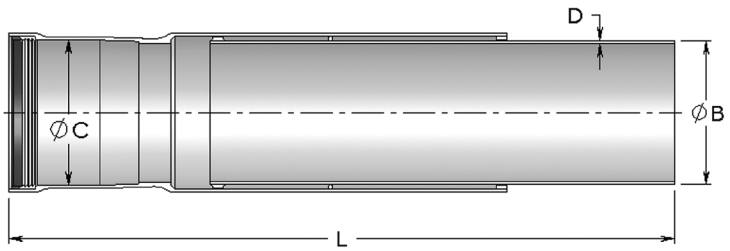
IPS Standard Wall

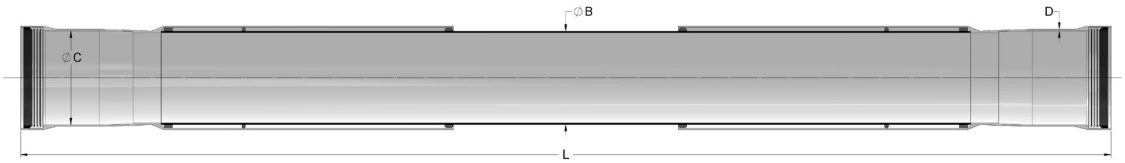
IPS SW O-Ring Expansion Joint



Size		Part Number	ØB	ØC	D	L (min)	L (max)	ØB	ØC	D	L (min)	L (max)
(in)	(mm)		(in)					(mm)				
¾	21	10-7517	1.050	1.086	0.066	24	36	26.7	27.6	1.7	609.6	914.4
1	27	10-1017	1.315	1.351	0.066	24	36	33.4	34.3	1.7	609.6	914.4
1¼	35	10-1217	1.660	1.698	0.066	24	36	42.2	43.1	1.7	609.6	914.4
1½	41	10-1517	1.900	1.938	0.066	24	36	48.3	49.2	1.7	609.6	914.4
2	53	10-2017	2.375	2.417	0.070	24	36	60.3	61.4	1.8	609.6	914.4
2½	63	10-2517	2.890	2.932	0.070	24	36	73.4	74.5	1.8	609.6	914.4
3	78	10-3017	3.500	3.542	0.070	24	36	88.9	90.0	1.8	609.6	914.4
4	103	10-4017	4.500	4.542	0.070	24	36	114.3	115.4	1.8	609.6	914.4
5	129	10-5017	5.563	5.610	0.095	24	36	141.3	142.5	2.4	609.6	914.4
6	155	10-6017	6.625	6.669	0.110	24	36	168.3	169.4	2.8	609.6	914.4
8*	203	10-8017	8.623	8.667	0.115	24	36	219.0	220.1	2.9	609.6	914.4

* 8" is not a recognized trade size per electrical code (NEC/CEC), therefore cannot be UL listed and CSA certified.

IPS SW Double O-Ring Expansion Joint



Size		Part Number	Ø B	Ø C	D	L MIN	L MAX	Ø B	Ø C	D	L MIN	L MAX
(in)	(mm)		(in)					(mm)				
¾	21	10-7567	1.050	1.086	0.066	48	72	26.7	27.6	1.7	1,219.2	1,828.8
1	27	10-1067	1.315	1.351	0.066	48	72	33.4	34.3	1.7	1,219.2	1,828.8
1¼	35	10-1267	1.660	1.698	0.066	48	72	42.2	43.1	1.7	1,219.2	1,828.8
1½	41	10-1567	1.900	1.938	0.066	48	72	48.3	49.2	1.7	1,219.2	1,828.8
2	53	10-2067	2.375	2.417	0.070	48	72	60.3	61.4	1.8	1,219.2	1,828.8
2½	63	10-2567	2.890	2.932	0.070	48	72	73.4	74.5	1.8	1,219.2	1,828.8
3	78	10-3067	3.500	3.542	0.070	48	72	88.9	90.0	1.8	1,219.2	1,828.8
4	103	10-4067	4.500	4.542	0.070	48	72	114.3	115.4	1.8	1,219.2	1,828.8
5	129	10-5067	5.563	5.610	0.095	48	72	141.3	142.5	2.4	1,219.2	1,828.8
6	155	10-6067	6.625	6.669	0.110	48	72	168.3	169.4	2.8	1,219.2	1,828.8
8*	203	10-8067	8.623	8.667	0.115	48	72	219.0	220.1	2.9	1,219.2	1,828.8

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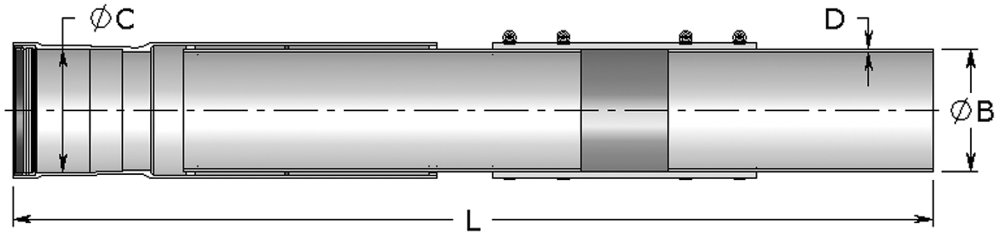
IPS Standard Wall

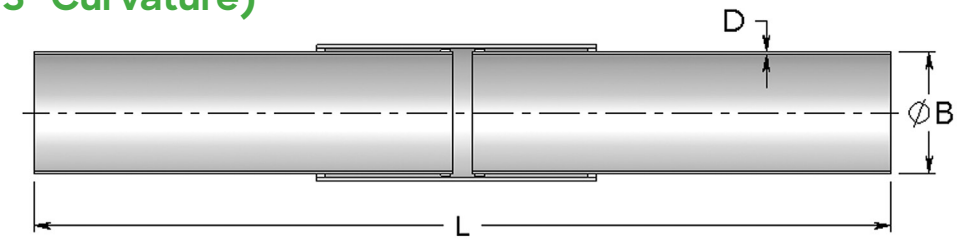
IPS SW O-Ring Expansion/Deflection Joint



Size		Part Number	ØB	ØC	D	L (min)	L (max)	ØB	ØC	D	L (min)	L (max)
(in)	(mm)		(in)					(mm)				
¾	21	10-7557	1.050	1.086	0.066	40	52	26.7	27.6	1.7	1,016.0	1,320.8
1	27	10-1057	1.315	1.351	0.066	40	52	33.4	34.3	1.7	1,016.0	1,320.8
1¼	35	10-1257	1.660	1.698	0.066	40	52	42.2	43.1	1.7	1,016.0	1,320.8
1½	41	10-1557	1.900	1.938	0.066	40	52	48.3	49.2	1.7	1,016.0	1,320.8
2	53	10-2057	2.375	2.417	0.070	40	52	60.3	61.4	1.8	1,016.0	1,320.8
2½	63	10-2557	2.890	2.932	0.070	40	52	73.4	74.5	1.8	1,016.0	1,320.8
3	78	10-3057	3.500	3.542	0.070	40	52	88.9	90.0	1.8	1,016.0	1,320.8
4	103	10-4057	4.500	4.542	0.070	40	52	114.3	115.4	1.8	1,016.0	1,320.8
5	129	10-5057	5.563	5.610	0.095	40	52	141.3	142.5	2.4	1,016.0	1,320.8
6	155	10-6057	6.625	6.669	0.110	40	52	168.3	169.4	2.8	1,016.0	1,320.8
8*	203	10-8057	8.623	8.667	0.115	40	52	219.0	220.1	2.9	1,016.0	1,320.8

* 8" is not a recognized trade size per electrical code (NEC/CEC), therefore cannot be UL listed and CSA certified.

IPS SW Wobble (For up to 3° Curvature)

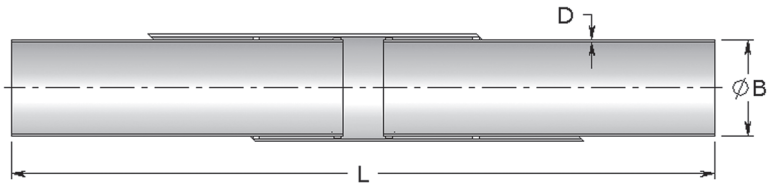


Size		Part Number	ØB	D	L (min)	L (max)	ØB	D	L (min)	L (max)
(in)	(mm)		(in)				(mm)			
¾	21	10-7513	1.050	0.066	36	46	26.7	1.7	914.4	1,168.4
1	27	10-1013	1.315	0.066	36	46	33.4	1.7	914.4	1,168.4
1¼	35	10-1213	1.660	0.066	36	46	42.2	1.7	914.4	1,168.4
1½	41	10-1513	1.900	0.066	36	46	48.3	1.7	914.4	1,168.4
2	53	10-2013	2.375	0.070	36	46	60.3	1.8	914.4	1,168.4
2½	63	10-2513	2.890	0.070	36	46	73.4	1.8	914.4	1,168.4
3	78	10-3013	3.500	0.070	36	46	88.9	1.8	914.4	1,168.4
4	103	10-4013	4.500	0.070	36	46	114.3	1.8	914.4	1,168.4
5	129	10-5013	5.563	0.095	36	46	141.3	2.4	914.4	1,168.4
6	155	10-6013	6.625	0.110	36	46	168.3	2.8	914.4	1,168.4
8*	203	10-8013	8.623	0.115	36	46	219.1	2.9	914.4	1,168.4

* 8" is not a recognized trade size per electrical code (NEC/CEC), therefore cannot be UL listed and CSA certified.
Note: Fitting is non-watertight

IPS Standard Wall

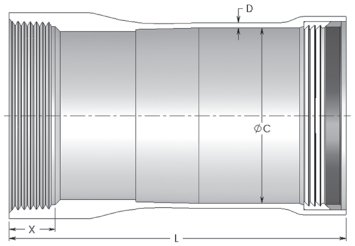
IPS SW Skew Wobble (For up to 7.5° Curvature)



Size		Part Number	ØB	D	L (min)	L (max)	ØB	D	L (min)	L (max)
(in)	(mm)		(in)				(mm)			
¾	21	10-7514	1.050	0.066	48	56	26.7	1.7	1,219.2	1,422.4
1	27	10-1014	1.315	0.066	48	56	33.4	1.7	1,219.2	1,422.4
1¼	35	10-1214	1.660	0.066	48	56	42.2	1.7	1,219.2	1,422.4
1½	41	10-1514	1.900	0.066	48	56	48.3	1.7	1,219.2	1,422.4
2	53	10-2014	2.375	0.070	48	56	60.3	1.8	1,219.2	1,422.4
2½	63	10-2514	2.890	0.070	48	56	73.4	1.8	1,219.2	1,422.4
3	78	10-3014	3.500	0.070	48	56	88.9	1.8	1,219.2	1,422.4
4	103	10-4014	4.500	0.070	48	56	114.3	1.8	1,219.2	1,422.4
5	129	10-5014	5.563	0.095	48	56	141.3	2.4	1,219.2	1,422.4
6	155	10-6014	6.625	0.110	48	56	168.3	2.8	1,219.2	1,422.4
8*	203	10-8014	8.623	0.115	48	56	219.1	2.9	1,219.2	1,422.4

* 8" is not a recognized trade size per electrical code (NEC/CEC), therefore cannot be UL listed and CSA certified.
Note: Fitting is non-watertight

IPS SW NPT Female Threaded Adapter

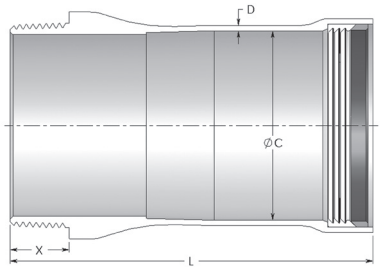


Size		Part Number	ØC	D	L	X	ØC	D	L	X
(in)	(mm)		(in)				(mm)			
¾	21	10-7544	1.086	0.066	6.75	0.553	27.6	1.7	171.5	14.0
1	27	10-1044	1.351	0.066	6.75	0.661	34.3	1.7	171.5	16.8
1¼	35	10-1244	1.698	0.066	6.75	0.681	43.1	1.7	171.5	17.3
1½	41	10-1544	1.938	0.066	6.75	0.681	49.2	1.7	171.5	17.3
2	53	10-2044	2.417	0.070	8.00	0.697	61.4	1.8	203.2	17.7
2½	63	10-2544	2.932	0.070	8.00	0.932	74.5	1.8	203.2	23.7
3	78	10-3044	3.542	0.070	8.00	1.016	90.0	1.8	203.2	25.8
4	103	10-4044	4.542	0.070	8.00	1.094	115.4	1.8	203.2	27.8
5	129	10-5044	5.610	0.095	8.00	1.187	142.5	2.4	203.2	30.1
6	155	10-6044	6.669	0.110	8.00	1.208	169.4	2.8	203.2	30.7
8*	203	10-8044	8.667	0.115	8.00	1.313	220.1	2.9	203.2	33.4

* 8" is not a recognized trade size per electrical code (NEC/CEC), therefore cannot be UL listed and CSA certified.

IPS Standard Wall

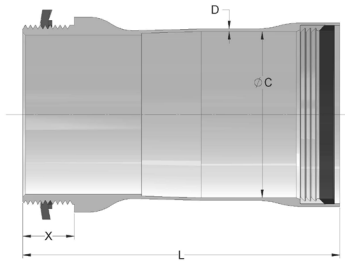
IPS SW NPT Male Threaded Adapter



Size		Part Number	ØC	D	L	X	ØC	D	L	X
(in)	(mm)		(in)				(mm)			
¾	21	10-7527	1.086	0.066	6.75	0.546	27.6	1.7	171.5	13.9
1	27	10-1027	1.351	0.066	6.75	0.683	34.3	1.7	171.5	17.3
1¼	35	10-1227	1.698	0.066	6.75	0.707	43.1	1.7	171.5	18.0
1½	41	10-1527	1.938	0.066	6.75	0.724	49.2	1.7	171.5	18.4
2	53	10-2027	2.417	0.070	8.00	0.757	61.4	1.8	203.2	19.2
2½	63	10-2527	2.932	0.070	8.00	1.138	74.5	1.8	203.2	28.9
3	78	10-3027	3.542	0.070	8.00	1.200	90.0	1.8	203.2	30.5
4	103	10-4027	4.542	0.070	8.00	1.300	115.4	1.8	203.2	33.0
5	129	10-5027	5.610	0.095	8.00	1.406	142.5	2.4	203.2	35.7
6	155	10-6027	6.669	0.110	8.00	1.513	169.4	2.8	203.2	38.4
8*	203	10-8027	8.667	0.115	8.00	1.713	220.1	2.9	203.2	43.5

* 8" is not a recognized trade size per electrical code (NEC/CEC), therefore cannot be UL listed and CSA certified.

IPS SW Box Connector

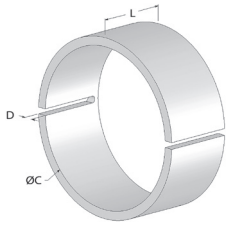


Size		Part Number	ØC	D	L	X	ØC	D	L	X
(in)	(mm)		(in)				(mm)			
¾	21	10-7547	1.086	0.066	6.75	0.546	27.6	1.7	171.5	13.9
1	27	10-1047	1.351	0.066	6.75	0.683	34.3	1.7	171.5	17.3
1¼	35	10-1247	1.698	0.066	6.75	0.707	43.1	1.7	171.5	18.0
1½	41	10-1547	1.938	0.066	6.75	0.724	49.2	1.7	171.5	18.4
2	53	10-2047	2.417	0.070	8.00	0.757	61.4	1.8	203.2	19.2
2½	63	10-2547	2.932	0.070	8.00	1.138	74.5	1.8	203.2	28.9
3	78	10-3047	3.542	0.070	8.00	1.200	90.0	1.8	203.2	30.5
4	103	10-4047	4.542	0.070	8.00	1.300	115.4	1.8	203.2	33.0
5	129	10-5047	5.610	0.095	8.00	1.406	142.5	2.4	203.2	35.7
6	155	10-6047	6.669	0.110	8.00	1.513	169.4	2.8	203.2	38.4
8*	203	10-8047	8.667	0.115	8.00	1.713	220.1	2.9	203.2	43.5

* 8" is not a recognized trade size per electrical code (NEC/CEC), therefore cannot be UL listed and CSA certified.

IPS Standard Wall

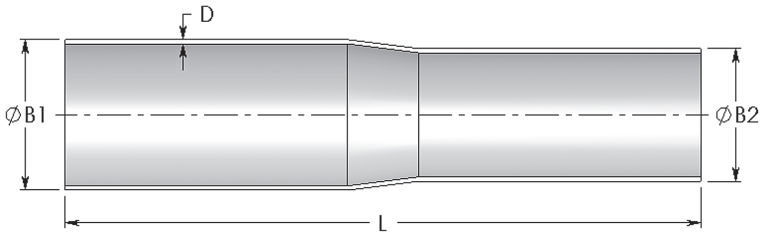
IPS SW Split Stop Ring



Size		Part Number	ØC	D	L	ØC	D	L
(in)	(mm)		(in)			(mm)		
¾	21	10-7564	1.086	0.185	2.0	27.6	4.7	50.8
1	27	10-1064	1.351	0.185	2.0	34.3	4.7	50.8
1¼	35	10-1264	1.698	0.185	2.0	43.1	4.7	50.8
1½	41	10-1564	1.938	0.185	2.0	49.2	4.7	50.8
2	53	10-2064	2.417	0.185	2.0	61.4	4.7	50.8
2½	63	10-2564	2.890	0.185	2.0	73.4	4.7	50.8
3	78	10-3064	3.542	0.185	2.0	90.0	4.7	50.8
4	103	10-4064	4.542	0.185	2.0	115.4	4.7	50.8
5	129	10-5064	5.610	0.185	2.0	142.5	4.7	50.8
6	155	10-6064	6.669	0.185	2.0	169.4	4.7	50.8
8*	203	10-8064	8.667	0.185	2.0	220.1	4.7	50.8

* 8" is not a recognized trade size per electrical code (NEC/CEC), therefore cannot be UL listed and CSA certified.

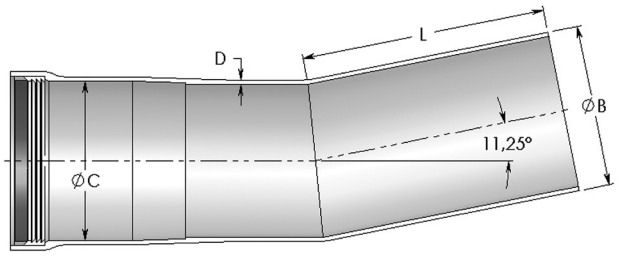
IPS SW Reducer



Size		Part Number	Ø B1	Ø B2	D	L	Ø B1	Ø B2	D	L
(in)	(mm)		(in)				(mm)			
1	27	10-1029	1.315	1.050	0.066	18	33.4	26.7	1.7	457.2
1¼	35	10-1229	1.660	1.315	0.066	18	42.2	33.4	1.7	457.2
1½	41	10-1529	1.900	1.660	0.066	18	48.3	42.2	1.7	457.2
2	53	10-2029	2.375	1.900	0.070	18	60.3	48.3	1.8	457.2
2½	63	10-2529	2.890	2.375	0.070	18	73.4	60.3	1.8	457.2
3	78	10-3029	3.500	2.890	0.070	18	88.9	73.4	1.8	457.2
4	103	10-4029	4.500	3.500	0.070	18	114.3	88.9	1.8	457.2
5	129	10-5029	5.563	4.500	0.095	18	141.3	114.3	2.4	457.2
6	155	10-6029	6.625	5.563	0.110	18	168.3	141.3	2.8	457.2

IPS Standard Wall

IPS SW 11.25° Fitting

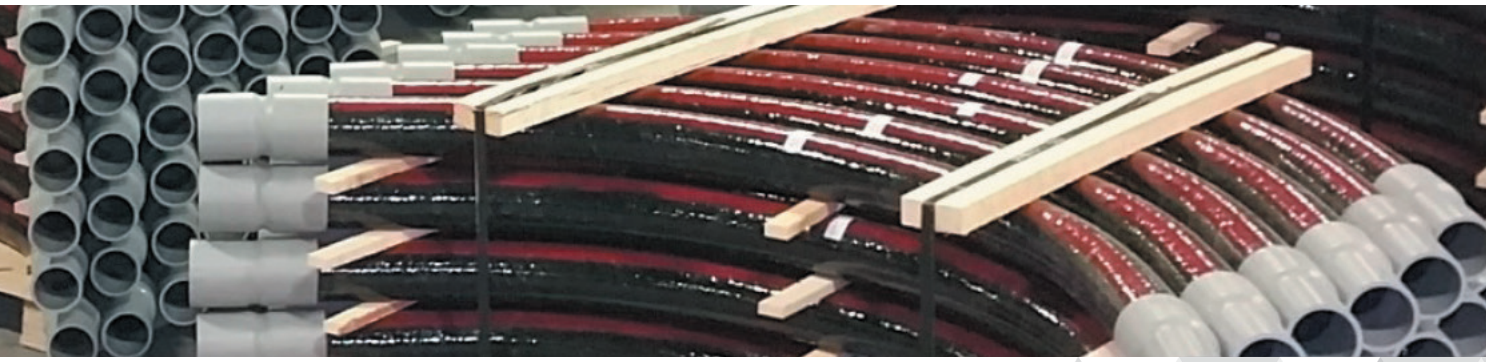


Size		Part Number	ØB	ØC	D	L	ØB	ØC	D	L
(in)	(mm)		(in)				(mm)			
¾	21	10-7535	1.050	1.086	0.066	7.0	26.7	27.6	1.7	177.8
1	27	10-1035	1.315	1.351	0.066	7.0	33.4	34.3	1.7	177.8
1¼	35	10-1235	1.660	1.698	0.066	7.0	42.2	43.1	1.7	177.8
1½	41	10-1535	1.900	1.938	0.066	7.0	48.3	49.2	1.7	177.8
2	53	10-2035	2.375	2.417	0.070	7.0	60.3	61.4	1.8	177.8
2½	63	10-2535	2.890	2.932	0.070	7.0	73.4	74.5	1.8	177.8
3	78	10-3035	3.500	3.542	0.070	7.0	88.9	90.0	1.8	177.8
4	103	10-4035	4.500	4.542	0.070	7.0	114.3	115.4	1.8	177.8
5	129	10-5035	5.563	5.610	0.095	7.0	141.3	142.5	2.4	177.8
6	155	10-6035	6.625	6.669	0.110	7.0	168.3	169.4	2.8	177.8
8*	203	10-8035	8.623	8.667	0.115	7.0	219.0	220.1	2.9	177.8

* 8″ is not a recognized trade size per electrical code (NEC/CEC), therefore cannot be UL listed and CSA certified.

Atkore™
FRE Composites

Fiberglass FRE® Elbows



Why Use Fiberglass FRE® Elbows?

No Burn-Through/Low Coefficient of Friction
Epoxy fiberglass elbows are low friction and eliminate burn-through on the bend. With our unique glass to resin ratio, our fiberglass has the lowest coefficient of friction of any material currently available on the market. This means that electrical cables are easier to pull through, resulting in labor saving, quicker installation and a reduced number of costly manholes.

Lightweight
Lighter than industry comparable solutions/materials.

Corrosion Resistant
Our 100% non-metallic epoxy fiberglass is not impacted by the effects of water, salt water or most other chemicals.

How To Select An Elbow Part

XX - XX XX R XX

- XX: 10 Above Ground or 30 Below Ground
- XX: Trade Size
- XX: Elbow Angle
- XX: Elbow Radius

Example

4" IPS (Iron Pipe Size)
Below Ground 90° X 36"
Radius With 2 PVC Deep Swedge Couplings

30 - 40 30 R 36 - PVC

- 30: IPS Below Ground
- 40: 4" Trade Size
- 30: 90°
- 36: 36" Radius
- PVC: PVC On Both Ends

RS = Red Stripe
S=Stub Out

Iron Pipe Size (IPS)	Use
SW Epoxy System	10
HW Epoxy System	12

Trade Size (in)	Use
¾	75
1	10
1¼	12
1½	15
2	20
2½	25
3	30
-	35
4	40
5	50
6	60
8	80

Elbow Angles	Use
11¼	35
22½	34
30	33
45	32
60	31
90	30
90	30

Elbow Radius (in)	Use
*12	12
**24	24
36	36
48	48
60	60
72	72
***72	72

End Type	Use
Deep socket PVC coupling on each end	PVC
1 PVC end, 1 factory plain endw	1PVC
1 PVC end and female threaded adapter on the other end	PF
1 PVC Cplg, 1 Stub Out	PS
1 PVC Cplg, 1 stub out Red Stripe	PSRS
2 PVC Cplgs Red Stripe	PVCRS

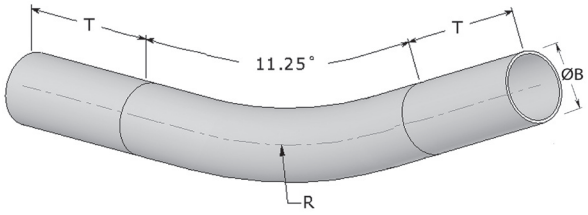
Custom degree, radii, and configurations are available.
Please call your local representative.

*Not applicable for trade sizes 3" and above
**Not applicable for trade sizes 5" and above
*** 72" is the tightest radius available
****20 or 40 series ID

For more info visit frecompositesinc.com

IPS Standard Wall

IPS SW 11.25° Elbow



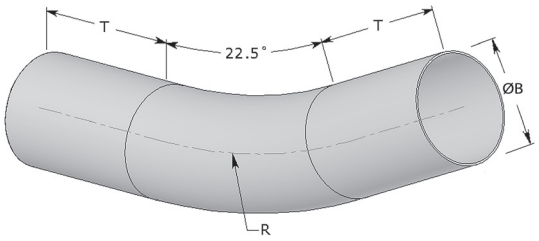
Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
12″ Radius								
¾	21	10-7535R12	1.050	12	6	26.7	304.8	152.4
1	27	10-1035R12	1.315	12	6	33.4	304.8	152.4
1¼	35	10-1235R12	1.660	12	6	42.2	304.8	152.4
1½	41	10-1535R12	1.900	12	6	48.3	304.8	152.4
2	53	10-2035R12	2.375	12	6	60.3	304.8	152.4
2½	63	10-2535R12	2.890	12	6	73.4	304.8	152.4
18″ Radius								
¾	21	10-7535R18	1.050	18	6	26.7	457.2	152.4
1	27	10-1035R18	1.315	18	6	33.4	457.2	152.4
1 ¼	35	10-1235R18	1.660	18	6	42.2	457.2	152.4
1 ½	41	10-1535R18	1.900	18	6	48.3	457.2	152.4
2	53	10-2035R18	2.375	18	6	60.3	457.2	152.4
2 ½	63	10-2535R18	2.890	18	6	73.4	457.2	152.4
3	63	10-3035R18	3.500	18	6	88.9	457.2	152.4
24″ Radius								
¾	21	10-7535R24	1.050	24	6	26.7	609.6	152.4
1	27	10-1035R24	1.315	24	6	33.4	609.6	152.4
1¼	35	10-1235R24	1.660	24	6	42.2	609.6	152.4
1½	41	10-1535R24	1.900	24	6	48.3	609.6	152.4
2	53	10-2035R24	2.375	24	6	60.3	609.6	152.4
2½	63	10-2535R24	2.890	24	6	73.4	609.6	152.4
3	78	10-3035R24	3.500	24	6	88.9	609.6	152.4
4	103	10-4035R24	4.500	24	6	114.3	609.6	152.4
36″ Radius								
¾	21	10-7535R36	1.050	36	6	26.7	914.4	152.4
1	27	10-1035R36	1.315	36	6	33.4	914.4	152.4
1¼	35	10-1235R36	1.660	36	6	42.2	914.4	152.4
1½	41	10-1535R36	1.900	36	6	48.3	914.4	152.4
2	53	10-2035R36	2.375	36	6	60.3	914.4	152.4
2½	63	10-2535R36	2.890	36	6	73.4	914.4	152.4
3	78	10-3035R36	3.500	36	6	88.9	914.4	152.4
4	103	10-4035R36	4.500	36	6	114.3	914.4	152.4
5	129	10-5035R36	5.563	36	6	141.3	914.4	152.4
6	155	10-6035R36	6.625	36	6	168.3	914.4	152.4

Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
48″ Radius								
¾	21	10-7535R48	1.050	48	6	26.7	1219.2	152.4
1	27	10-1035R48	1.315	48	6	33.4	1219.2	152.4
1¼	35	10-1235R48	1.660	48	6	42.2	1219.2	152.4
1½	41	10-1535R48	1.900	48	6	48.3	1219.2	152.4
2	53	10-2035R48	2.375	48	6	60.3	1219.2	152.4
2½	63	10-2535R48	2.890	48	6	73.4	1219.2	152.4
3	78	10-3035R48	3.500	48	6	88.9	1219.2	152.4
4	103	10-4035R48	4.500	48	6	114.3	1219.2	152.4
5	129	10-5035R48	5.563	48	6	141.3	1219.2	152.4
6	155	10-6035R48	6.625	48	6	168.3	1219.2	152.4
60″ Radius								
¾	21	10-7535R60	1.050	60	6	26.7	1524.0	152.4
1	27	10-1035R60	1.315	60	6	33.4	1524.0	152.4
1¼	35	10-1235R60	1.660	60	6	42.2	1524.0	152.4
1½	41	10-1535R60	1.900	60	6	48.3	1524.0	152.4
2	53	10-2035R60	2.375	60	6	60.3	1524.0	152.4
2½	63	10-2535R60	2.890	60	6	73.4	1524.0	152.4
3	78	10-3035R60	3.500	60	6	88.9	1524.0	152.4
4	103	10-4035R60	4.500	60	6	114.3	1524.0	152.4
5	129	10-5035R60	5.563	60	6	141.3	1524.0	152.4
6	155	10-6035R60	6.625	60	6	168.3	1524.0	152.4
72″ Radius								
¾	21	10-7535R72	1.050	72	6	26.7	1828.8	152.4
1	27	10-1035R72	1.315	72	6	33.4	1828.8	152.4
1¼	35	10-1235R72	1.660	72	6	42.2	1828.8	152.4
1½	41	10-1535R72	1.900	72	6	48.3	1828.8	152.4
2	53	10-2035R72	2.375	72	6	60.3	1828.8	152.4
2½	63	10-2535R72	2.890	72	6	73.4	1828.8	152.4
3	78	10-3035R72	3.500	72	6	88.9	1828.8	152.4
4	103	10-4035R72	4.500	72	6	114.3	1828.8	152.4
5	129	10-5035R72	5.563	72	6	141.3	1828.8	152.4
6	155	10-6035R72	6.625	72	6	168.3	1828.8	152.4
8*	203	10-8035R72	8.623	72	6	219.0	1828.8	152.4
84″ Radius								
8*	203	10-8035R84	8.623	84	6	219.0	2133.6	152.4
96″ Radius								
8*	203	10-8035R96	8.623	96	6	219.0	2438.4	152.4
108″ Radius								
8*	203	10-8035R108	8.623	108	6	219.0	2743.2	152.4

* 8″ is not a recognized trade size per electrical code (NEC/CEC), therefore cannot be UL listed and CSA certified.

IPS Standard Wall

IPS SW 22.5° Elbow



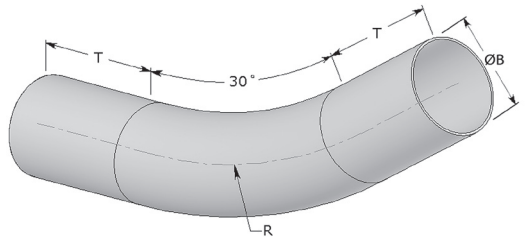
Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
12″ Radius								
¾	21	10-7534R12	1.050	12	6	26.7	304.8	152.4
1	27	10-1034R12	1.315	12	6	33.4	304.8	152.4
1¼	35	10-1234R12	1.660	12	6	42.2	304.8	152.4
1½	41	10-1534R12	1.900	12	6	48.3	304.8	152.4
2	53	10-2034R12	2.375	12	6	60.3	304.8	152.4
2½	63	10-2534R12	2.890	12	6	73.4	304.8	152.4
18″ Radius								
¾	21	10-7534R18	1.050	18	6	26.7	457.2	152.4
1	27	10-1034R18	1.315	18	6	33.4	457.2	152.4
1 ¼	35	10-1234R18	1.660	18	6	42.2	457.2	152.4
1 ½	41	10-1534R18	1.900	18	6	48.3	457.2	152.4
2	53	10-2034R18	2.375	18	6	60.3	457.2	152.4
2 ½	63	10-2534R18	2.890	18	6	73.4	457.2	152.4
3	63	10-3034R18	3.500	18	6	88.9	457.2	152.4
24″ Radius								
¾	21	10-7534R24	1.050	24	6	26.7	609.6	152.4
1	27	10-1034R24	1.315	24	6	33.4	609.6	152.4
1¼	35	10-1234R24	1.660	24	6	42.2	609.6	152.4
1½	41	10-1534R24	1.900	24	6	48.3	609.6	152.4
2	53	10-2034R24	2.375	24	6	60.3	609.6	152.4
2½	63	10-2534R24	2.890	24	6	73.4	609.6	152.4
3	78	10-3034R24	3.500	24	6	88.9	609.6	152.4
4	103	10-4034R24	4.500	24	6	114.3	609.6	152.4
36″ Radius								
¾	21	10-7534R36	1.050	36	6	26.7	914.4	152.4
1	27	10-1034R36	1.315	36	6	33.4	914.4	152.4
1¼	35	10-1234R36	1.660	36	6	42.2	914.4	152.4
1½	41	10-1534R36	1.900	36	6	48.3	914.4	152.4
2	53	10-2034R36	2.375	36	6	60.3	914.4	152.4
2½	63	10-2534R36	2.890	36	6	73.4	914.4	152.4
3	78	10-3034R36	3.500	36	6	88.9	914.4	152.4
4	103	10-4034R36	4.500	36	6	114.3	914.4	152.4
5	129	10-5034R36	5.563	36	6	141.3	914.4	152.4
6	155	10-6034R36	6.669	36	6	169.4	914.4	152.4

Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
48″ Radius								
¾	21	10-7534R48	1.050	48	6	26.7	1219.2	152.4
1	27	10-1034R48	1.315	48	6	33.4	1219.2	152.4
1¼	35	10-1234R48	1.660	48	6	42.2	1219.2	152.4
1½	41	10-1534R48	1.900	48	6	48.3	1219.2	152.4
2	53	10-2034R48	2.375	48	6	60.3	1219.2	152.4
2½	63	10-2534R48	2.890	48	6	73.4	1219.2	152.4
3	78	10-3034R48	3.500	48	6	88.9	1219.2	152.4
4	103	10-4034R48	4.500	48	6	114.3	1219.2	152.4
5	129	10-5034R48	5.563	48	6	141.3	1219.2	152.4
6	155	10-6034R48	6.625	48	6	168.3	1219.2	152.4
60″ Radius								
¾	21	10-7534R60	1.050	60	6	26.7	1524.0	152.4
1	27	10-1034R60	1.315	60	6	33.4	1524.0	152.4
1¼	35	10-1234R60	1.660	60	6	42.2	1524.0	152.4
1½	41	10-1534R60	1.900	60	6	48.3	1524.0	152.4
2	53	10-2034R60	2.375	60	6	60.3	1524.0	152.4
2½	63	10-2534R60	2.890	60	6	73.4	1524.0	152.4
3	78	10-3034R60	3.500	60	6	88.9	1524.0	152.4
4	103	10-4034R60	4.500	60	6	114.3	1524.0	152.4
5	129	10-5034R60	5.563	60	6	141.3	1524.0	152.4
6	155	10-6034R60	6.625	60	6	168.3	1524.0	152.4
72″ Radius								
¾	21	10-7534R72	1.050	72	6	26.7	1828.8	152.4
1	27	10-1034R72	1.315	72	6	33.4	1828.8	152.4
1¼	35	10-1234R72	1.660	72	6	42.2	1828.8	152.4
1½	41	10-1534R72	1.900	72	6	48.3	1828.8	152.4
2	53	10-2034R72	2.375	72	6	60.3	1828.8	152.4
2½	63	10-2534R72	2.890	72	6	73.4	1828.8	152.4
3	78	10-3034R72	3.500	72	6	88.9	1828.8	152.4
4	103	10-4034R72	4.500	72	6	114.3	1828.8	152.4
5	129	10-5034R72	5.563	72	6	141.3	1828.8	152.4
6	155	10-6034R72	6.625	72	6	168.3	1828.8	152.4
8	203	10-8034R72	8.623	72	6	219.0	1828.8	152.4
84″ Radius								
8*	203	10-8034R84	8.623	84	6	219.0	2133.6	152.4
96″ Radius								
8*	203	10-8034R96	8.623	96	6	219.0	2438.4	152.4
108″ Radius								
8*	203	10-8034R108	8.623	108	6	219.0	2743.2	152.4

* 8″ is not a recognized trade size per electrical code (NEC/CEC), therefore cannot be UL listed and CSA certified.

IPS Standard Wall

IPS SW 30° Elbow



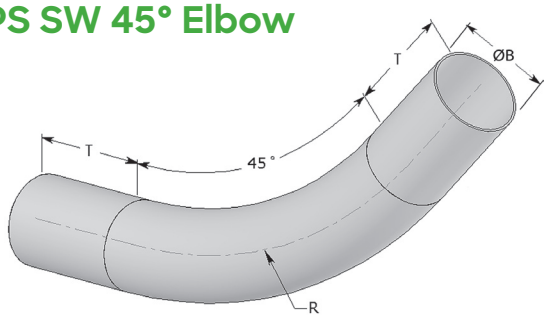
Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
12″ Radius								
¾	21	10-7533R12	1.050	12	6	26.7	304.8	152.4
1	27	10-1033R12	1.315	12	6	33.4	304.8	152.4
1¼	35	10-1233R12	1.660	12	6	42.2	304.8	152.4
1½	41	10-1533R12	1.900	12	6	48.3	304.8	152.4
2	53	10-2033R12	2.375	12	6	60.3	304.8	152.4
2½	63	10-2533R12	2.890	12	6	73.4	304.8	152.4
18″ Radius								
¾	21	10-7533R18	1.050	18	6	26.7	457.2	152.4
1	27	10-1033R18	1.315	18	6	33.4	457.2	152.4
1 ¼	35	10-1233R18	1.660	18	6	42.2	457.2	152.4
1 ½	41	10-1533R18	1.900	18	6	48.3	457.2	152.4
2	53	10-2033R18	2.375	18	6	60.3	457.2	152.4
2 ½	63	10-2533R18	2.890	18	6	73.4	457.2	152.4
3	63	10-3033R18	3.500	18	6	88.9	457.2	152.4
24″ Radius								
¾	21	10-7533R24	1.050	24	6	26.7	609.6	152.4
1	27	10-1033R24	1.315	24	6	33.4	609.6	152.4
1¼	35	10-1233R24	1.660	24	6	42.2	609.6	152.4
1½	41	10-1533R24	1.900	24	6	48.3	609.6	152.4
2½	63	10-2533R24	2.890	24	6	73.4	609.6	152.4
2	53	10-2033R24	2.375	24	6	60.3	609.6	152.4
3	78	10-3033R24	3.500	24	6	88.9	609.6	152.4
4	103	10-4033R24	4.500	24	6	114.3	609.6	152.4
36″ Radius								
¾	21	10-7533R36	1.050	36	6	26.7	914.4	152.4
1	27	10-1033R36	1.315	36	6	33.4	914.4	152.4
1¼	35	10-1233R36	1.660	36	6	42.2	914.4	152.4
1½	41	10-1533R36	1.900	36	6	48.3	914.4	152.4
2	53	10-2033R36	2.375	36	6	60.3	914.4	152.4
2½	63	10-2533R36	2.890	36	6	73.4	914.4	152.4
3	78	10-3033R36	3.500	36	6	88.9	914.4	152.4
4	103	10-4033R36	4.500	36	6	114.3	914.4	152.4
5	129	10-5033R36	5.563	36	6	141.3	914.4	152.4
6	155	10-6033R36	6.625	36	6	168.3	914.4	152.4

Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
48″ Radius								
¾	21	10-7533R48	1.050	48	6	26.7	1219.2	152.4
1	27	10-1033R48	1.315	48	6	33.4	1219.2	152.4
1¼	35	10-1233R48	1.660	48	6	42.2	1219.2	152.4
1½	41	10-1533R48	1.900	48	6	48.3	1219.2	152.4
2	53	10-2033R48	2.375	48	6	60.3	1219.2	152.4
2½	63	10-2533R48	2.890	48	6	73.4	1219.2	152.4
3	78	10-3033R48	3.500	48	6	88.9	1219.2	152.4
4	103	10-4033R48	4.500	48	6	114.3	1219.2	152.4
5	129	10-5033R48	5.563	48	6	141.3	1219.2	152.4
6	155	10-6033R48	6.625	48	6	168.3	1219.2	152.4
60″ Radius								
¾	21	10-7533R60	1.050	60	6	26.7	1524.0	152.4
1	27	10-1033R60	1.315	60	6	33.4	1524.0	152.4
1¼	35	10-1233R60	1.660	60	6	42.2	1524.0	152.4
1½	41	10-1533R60	1.900	60	6	48.3	1524.0	152.4
2	53	10-2033R60	2.375	60	6	60.3	1524.0	152.4
2½	63	10-2533R60	2.890	60	6	73.4	1524.0	152.4
3	78	10-3033R60	3.500	60	6	88.9	1524.0	152.4
4	103	10-4033R60	4.500	60	6	114.3	1524.0	152.4
5	129	10-5033R60	5.563	60	6	141.3	1524.0	152.4
6	155	10-6033R60	6.625	60	6	168.3	1524.0	152.4
72″ Radius								
¾	21	10-7533R72	1.050	72	6	26.7	1828.8	152.4
1	27	10-1033R72	1.315	72	6	33.4	1828.8	152.4
1¼	35	10-1233R72	1.660	72	6	42.2	1828.8	152.4
1½	41	10-1533R72	1.900	72	6	48.3	1828.8	152.4
2	53	10-2033R72	2.375	72	6	60.3	1828.8	152.4
2½	63	10-2533R72	2.890	72	6	73.4	1828.8	152.4
3	78	10-3033R72	3.500	72	6	88.9	1828.8	152.4
4	103	10-4033R72	4.500	72	6	114.3	1828.8	152.4
5	129	10-5033R72	5.563	72	6	141.3	1828.8	152.4
6	155	10-6033R72	6.625	72	6	168.3	1828.8	152.4
8	203	10-8033R72	8.623	72	6	219.0	1828.8	152.4
84″ Radius								
8*	203	10-8033R84	8.623	84	6	219.0	2133.6	152.4
96″ Radius								
8*	203	10-8033R96	8.623	96	6	219.0	2438.4	152.4
108″ Radius								
8*	203	10-8033R108	8.623	108	6	219.0	2743.2	152.4

* 8″ is not a recognized trade size per electrical code (NEC/CEC), therefore cannot be UL listed and CSA certified.

IPS Standard Wall

IPS SW 45° Elbow



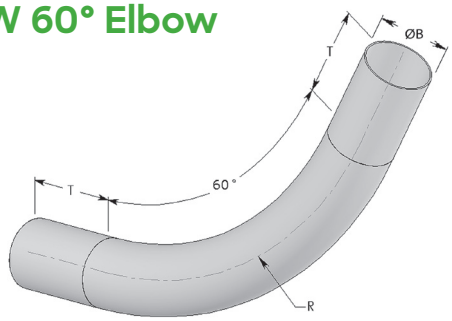
Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
12″ Radius								
¾	21	10-7532R12	1.050	12	6	26.7	304.8	152.4
1	27	10-1032R12	1.315	12	6	33.4	304.8	152.4
1¼	35	10-1232R12	1.660	12	6	42.2	304.8	152.4
1½	41	10-1532R12	1.900	12	6	48.3	304.8	152.4
2	53	10-2032R12	2.375	12	6	60.3	304.8	152.4
2½	63	10-2532R12	2.890	12	6	73.4	304.8	152.4
18″ Radius								
¾	21	10-7532R18	1.050	18	6	26.7	457.2	152.4
1	27	10-1032R18	1.315	18	6	33.4	457.2	152.4
1 ¼	35	10-1232R18	1.660	18	6	42.2	457.2	152.4
1 ½	41	10-1532R18	1.900	18	6	48.3	457.2	152.4
2	53	10-2032R18	2.375	18	6	60.3	457.2	152.4
2 ½	63	10-2532R18	2.890	18	6	73.4	457.2	152.4
3	63	10-3032R18	3.500	18	6	88.9	457.2	152.4
24″ Radius								
¾	21	10-7532R24	1.050	24	6	26.7	609.6	152.4
1	27	10-1032R24	1.315	24	6	33.4	609.6	152.4
1¼	35	10-1232R24	1.660	24	6	42.2	609.6	152.4
1½	41	10-1532R24	1.900	24	6	48.3	609.6	152.4
2	53	10-2032R24	2.375	24	6	60.3	609.6	152.4
2½	63	10-2532R24	2.890	24	6	73.4	609.6	152.4
3	78	10-3032R24	3.500	24	6	88.9	609.6	152.4
4	103	10-4032R24	4.500	24	6	114.3	609.6	152.4
36″ Radius								
¾	21	10-7532R36	1.050	36	6	26.7	914.4	152.4
1	27	10-1032R36	1.315	36	6	33.4	914.4	152.4
1¼	35	10-1232R36	1.660	36	6	42.2	914.4	152.4
1½	41	10-1532R36	1.900	36	6	48.3	914.4	152.4
2	53	10-2032R36	2.375	36	6	60.3	914.4	152.4
2½	63	10-2532R36	2.890	36	6	73.4	914.4	152.4
3	78	10-3032R36	3.500	36	6	88.9	914.4	152.4
4	103	10-4032R36	4.500	36	6	114.3	914.4	152.4
5	123	10-5032R36	5.563	36	6	141.3	914.4	152.4
6	155	10-6032R36	6.625	36	6	168.3	914.4	152.4

Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
48″ Radius								
¾	21	10-7532R48	1.050	48	6	26.7	1219.2	152.4
1	27	10-1032R48	1.315	48	6	33.4	1219.2	152.4
1¼	35	10-1232R48	1.660	48	6	42.2	1219.2	152.4
1½	41	10-1532R48	1.900	48	6	48.3	1219.2	152.4
2	53	10-2032R48	2.375	48	6	60.3	1219.2	152.4
2½	63	10-2532R48	2.890	48	6	73.4	1219.2	152.4
3	78	10-3032R48	3.500	48	6	88.9	1219.2	152.4
4	103	10-4032R48	4.500	48	6	114.3	1219.2	152.4
5	129	10-5032R48	5.563	48	6	141.3	1219.2	152.4
6	155	10-6032R48	6.625	48	6	168.3	1219.2	152.4
60″ Radius								
¾	21	10-7532R60	1.050	60	6	26.7	1524.0	152.4
1	27	10-1032R60	1.315	60	6	33.4	1524.0	152.4
1¼	35	10-1232R60	1.660	60	6	42.2	1524.0	152.4
1½	41	10-1532R60	1.900	60	6	48.3	1524.0	152.4
2	53	10-2032R60	2.375	60	6	60.3	1524.0	152.4
2½	63	10-2535R60	2.890	60	6	73.4	1524.0	152.4
3	78	10-3032R60	3.500	60	6	88.9	1524.0	152.4
4	103	10-4032R60	4.500	60	6	114.3	1524.0	152.4
5	129	10-5032R60	5.563	60	6	141.3	1524.0	152.4
6	155	10-6032R60	6.625	60	6	168.3	1524.0	152.4
72″ Radius								
¾	21	10-7532R72	1.050	72	6	26.7	1828.8	152.4
1	27	10-1032R72	1.315	72	6	33.4	1828.8	152.4
1¼	35	10-1232R72	1.660	72	6	42.2	1828.8	152.4
1½	41	10-1532R72	1.900	72	6	48.3	1828.8	152.4
2	53	10-2032R72	2.375	72	6	60.3	1828.8	152.4
2½	63	10-2532R72	2.890	72	6	73.4	1828.8	152.4
3	78	10-3032R72	3.500	72	6	88.9	1828.8	152.4
4	103	10-4032R72	4.500	72	6	114.3	1828.8	152.4
5	129	10-5032R72	5.563	72	6	141.3	1828.8	152.4
6	155	10-6032R72	6.625	72	6	168.3	1828.8	152.4
8*	203	10-8032R72	8.623	72	6	219.0	1828.8	152.4
84″ Radius								
8*	203	10-8032R84	8.623	84	6	219.0	2133.6	152.4
96″ Radius								
8*	203	10-8032R96	8.623	96	6	219.0	2438.4	152.4
108″ Radius								
8*	203	10-8032R108	8.623	108	6	219.0	2743.2	152.4

* 8″ is not a recognized trade size per electrical code (NEC/CEC), therefore cannot be UL listed and CSA certified.

IPS Standard Wall

IPS SW 60° Elbow



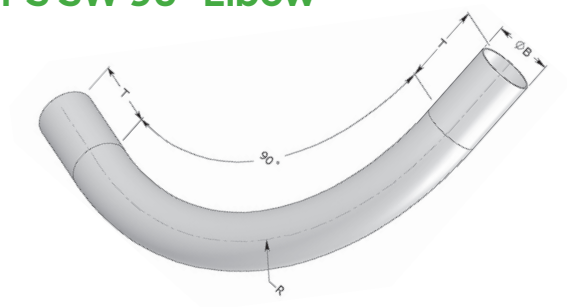
Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
12" Radius								
¾	21	10-7531R12	1.050	12	6	26.7	304.8	152.4
1	27	10-1031R12	1.315	12	6	33.4	304.8	152.4
1¼	35	10-1231R12	1.660	12	6	42.2	304.8	152.4
2	53	10-2031R12	2.375	12	6	60.3	304.8	152.4
1½	41	10-1531R12	1.900	12	6	48.3	304.8	152.4
2½	63	10-2531R12	2.890	12	6	73.4	304.8	152.4
18" Radius								
¾	21	10-7531R18	1.050	18	6	26.7	457.2	152.4
1	27	10-1031R18	1.315	18	6	33.4	457.2	152.4
1 ¼	35	10-1231R18	1.660	18	6	42.2	457.2	152.4
1 ½	41	10-1531R18	1.900	18	6	48.3	457.2	152.4
2	53	10-2031R18	2.375	18	6	60.3	457.2	152.4
2 ½	63	10-2531R18	2.890	18	6	73.4	457.2	152.4
3	63	10-3031R18	3.500	18	6	88.9	457.2	152.4
24" Radius								
¾	21	10-7531R24	1.050	24	6	26.7	609.6	152.4
1	27	10-1031R24	1.315	24	6	33.4	609.6	152.4
1¼	35	10-1231R24	1.660	24	6	42.2	609.6	152.4
1½	41	10-1531R24	1.900	24	6	48.3	609.6	152.4
2	53	10-2031R24	2.375	24	6	60.3	609.6	152.4
2½	63	10-2531R24	2.890	24	6	73.4	609.6	152.4
3	78	10-3031R24	3.500	24	6	88.9	609.6	152.4
4	103	10-4031R24	4.500	24	6	114.3	609.6	152.4
36" Radius								
¾	21	10-7531R36	1.050	36	6	26.7	914.4	152.4
1	27	10-1031R36	1.315	36	6	33.4	914.4	152.4
1¼	35	10-1231R36	1.660	36	6	42.2	914.4	152.4
1½	41	10-1531R36	1.900	36	6	48.3	914.4	152.4
2	53	10-2031R36	2.375	36	6	60.3	914.4	152.4
2½	63	10-2531R36	2.890	36	6	73.4	914.4	152.4
3	78	10-3031R36	3.500	36	6	88.9	914.4	152.4
4	103	10-4031R36	4.500	36	6	114.3	914.4	152.4
5	129	10-5031R36	5.563	36	6	141.3	914.4	152.4
6	155	10-6031R36	6.625	36	6	168.3	914.4	152.4

Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
48" Radius								
¾	21	10-7531R48	1.050	48	6	26.7	1219.2	152.4
1	27	10-1031R48	1.315	48	6	33.4	1219.2	152.4
1¼	35	10-1231R48	1.660	48	6	42.2	1219.2	152.4
1½	41	10-1531R48	1.900	48	6	48.3	1219.2	152.4
2	53	10-2031R48	2.375	48	6	60.3	1219.2	152.4
2½	63	10-2531R48	2.890	48	6	73.4	1219.2	152.4
3	78	10-3031R48	3.500	48	6	88.9	1219.2	152.4
4	103	10-4031R48	4.500	48	6	114.3	1219.2	152.4
5	129	10-5031R48	5.563	48	6	141.3	1219.2	152.4
6	155	10-6031R48	6.625	48	6	168.3	1219.2	152.4
60" Radius								
¾	21	10-7531R60	1.050	60	6	26.7	1524.0	152.4
1	27	10-1031R60	1.315	60	6	33.4	1524.0	152.4
1¼	35	10-1231R60	1.660	60	6	42.2	1524.0	152.4
1½	41	10-1531R60	1.900	60	6	48.3	1524.0	152.4
2	53	10-2031R60	2.375	60	6	60.3	1524.0	152.4
2½	63	10-2531R60	2.890	60	6	73.4	1524.0	152.4
3	78	10-3031R60	3.500	60	6	88.9	1524.0	152.4
4	103	10-4031R60	4.500	60	6	114.3	1524.0	152.4
5	129	10-5031R60	5.563	60	6	141.3	1524.0	152.4
6	155	10-6031R60	6.625	60	6	168.3	1524.0	152.4
72" Radius								
¾	21	10-7531R72	1.050	72	6	26.7	1828.8	152.4
1	27	10-1031R72	1.315	72	6	33.4	1828.8	152.4
1¼	35	10-1231R72	1.660	72	6	42.2	1828.8	152.4
1½	41	10-1531R72	1.900	72	6	48.3	1828.8	152.4
2	53	10-2031R72	2.375	72	6	60.3	1828.8	152.4
2½	63	10-2531R72	2.890	72	6	73.4	1828.8	152.4
3	78	10-3031R72	3.500	72	6	88.9	1828.8	152.4
4	103	10-4031R72	4.500	72	6	114.3	1828.8	152.4
5	129	10-5031R72	5.563	72	6	141.3	1828.8	152.4
6	155	10-6031R72	6.625	72	6	168.3	1828.8	152.4
8*	203	10-8031R72	8.623	72	6	219.0	1828.8	152.4
84" Radius								
8*	203	10-8031R84	8.623	84	6	219.0	2133.6	152.4
96" Radius								
8*	203	10-8031R96	8.623	96	6	219.0	2438.4	152.4
108" Radius								
8*	203	10-8031R108	8.623	108	6	219.0	2743.2	152.4

* 8" is not a recognized trade size per electrical code (NEC/CEC), therefore cannot be UL listed and CSA certified.

IPS Standard Wall

IPS SW 90° Elbow



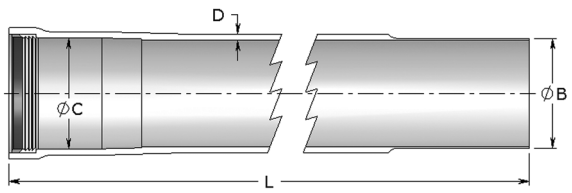
Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
12″ Radius								
¾	21	10-7530R12	1.050	12	6	26.7	304.8	152.4
1	27	10-1030R12	1.315	12	6	33.4	304.8	152.4
1¼	35	10-1230R12	1.660	12	6	42.2	304.8	152.4
1½	41	10-1530R12	1.900	12	6	48.3	304.8	152.4
2	53	10-2030R12	2.375	12	6	60.3	304.8	152.4
2½	63	10-2530R12	2.890	12	6	73.4	304.8	152.4
18″ Radius								
¾	21	10-7530R18	1.050	18	6	26.7	457.2	152.4
1	27	10-1030R18	1.315	18	6	33.4	457.2	152.4
1 ¼	35	10-1230R18	1.660	18	6	42.2	457.2	152.4
1 ½	41	10-1530R18	1.900	18	6	48.3	457.2	152.4
2	53	10-2030R18	2.375	18	6	60.3	457.2	152.4
2 ½	63	10-2530R18	2.890	18	6	73.4	457.2	152.4
3	63	10-3030R18	3.500	18	6	88.9	457.2	152.4
24″ Radius								
¾	21	10-7530R24	1.050	24	6	26.7	609.6	152.4
1	27	10-1030R24	1.315	24	6	33.4	609.6	152.4
1¼	35	10-1230R24	1.660	24	6	42.2	609.6	152.4
1½	41	10-1530R24	1.900	24	6	48.3	609.6	152.4
2	53	10-2030R24	2.375	24	6	60.3	609.6	152.4
2½	63	10-2530R24	2.890	24	6	73.4	609.6	152.4
3	78	10-3030R24	3.500	24	6	88.9	609.6	152.4
4	103	10-4030R24	4.500	24	6	114.3	609.6	152.4
36″ Radius								
¾	21	10-7530R36	1.050	36	6	26.7	914.4	152.4
1	27	10-1030R36	1.315	36	6	33.4	914.4	152.4
1¼	35	10-1230R36	1.660	36	6	42.2	914.4	152.4
1½	41	10-1530R36	1.900	36	6	48.3	914.4	152.4
2	53	10-2030R36	2.375	36	6	60.3	914.4	152.4
2½	63	10-2530R36	2.890	36	6	73.4	914.4	152.4
3	78	10-3030R36	3.500	36	6	88.9	914.4	152.4
4	103	10-4030R36	4.500	36	6	114.3	914.4	152.4
5	129	10-5030R36	5.563	36	6	141.3	914.4	152.4
6	155	10-6030R36	6.625	36	6	168.3	914.4	152.4

Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
48″ Radius								
¾	21	10-7530R48	1.050	48	6	26.7	1219.2	152.4
1	27	10-1030R48	1.315	48	6	33.4	1219.2	152.4
1¼	35	10-1230R48	1.660	48	6	42.2	1219.2	152.4
1½	41	10-1530R48	1.900	48	6	48.3	1219.2	152.4
2	53	10-2030R48	2.375	48	6	60.3	1219.2	152.4
2½	63	10-2530R48	2.890	48	6	73.4	1219.2	152.4
3	78	10-3030R48	3.500	48	6	88.9	1219.2	152.4
4	103	10-4030R48	4.500	48	6	114.3	1219.2	152.4
5	129	10-5030R48	5.563	48	6	141.3	1219.2	152.4
6	155	10-6030R48	6.625	48	6	168.3	1219.2	152.4
60″ Radius								
¾	21	10-7530R60	1.050	60	6	26.7	1524.0	152.4
1	27	10-1030R60	1.315	60	6	33.4	1524.0	152.4
1¼	35	10-1230R60	1.660	60	6	42.2	1524.0	152.4
1½	41	10-1530R60	1.900	60	6	48.3	1524.0	152.4
2	53	10-2030R60	2.375	60	6	60.3	1524.0	152.4
2½	63	10-2530R60	2.890	60	6	73.4	1524.0	152.4
3	78	10-3030R60	3.500	60	6	88.9	1524.0	152.4
4	103	10-4030R60	4.500	60	6	114.3	1524.0	152.4
5	129	10-5030R60	5.563	60	6	141.3	1524.0	152.4
6	155	10-6030R60	6.625	60	6	168.3	1524.0	152.4
72″ Radius								
2	53	10-2030R72	2.375	72	6	60.3	1828.8	152.4
2½	63	10-2530R72	2.890	72	6	73.4	1828.8	152.4
3	78	10-3030R72	3.500	72	6	88.9	1828.8	152.4
4	103	10-4030R72	4.500	72	6	114.3	1828.8	152.4
5	129	10-5030R72	5.563	72	6	141.3	1828.8	152.4
6	155	10-6030R72	6.625	72	6	168.3	1828.8	152.4
8*	203	10-8030R72	8.623	72	6	219.0	1828.8	152.4
84″ Radius								
8*	203	10-8030R84	8.623	84	6	219.0	2133.6	152.4
96″ Radius								
8*	203	10-8030R96	8.623	96	6	219.0	2438.4	152.4
108″ Radius								
8*	203	10-8030R108	8.623	108	6	219.0	2743.2	152.4

* 8″ is not a recognized trade size per electrical code (NEC/CEC), therefore cannot be UL listed and CSA certified.

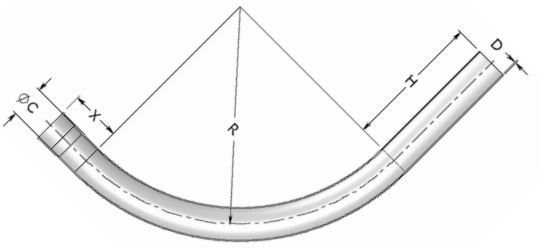
IPS Standard Wall

IPS SW Riserway



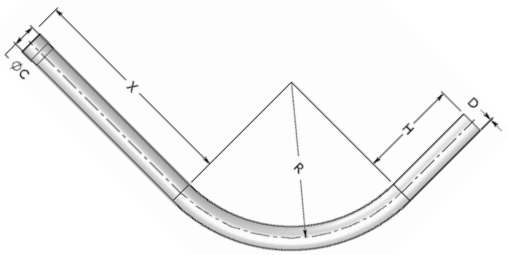
Size		Part Number	ØB	ØC	D	L	ØB	ØC	D	L
(in)	(mm)		(in)				(mm)			
2	53	10-2440	2.375	2.417	0.235	118	60.3	61.4	6.0	2,997.2
3	78	10-3440	3.500	3.542	0.235	118	88.9	90.0	6.0	2,997.2
4	103	10-4440	4.500	4.542	0.235	118	114.3	115.4	6.0	2,997.2
6	155	10-6440	6.500	6.669	0.235	118	169.4	166.2	6.0	2,997.2

IPS SW Poleriser



Size		Part Number	ØC	D	R	H	X	ØC	D	R	H	X
(in)	(mm)		(in)					(mm)				
2	53	10-2038	2.417	0.130	30	19	8	61.4	3.3	762.0	482.6	203.2
3	78	10-3038	3.542	0.130	30	19	8	90.0	3.3	762.0	482.6	203.2
4	103	10-4038	4.542	0.130	30	19	8	115.4	3.3	762.0	482.6	203.2

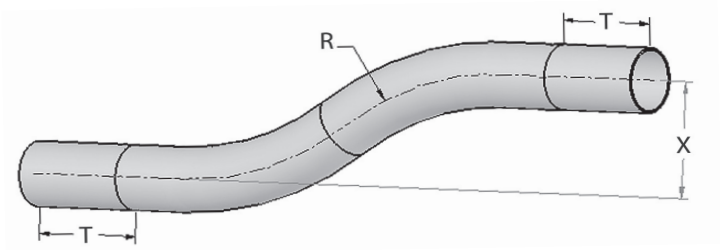
IPS SW Extended Poleriser



Size		Part Number	ØC	D	R	H	X	ØC	D	R	H	X
(in)	(mm)		(in)					(mm)				
2	53	10-2039	2.417	0.130	30	19	42	61.4	3.3	762.0	482.6	1066.8
3	78	10-3039	3.542	0.130	30	19	42	90.0	3.3	762.0	482.6	1066.8
4	103	10-4039	4.542	0.130	30	19	42	115.4	3.3	762.0	482.6	1066.8

IPS Standard Wall

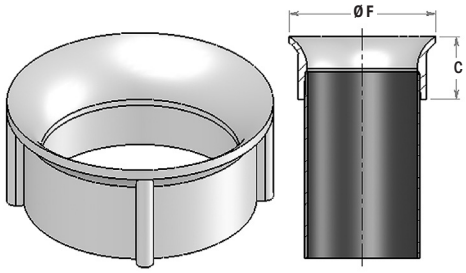
IPS SW Offset Elbow



Size		Part Number
(in)	(mm)	
ALL	ALL	Special

Please contact our local agent for quotes and feasibility.

IPS SW Radius Bell End



Size		Part Number	C	Ø F	C	Ø F
(in)	(mm)		(in)		(mm)	
¾	21	10-7518	1.7	1.918	43.2	48.72
1	27	10-1018	1.7	2.183	43.2	55.45
1¼	35	10-1218	1.7	2.528	43.2	64.21
1½	41	10-1518	1.7	2.768	43.2	70.31
2	53	10-2018	1.7	3.235	43.2	82.17
2½	63	10-2518	1.7	3.750	43.2	95.25
3	78	10-3018	1.7	4.360	43.2	110.74
4	103	10-4018	2.162	5.360	54.9	136.14
5	129	10-5018	2.162	6.373	54.9	161.87
6	155	10-6018	2.416	7.405	61.4	188.09
8	203	10-8018	2.416	9.393	61.4	238.58

Note: * 8" is not a recognized trade size per electrical code (NEC/CEC), therefore cannot be UL listed and CSA certified.

IPS Standard Wall

IPS SW Conduit Bodies

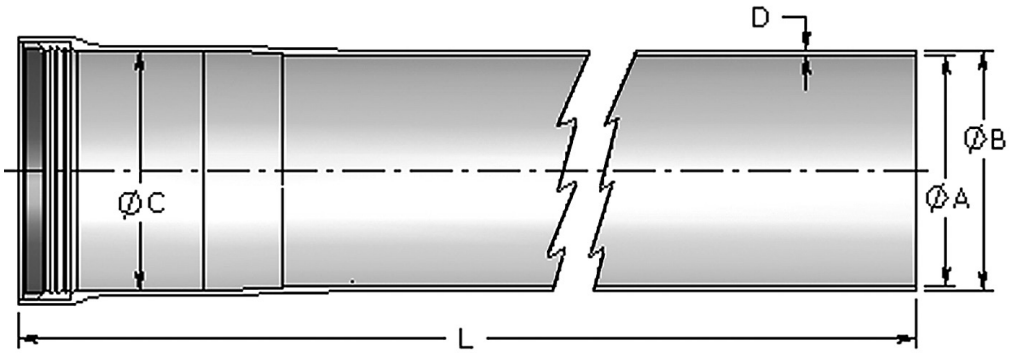
Size		Part Number			Length	Width	Depth	Length	Width	Depth
(in)	(mm)				(in)			(mm)		
¾	21	LB	10-7591		7.60	2.75	3.88	193	70	98
1	27		10-1091		7.60	2.75	3.88	193	70	98
1¼	35		10-1291		9.55	3.84	4.63	242	98	117
1½	41		10-1591		9.55	3.84	4.63	242	98	117
2	53		10-2091		11.63	4.38	5.47	295	111	139
¾	21	LL	10-7592		7.60	4.19	2.38	193	106	60
1	27		10-1092		7.60	4.19	2.38	193	106	60
1¼	35		10-1292		9.55	5.31	3.13	242	135	79
1½	41		10-1592		9.55	5.31	3.13	242	135	79
2	53		10-2092		11.63	6.09	3.59	295	155	91
¾	21	LR	10-7593		7.60	4.19	2.38	193	106	60
1	27		10-1093		7.60	4.19	2.38	193	106	60
1¼	35		10-1293		9.55	5.31	3.13	242	135	79
1½	41		10-1593		9.55	5.31	3.13	242	135	79
2	53		10-2093		11.63	6.09	3.59	295	155	91
¾	21	T	10-7594		9.00	4.19	2.38	193	106	60
1	27		10-1094		9.00	4.19	2.38	193	106	60
1¼	35		10-1294		11.00	5.31	3.13	242	135	79
1½	41		10-1594		11.00	5.31	3.13	242	135	79
2	53		10-2094		13.40	6.09	3.59	295	155	91
¾	21	C	10-7595		9.00	2.75	2.38	229	70	60
1	27		10-1095		9.00	2.75	2.38	229	70	60
1¼	35		10-1295		11.00	3.84	3.13	279	98	79
1½	41		10-1595		11.00	3.84	3.13	279	98	79
2	53		10-2095		13.40	4.38	3.59	340	111	91
¾	21	TB	10-7596		9.00	2.75	3.88	229	70	98
1	27		10-1096		9.00	2.75	3.88	229	70	98
1¼	35		10-1296		11.00	3.84	4.63	279	98	117
1½	41		10-1596		11.00	3.84	4.63	279	98	117
2	53		10-2096		13.40	4.38	5.47	340	111	139
¾	21	X	10-7597		9.00	5.63	2.38	229	143	60
1	27		10-1097		9.00	5.63	2.38	229	143	60
1¼	35		10-1297		11.00	3.13	6.78	279	79	172
1½	41		10-1597		11.00	3.13	6.78	279	79	172
2	53		10-2097		13.40	7.81	3.59	340	198	91

Consult factory for availability

IPS Heavy Wall

IPS Heavy Wall (HW) Conduit

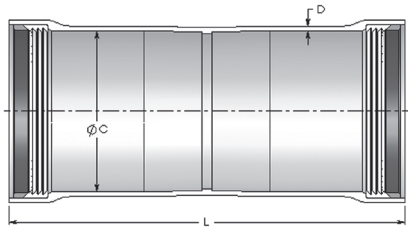
- Enhanced Mechanical Protection
- Standard length is 19.68 ft. (6m) but can also be available in 9.84 ft. section (3m), upon special request.



Size		Part Number	ØA	ØB	ØC	D	L	ØA	ØB	ØC	D	L
(in)	(mm)		(in)					(mm)				(m)
4	103	12-4000	4.360	4.550	4.590	0.095	236.25	110.7	115.6	116.6	2.4	6
5	129	12-5000	5.373	5.603	5.643	0.115	236.25	136.5	142.3	143.3	2.9	6
6	155	12-6000	6.405	6.635	6.675	0.115	236.25	162.7	168.5	169.5	2.9	6

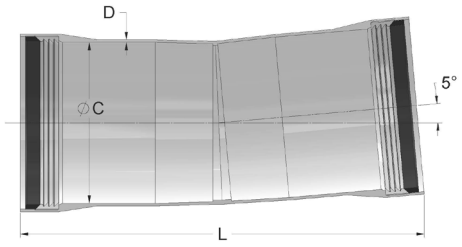
IPS Heavy Wall

IPS HW Double Bell Coupling



Size		Part Number	ØC	D	L	ØC	D	L
(in)	(mm)		(in)			(mm)		
4	103	12-4010	4.590	0.095	10.250	116.6	2.4	260.4
5	129	12-5010	5.643	0.115	10.250	143.3	2.9	260.4
6	155	12-6010	6.675	0.115	10.250	169.5	2.9	260.4

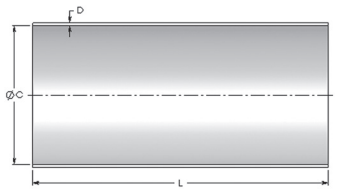
IPS HW 5° Double Bell Coupling



Size		Part Number	ØC	D	L	ØC	D	L
(in)	(mm)		(in)			(mm)		
4	103	12-4011	4.590	0.095	10.5	116.6	2.4	266.7
5	129	12-5011	5.643	0.115	10.6	143.3	2.9	269.2
6	155	12-6011	6.675	0.115	10.7	169.5	2.9	271.8

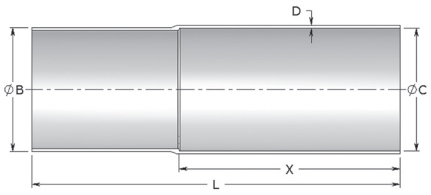
IPS Heavy Wall

IPS HW Sleeve (Repair)



Size		Part Number	ØC	D	L	ØC	D	L
(in)	(mm)		(in)			(mm)		
4	103	12-4016	4.590	0.095	12	116.6	2.4	304.8
5	129	12-5016	5.643	0.115	12	143.3	2.9	304.8
6	155	12-6016	6.675	0.115	12	169.5	2.9	304.8

IPS HW Single Expansion Joint

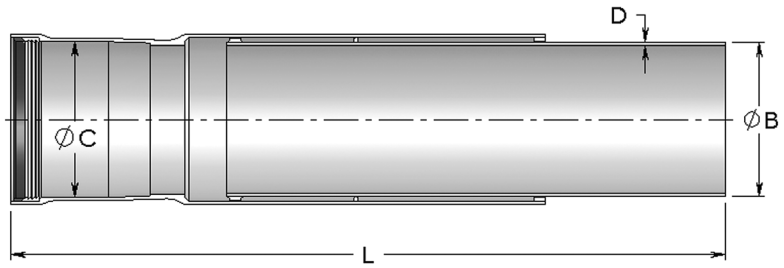


Size		Part Number	ØB	ØC	D	L	X	ØB	ØC	D	L	X
(in)	(mm)		(in)					(mm)				
4	103	12-4012	4.550	4.590	0.095	20	12	115.6	116.6	2.4	508.0	304.8
5	129	12-5012	5.603	5.643	0.115	20	12	142.3	143.3	2.9	508.0	304.8
6	155	12-6012	6.635	6.675	0.115	20	12	168.5	169.5	2.9	508.0	304.8

Note: Fitting is non-watertight

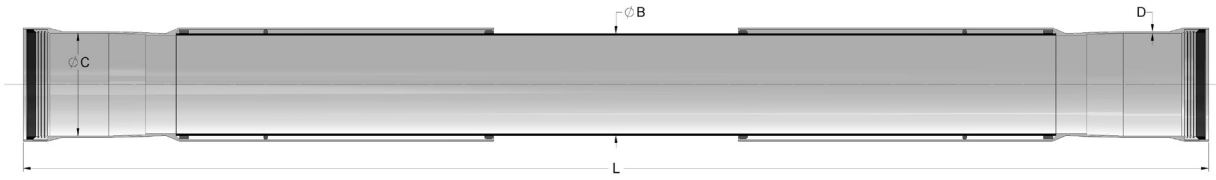
IPS Heavy Wall

IPS HW O-Ring Expansion Joint



Size		Part Number	ØB	ØC	D	L (min)	L (max)	ØB	ØC	D	L (min)	L (max)
(in)	(mm)		(in)					(mm)				
4	103	12-4017	4.550	4.590	0.095	24	36	115.6	116.6	2.4	609.6	914.4
5	129	12-5017	5.603	5.643	0.115	24	36	142.3	143.3	2.9	609.6	914.4
6	155	12-6017	6.635	6.675	0.115	24	36	168.5	169.5	2.9	609.6	914.4

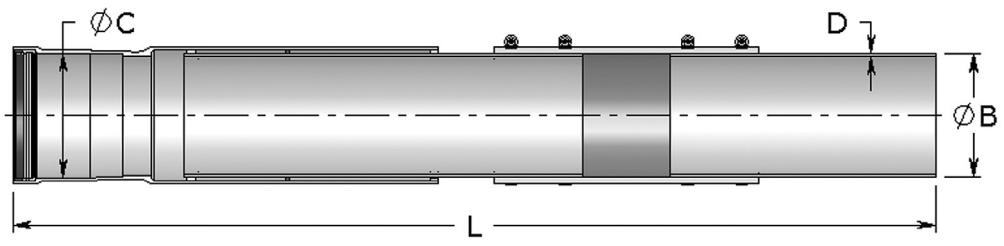
IPS HW Double O-Ring Expansion Joint



Size		Part Number	ØB	ØC	D	L (min)	L (max)	ØB	ØC	D	L (min)	L (max)
(in)	(mm)		(in)					(mm)				
4	103	12-4067	4.550	4.590	0.095	48	72	115.6	116.6	2.4	1,219.2	1,828.8
5	129	12-5067	5.603	5.643	0.115	48	72	142.3	143.3	2.9	1,219.2	1,828.8
6	155	12-6067	6.635	6.675	0.115	48	72	168.5	169.5	2.9	1,219.2	1,828.8

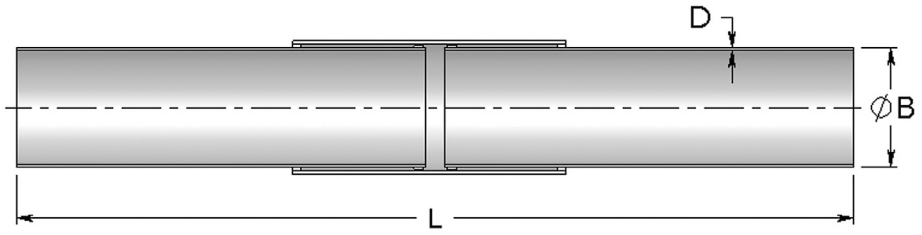
IPS Heavy Wall

IPS HW O-Ring Expansion / Deflection Joint



Size		Part Number	ØB	ØC	D	L (min)	L (max)	ØB	ØC	D	L (min)	L (max)
(in)	(mm)		(in)					(mm)				
4	103	12-4057	4.550	4.590	0.095	40	52	115.6	116.6	2.4	1,016.0	1,320.8
5	129	12-5057	5.603	5.643	0.115	40	52	142.3	143.3	2.9	1,016.0	1,320.8
6	155	12-6057	6.635	6.675	0.115	40	52	168.5	169.5	2.9	1,016.0	1,320.8

IPS HW Wobble (for up to 3° Curvature)

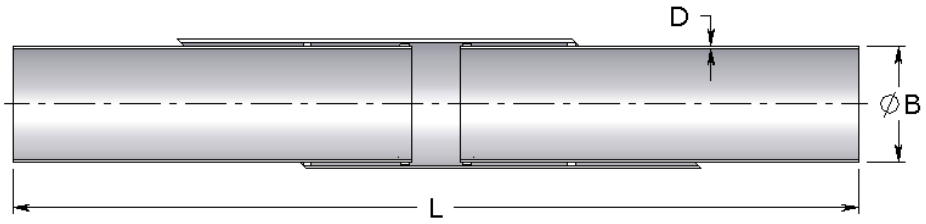


Size		Part Number	ØB	D	L (min)	L (max)	ØB	D	L (min)	L (max)
(in)	(mm)		(in)				(mm)			
4	103	12-4013	4.550	0.095	36	46	115.6	2.4	914.4	1,168.4
5	129	12-5013	5.603	0.115	36	46	142.3	2.9	914.4	1,168.4
6	155	12-6013	6.635	0.115	36	46	168.5	2.9	914.4	1,168.4

Note: Fitting is non-watertight

IPS Heavy Wall

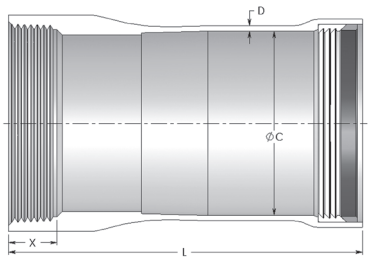
IPS HW Skew Wobble (for up to 7.5° Curvature)



Size		Part Number	ØB	D	L (min)	L (max)	ØB	D	L (min)	L (max)
(in)	(mm)		(in)				(mm)			
4	103	12-4014	4.550	0.095	48	56	115.6	2.4	1219.2	1,422.4
5	129	12-5014	5.603	0.115	48	56	142.3	2.9	1219.2	1,422.4
6	155	12-6014	6.635	0.115	48	56	168.5	2.9	1219.2	1,422.4

Note: Fitting is non-watertight

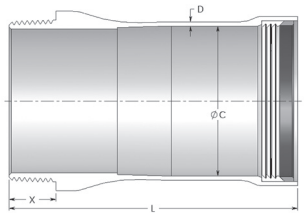
IPS HW NPT Female Threaded Adapter



Size		Part Number	ØC	D	L	X	ØC	D	L	X
(in)	(mm)		(in)				(mm)			
4	103	12-4044	4.590	0.095	8	1.094	116.6	2.4	203.2	27.8
5	129	12-5044	5.643	0.115	8	1.187	143.3	2.9	203.2	30.1
6	155	12-6044	6.675	0.115	8	1.208	169.5	2.9	203.2	30.7

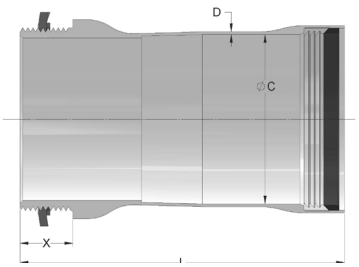
IPS Heavy Wall

IPS HW NPT Male Threaded Adapter



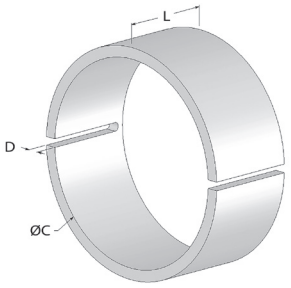
Size		Part Number	ØC	D	L	X	ØC	D	L	X
(in)	(mm)		(in)				(mm)			
4	103	12-4027	4.590	0.095	8	1.300	116.6	2.4	203.2	33.0
5	129	12-5027	5.643	0.115	8	1.406	143.3	2.9	203.2	35.7
6	155	12-6027	6.675	0.115	8	1.513	169.5	2.9	203.2	38.4

IPS HW Box Connector



Size		Part Number	ØC	D	L	X	ØC	D	L	X
(in)	(mm)		(in)				(mm)			
4	103	12-4047	4.590	0.095	8	1.300	116.6	2.4	203.2	33.0
5	129	12-5047	5.643	0.115	8	1.406	143.3	2.9	203.2	35.7
6	155	12-6047	6.675	0.115	8	1.513	169.5	2.9	203.2	38.4

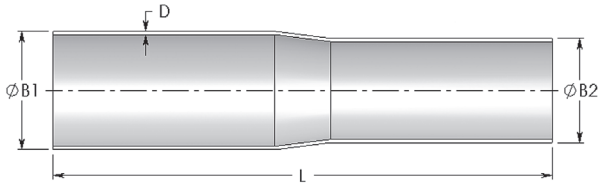
IPS HW Split Stop Ring



Size		Part Number	ØC	D	L	ØC	D	L
(in)	(mm)		(in)			(mm)		
4	103	12-4064	4.590	0.185	2	116.6	4.7	50.8
5	129	12-5064	5.643	0.185	2	143.3	4.7	50.8
6	155	12-6064	6.675	0.185	2	169.5	4.7	50.8

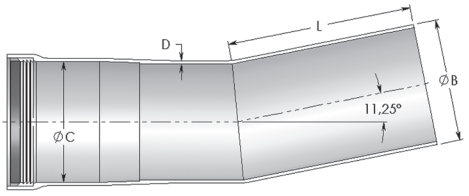
IPS Heavy Wall

IPS HW Reducer



Size		Part Number	ØB1	ØB2	D	L	ØB1	ØB2	D	L
(in)	(mm)		(in)				(mm)			
4	103	12-4029	4.550	3.550	0.095	18	115.6	90.2	2.4	457.2
5	129	12-5029	5.603	4.550	0.115	18	142.3	115.6	2.9	457.2
6	155	12-6029	6.635	5.603	0.115	18	168.5	142.3	2.9	457.2

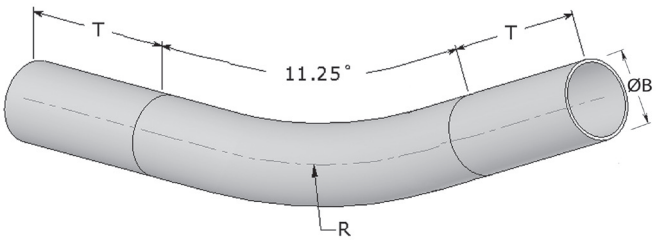
IPS HW 11.25° Fitting



Size		Part Number	ØB	ØC	D	L	ØB	ØC	D	L
(in)	(mm)		(in)				(mm)			
4	103	12-4035	4.550	4.590	0.095	7	115.6	116.6	2.4	177.8
5	129	12-5035	5.603	5.643	0.115	7	142.3	143.3	2.9	177.8
6	155	12-6035	6.635	6.675	0.115	7	168.5	169.5	2.9	177.8

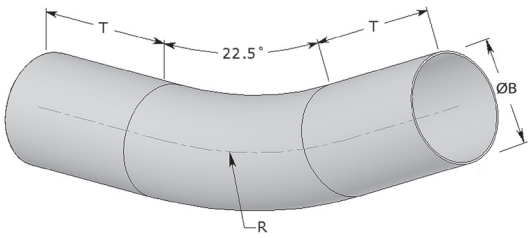
IPS Heavy Wall

IPS HW 11.25° Elbow



Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
24″ Radius								
4	103	12-4035R24	4.550	24	6	115.6	609.6	152.4
36″ Radius								
4	103	12-4035R36	4.550	36	6	115.6	914.4	152.4
5	129	12-5035R36	5.603	36	6	142.3	914.4	152.4
6	155	12-6035R36	6.635	36	6	168.5	914.4	152.4
48″ Radius								
4	103	12-4035R48	4.550	48	6	115.6	1219.2	152.4
5	129	12-5035R48	5.603	48	6	142.3	1219.2	152.4
6	155	12-6035R48	6.635	48	6	168.5	1219.2	152.4
60″ Radius								
4	103	12-4035R60	4.550	60	6	115.6	1524.0	152.4
5	129	12-5035R60	5.603	60	6	142.3	1524.0	152.4
6	155	12-6035R60	6.635	60	6	168.5	1524.0	152.4
72″ Radius								
4	103	12-4035R72	4.550	72	6	115.6	1828.8	152.4
5	129	12-5035R72	5.603	72	6	142.3	1828.8	152.4
6	155	12-6035R72	6.635	72	6	168.5	1828.8	152.4

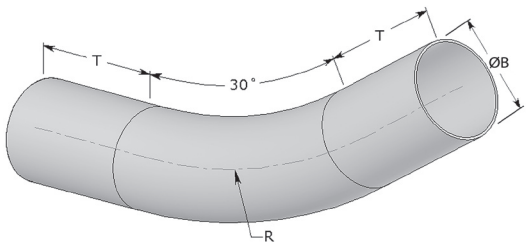
IPS HW 22.5° Elbow



Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
24″ Radius								
4	103	12-4034R24	4.550	24	6	115.6	609.6	152.4
36″ Radius								
4	103	12-4034R36	4.550	36	6	115.6	914.4	152.4
5	129	12-5034R36	5.603	36	6	142.3	914.4	152.4
6	155	12-6034R36	6.635	36	6	168.5	914.4	152.4
48″ Radius								
4	103	12-4034R48	4.550	48	6	115.6	1219.2	152.4
5	129	12-5034R48	5.603	48	6	142.3	1219.2	152.4
6	155	12-6034R48	6.635	48	6	168.5	1219.2	152.4
60″ Radius								
4	103	12-4034R60	4.550	60	6	115.6	1524.0	152.4
5	129	12-5034R60	5.603	60	6	142.3	1524.0	152.4
6	155	12-6034R60	6.635	60	6	168.5	1524.0	152.4
72″ Radius								
4	103	12-4034R72	4.550	72	6	115.6	1828.8	152.4
5	129	12-5034R72	5.603	72	6	142.3	1828.8	152.4
6	155	12-6034R72	6.635	72	6	168.5	1828.8	152.4

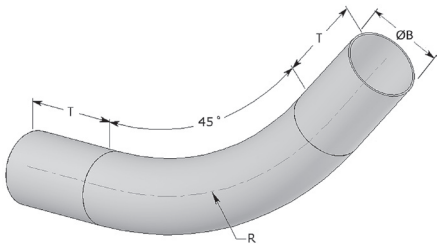
IPS Heavy Wall

IPS HW 30° Elbow



Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
24″ Radius								
4	103	12-4033R24	4.550	24	6	115.6	609.6	152.4
36″ Radius								
4	103	12-4033R36	4.550	36	6	115.6	914.4	152.4
5	129	12-5033R36	5.603	36	6	142.3	914.4	152.4
6	155	12-6033R36	6.635	36	6	168.5	914.4	152.4
48″ Radius								
4	103	12-4033R48	4.550	48	6	115.6	1219.2	152.4
5	129	12-5033R48	5.603	48	6	142.3	1219.2	152.4
6	155	12-6033R48	6.635	48	6	168.5	1219.2	152.4
60″ Radius								
4	103	12-4033R60	4.550	60	6	115.6	1524.0	152.4
5	129	12-5033R60	5.603	60	6	142.3	1524.0	152.4
6	155	12-6033R60	6.635	60	6	168.5	1524.0	152.4
72″ Radius								
4	103	12-4033R72	4.550	72	6	115.6	1828.8	152.4
5	129	12-5033R72	5.603	72	6	142.3	1828.8	152.4
6	155	12-6033R72	6.635	72	6	168.5	1828.8	152.4

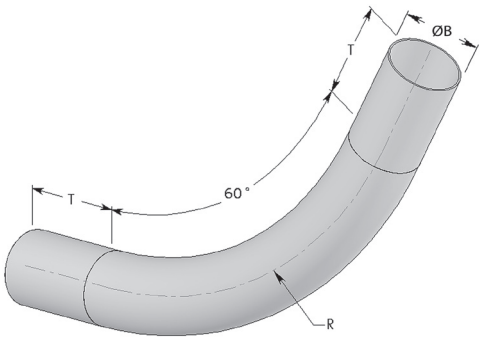
IPS HW 45° Elbow



Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
24″ Radius								
4	103	12-4032R24	4.550	24	6	115.6	609.6	152.4
36″ Radius								
4	103	12-4032R36	4.550	36	6	115.6	914.4	152.4
5	129	12-5032R36	5.603	36	6	142.3	914.4	152.4
6	155	12-6032R36	6.635	36	6	168.5	914.4	152.4
48″ Radius								
4	103	12-4032R48	4.550	48	6	115.6	1219.2	152.4
5	129	12-5032R48	5.603	48	6	142.3	1219.2	152.4
6	155	12-6032R48	6.635	48	6	168.5	1219.2	152.4
60″ Radius								
4	103	12-4032R60	4.550	60	6	115.6	1524.0	152.4
5	129	12-5032R60	5.603	60	6	142.3	1524.0	152.4
6	155	12-6032R60	6.635	60	6	168.5	1524.0	152.4
72″ Radius								
4	103	12-4032R72	4.550	72	6	115.6	1828.8	152.4
5	129	12-5032R72	5.603	72	6	142.3	1828.8	152.4
6	155	12-6032R72	6.635	72	6	168.5	1828.8	152.4

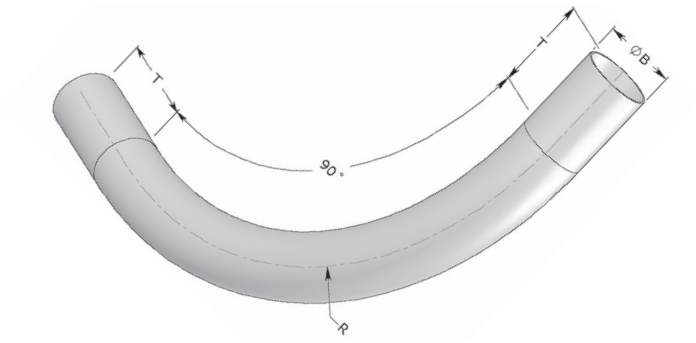
IPS Heavy Wall

IPS HW 60° Elbow



Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
24″ Radius								
4	103	12-4031R24	4.550	24	6	115.6	609.6	152.4
36″ Radius								
4	103	12-4031R36	4.550	36	6	115.6	914.4	152.4
5	129	12-5031R36	5.603	36	6	142.3	914.4	152.4
6	155	12-6031R36	6.635	36	6	168.5	914.4	152.4
48″ Radius								
4	103	12-4031R48	4.550	48	6	115.6	1219.2	152.4
5	129	12-5031R48	5.603	48	6	142.3	1219.2	152.4
6	155	12-6031R48	6.635	48	6	168.5	1219.2	152.4
60″ Radius								
4	103	12-4031R60	4.550	60	6	115.6	1524.0	152.4
5	129	12-5031R60	5.603	60	6	142.3	1524.0	152.4
6	155	12-6031R60	6.635	60	6	168.5	1524.0	152.4
72″ Radius								
4	103	12-4031R72	4.550	72	6	115.6	1828.8	152.4
5	129	12-5031R72	5.603	72	6	142.3	1828.8	152.4
6	155	12-6031R72	6.635	72	6	168.5	1828.8	152.4

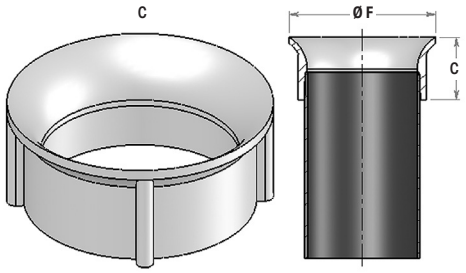
IPS HW 90° Elbow



Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
24″ Radius								
4	103	12-4030R24	4.550	24	6	115.6	609.6	152.4
36″ Radius								
4	103	12-4030R36	4.550	36	6	115.6	914.4	152.4
5	129	12-5030R36	5.603	36	6	142.3	914.4	152.4
6	155	12-6030R36	6.635	36	6	168.5	914.4	152.4
48″ Radius								
4	103	12-4030R48	4.550	48	6	115.6	1219.2	152.4
5	129	12-5030R48	5.603	48	6	142.3	1219.2	152.4
6	155	12-6030R48	6.635	48	6	168.5	1219.2	152.4
60″ Radius								
4	103	12-4030R60	4.550	60	6	115.6	1524.0	152.4
5	129	12-5030R60	5.603	60	6	142.3	1524.0	152.4
6	155	12-6030R60	6.635	60	6	168.5	1524.0	152.4
72″ Radius								
4	103	12-4030R72	4.550	72	6	115.6	1828.8	152.4
5	129	12-5030R72	5.603	72	6	142.3	1828.8	152.4
6	155	12-6030R72	6.635	72	6	168.5	1828.8	152.4

IPS Heavy Wall

IPS HW Radius Bell End

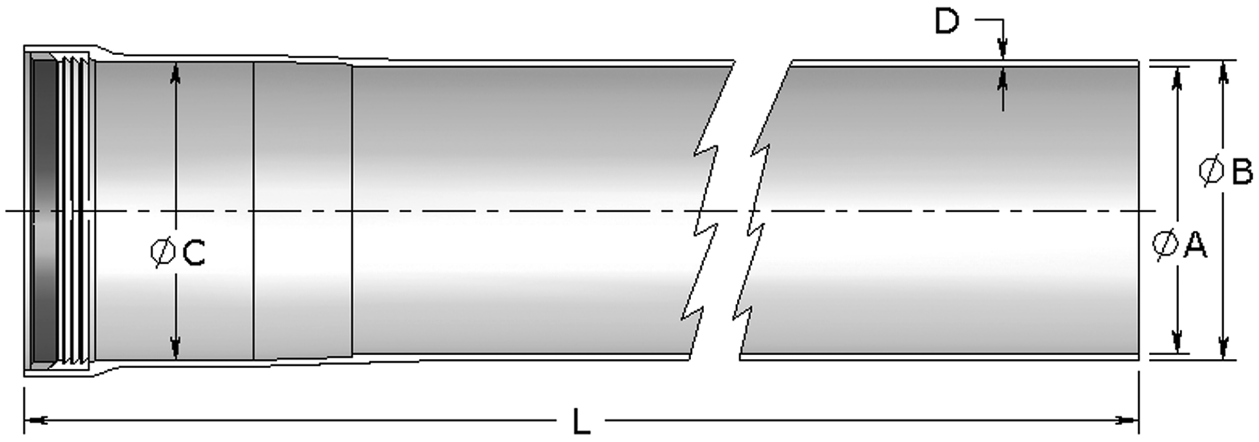


Size		Part Number	C	Ø F	C	Ø F
(in)	(mm)		(in)		(mm)	
4	103	12-4018	2.2	5.4	55.9	137.2
5	129	12-5018	2.2	6.4	55.9	162.6
6	155	12-6018	2.4	7.4	61.0	188.0

ID Thin Wall

ID Thin Wall (TW) Conduit

- Standard length is 19.68 ft. (6m), but can also be available in 9.84 ft. section (3m), if required.



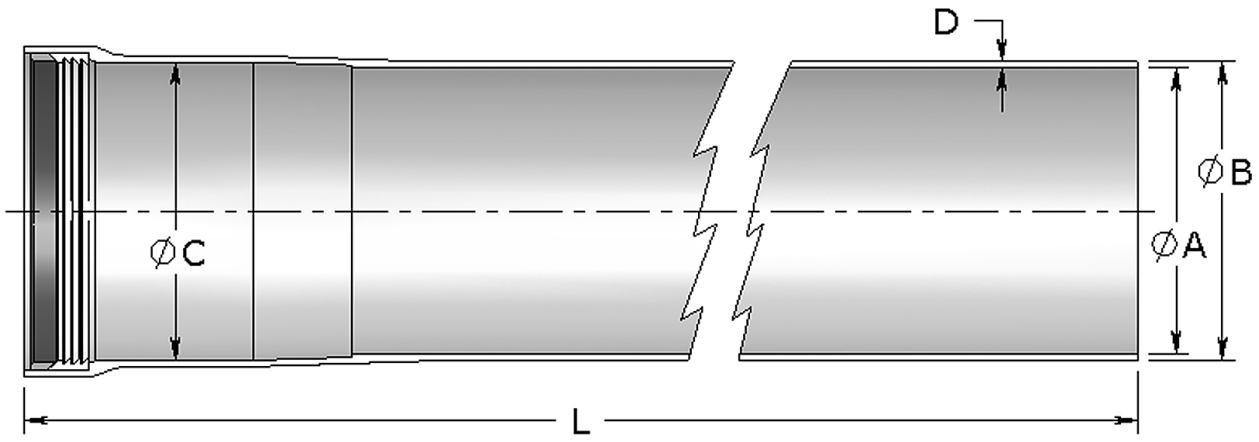
Size		Part Number	ØA	ØB	ØC	D	L	ØA	ØB	ØC	D	L
(in)	(mm)		(in)					(mm)				(m)
4	103	21-4000	4.000	4.110	4.170	0.055	236.25	101.6	104.4	105.9	1.4	6
4½	116	21-4500	4.500	4.640	4.730	0.070	236.25	114.3	117.9	120.1	1.8	6
5	129	21-5000	5.000	5.140	5.230	0.070	236.25	127.0	130.6	132.8	1.8	6
6	155	21-6000	6.000	6.140	6.230	0.070	236.25	152.4	156.0	158.2	1.8	6

• All ourID Below Ground products are offered with a TriSeal™ for a push-fit assembly.

ID Standard Wall

ID Standard Wall (SW) Conduit

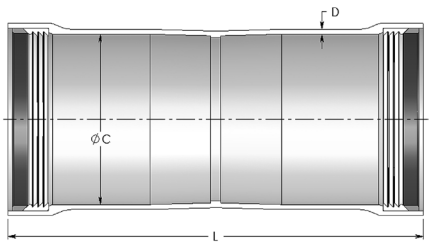
- Typical Exposed Applications (Non-Hazardous Locations)
- Standard length is 19.68 ft. (6m), but can also be available in 9.84 ft. section (3m), upon special request.



Size		Part Number	ØA	ØB	ØC	D	L	ØA	ØB	ØC	D	L
(in)	(mm)		(in)					(mm)				(m)
2	53	20-2000	2.000	2.140	2.170	0.070	236.25	50.8	54.4	55.1	1.8	6
2½	63	20-2500	2.500	2.640	2.670	0.070	236.25	63.5	67.1	67.8	1.8	6
3	78	20-3000	3.000	3.140	3.170	0.070	236.25	76.2	79.8	80.5	1.8	6
3½	91	20-3500	3.500	3.640	3.670	0.070	236,25	88.9	92.5	93.2	1.8	6
4	103	20-4000	4.000	4.140	4.170	0.070	236.25	101.6	105.2	105.9	1.8	6
4½	116	20-4500	4.500	4.690	4.730	0.095	236.25	114.3	119.1	120.1	2.4	6
5	129	20-5000	5.000	5.190	5.230	0.095	236.25	127.0	131.8	132.8	2.4	6
6	155	20-6000	6.000	6.190	6.230	0.095	236.25	152.4	157.2	158.2	2.4	6

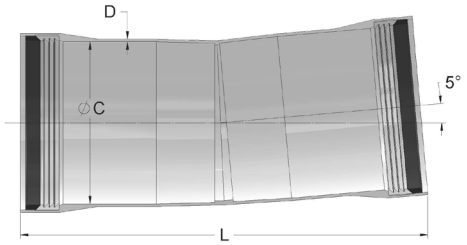
ID Standard Wall

ID SW Double Bell Coupling



Size		Part Number	ØC	D	L	ØC	D	L
(in)	(mm)		(in)			(mm)		
2	53	20-2010	2.170	0.070	10.25	55.1	1.8	260.4
2½	63	20-2510	2.670	0.070	10.25	67.8	1.8	260.4
3	78	20-3010	3.170	0.070	10.25	80.5	1.8	260.4
3½	91	20-3510	3.670	0.070	10.25	93.2	1.8	260.4
4	103	20-4010	4.170	0.070	10.25	105.9	1.8	260.4
4½	116	20-4510	4.730	0.095	10.25	120.1	2.4	260.4
5	129	20-5010	5.230	0.095	10.25	132.8	2.4	260.4
6	155	20-6010	6.230	0.095	10.25	158.2	2.4	260.4

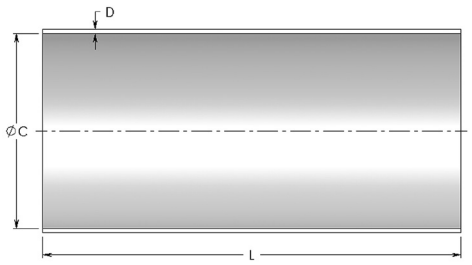
ID SW 5° Double Bell Coupling



Size		Part Number	ØC	D	L	ØC	D	L
(in)	(mm)		(in)			(mm)		
2	53	20-2011	2.170	0.070	10.3	55.1	1.8	261.6
2½	63	20-2511	2.670	0.070	10.4	67.8	1.8	264.2
3	78	20-3011	3.170	0.070	10.4	80.5	1.8	264.2
3½	91	20-3511	3.670	0.070	10.4	93.2	1.8	264.2
4	103	20-4011	4.170	0.070	10.5	105.9	1.8	266.7
4½	116	20-4511	4.730	0.095	10.5	120.1	2.4	266.7
5	129	20-5011	5.230	0.095	10.6	132.8	2.4	269.2
6	155	20-6011	6.230	0.095	10.7	158.2	2.4	271.8

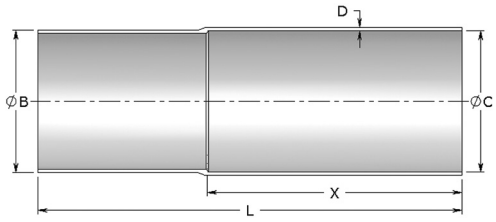
ID Standard Wall

ID SW Sleeve (Repair)



Size		Part Number	ØC	D	L	ØC	D	L
(in)	(mm)		(in)			(mm)		
2	53	20-2016	2.170	0.070	12	55.1	1.8	304.8
2½	63	20-2516	2.670	0.070	12	67.8	1.8	304.8
3	78	20-3016	3.170	0.070	12	80.5	1.8	304.8
3½	91	20-3516	3.670	0.070	12	93.2	1.8	304.8
4	103	20-4016	4.170	0.070	12	105.9	1.8	304.8
4½	116	20-4516	4.730	0.095	12	120.1	2.4	304.8
5	129	20-5016	5.230	0.095	12	132.8	2.4	304.8
6	155	20-6016	6.230	0.095	12	158.2	2.4	304.8

ID SW Single Expansion Joint

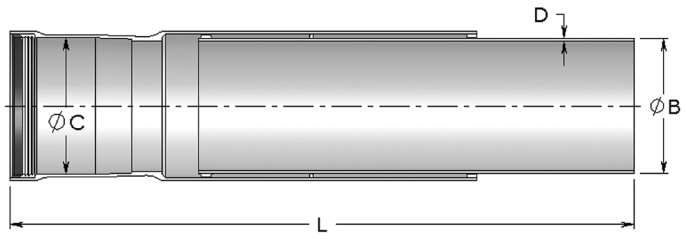


Size		Part Number	ØB	ØC	D	L	X	ØB	ØC	D	L	X
(in)	(mm)		(in)					(mm)				
2	53	20-2012	2.140	2.170	0.070	20	12	54.4	55.1	1.8	508.0	304.8
2½	63	20-2512	2.640	2.670	0.070	20	12	67.1	67.8	1.8	508.0	304.8
3	78	20-3012	3.140	3.170	0.070	20	12	79.8	80.5	1.8	508.0	304.8
3½	91	20-3512	3.640	3.670	0.070	20	12	92.5	93.2	1.8	508.0	304.8
4	103	20-4012	4.140	4.170	0.070	20	12	105.2	105.9	1.8	508.0	304.8
4½	116	20-4512	4.690	4.730	0.095	20	12	119.1	120.1	2.4	508.0	304.8
5	129	20-5012	5.190	5.230	0.095	20	12	131.8	132.8	2.4	508.0	304.8
6	155	20-6012	6.190	6.230	0.095	20	12	157.2	158.2	2.4	508.0	304.8

Note: Fitting is non-watertight

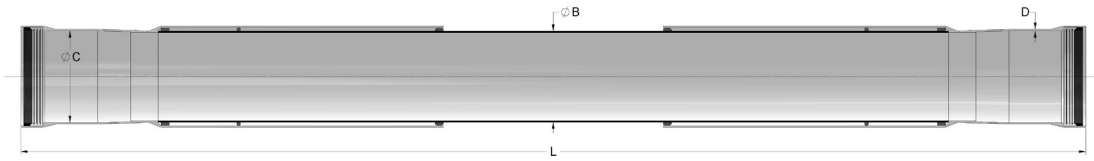
ID Standard Wall

ID SW O-Ring Expansion Joint



Size		Part Number	ØB	ØC	D	L (min)	L (max)	ØB	ØC	D	L (min)	L (max)
(in)	(mm)		(in)					(mm)				
2	53	20-2017	2.140	2.170	0.070	24	36	54.4	55.1	1.8	609.6	914.4
2½	63	20-2517	2.640	2.670	0.070	24	36	67.1	67.8	1.8	609.6	914.4
3	78	20-3017	3.140	3.170	0.070	24	36	79.8	80.5	1.8	609.6	914.4
3½	91	20-3517	3.640	3.670	0.070	24	36	92.5	93.2	1.8	609.6	914.4
4	103	20-4017	4.140	4.170	0.070	24	36	105.2	105.9	1.8	609.6	914.4
4½	116	20-4517	4.690	4.730	0.095	24	36	119.1	120.1	2.4	609.6	914.4
5	129	20-5017	5.190	5.230	0.095	24	36	131.8	132.8	2.4	609.6	914.4
6	155	20-6017	6.190	6.230	0.095	24	36	157.2	158.2	2.4	609.6	914.4

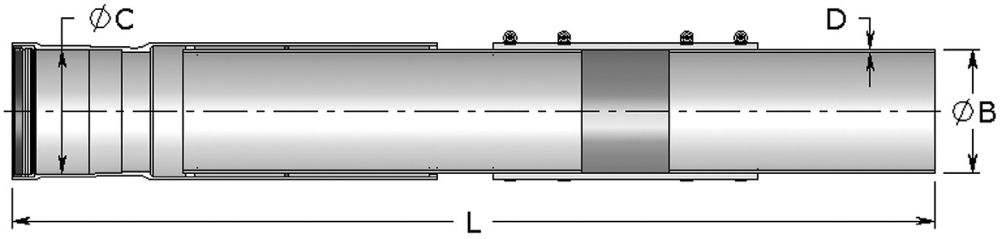
ID SW Double O-Ring Expansion Joint



Size		Part Number	ØB	ØC	D	L (min)	L (max)	ØB	ØC	D	L (min)	L (max)
(in)	(mm)		(in)					(mm)				
2	53	20-2067	2.140	2.170	0.070	48	72	54.4	55.1	1.8	1,219.2	1,828.8
2½	63	20-2567	2.640	2.670	0.070	48	72	67.1	67.8	1.8	1,219.2	1,828.8
3	78	20-3067	3.140	3.170	0.070	48	72	79.8	80.5	1.8	1,219.2	1,828.8
3½	91	20-3567	3.640	3.670	0.070	48	72	92.5	93.2	1.8	1,219.2	1,828.8
4	103	20-4067	4.140	4.170	0.070	48	72	105.2	105.9	1.8	1,219.2	1,828.8
4½	116	20-4567	4.690	4.730	0.095	48	72	119.1	120.1	2.4	1,219.2	1,828.8
5	129	20-5067	5.190	5.230	0.095	48	72	131.8	132.8	2.4	1,219.2	1,828.8
6	155	20-6067	6.190	6.230	0.095	48	72	157.2	158.2	2.4	1,219.2	1,828.8

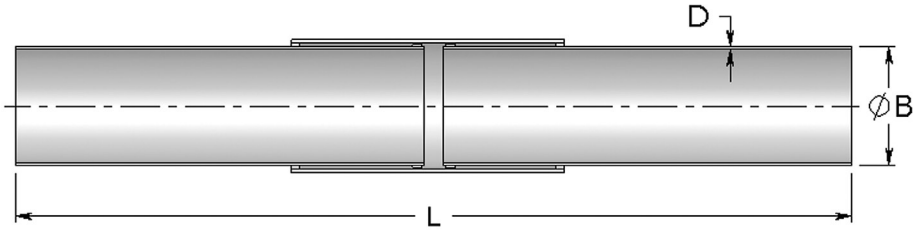
ID Standard Wall

ID SW O-Ring Expansion / Deflection Joint



Size		Part Number	ØB	ØC	D	L (min)	L (max)	ØB	ØC	D	L (min)	L (max)
(in)	(mm)		(in)					(mm)				
2	53	20-2057	2.140	2.170	0.070	40	52	54.4	55.1	1.8	1,016.0	1,320.8
2½	63	20-2557	2.640	2.670	0.070	40	52	67.1	67.8	1.8	1,016.0	1,320.8
3	78	20-3057	3.140	3.170	0.070	40	52	79.8	80.5	1.8	1,016.0	1,320.8
3½	91	20-3557	3.640	3.670	0.070	40	52	92.5	93.2	1.8	1,016.0	1,320.8
4	103	20-4057	4.140	4.170	0.070	40	52	105.2	105.9	1.8	1,016.0	1,320.8
4½	116	20-4557	4.690	4.730	0.095	40	52	119.1	120.1	2.4	1,016.0	1,320.8
5	129	20-5057	5.190	5.230	0.095	40	52	131.8	132.8	2.4	1,016.0	1,320.8
6	155	20-6057	6.190	6.230	0.095	40	52	157.2	158.2	2.4	1,016.0	1,320.8

ID SW Wobble (for up to 3° Curvature)

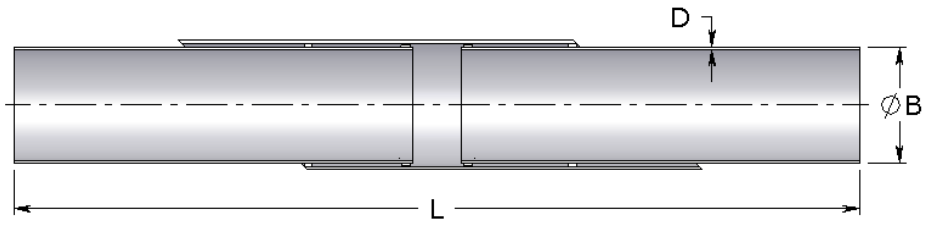


Size		Part Number	ØB	D	L (min)	L (max)	ØB	D	L (min)	L (max)
(in)	(mm)		(in)				(mm)			
2	53	20-2013	2.140	0.070	36	46	54.4	1.8	914.4	1,168.4
2½	63	20-2513	2.640	0.070	36	46	67.1	1.8	914.4	1,168.4
3	78	20-3013	3.140	0.070	36	46	79.8	1.8	914.4	1,168.4
3½	91	20-3513	3.640	0.070	36	46	92.5	1.8	914.4	1,168.4
4	103	20-4013	4.140	0.070	36	46	105.2	1.8	914.4	1,168.4
4½	116	20-4513	4.690	0.095	36	46	119.1	2.4	914.4	1,168.4
5	129	20-5013	5.190	0.095	36	46	131.8	2.4	914.4	1,168.4
6	155	20-6013	6.190	0.095	36	46	157.2	2.4	914.4	1,168.4

Note: Fitting is non-watertight

ID Standard Wall

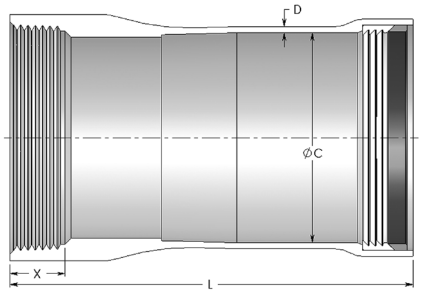
ID SW Skew Wobble (for up to 7.5° Curvature)



Size		Part Number	ØB	D	L (min)	L (max)	ØB	D	L (min)	L (max)
(in)	(mm)		(in)				(mm)			
2	53	20-2014	2.140	0.070	48	56	54.4	1.8	1,219.2	1,422.4
2½	63	20-2514	2.640	0.070	48	56	67.1	1.8	1,219.2	1,422.4
3	78	20-3014	3.140	0.070	48	56	79.8	1.8	1,219.2	1,422.4
3½	91	20-3514	3.640	0.070	48	56	92.5	1.8	1,219.2	1,422.4
4	103	20-4014	4.140	0.070	48	56	105.2	1.8	1,219.2	1,422.4
4½	116	20-4514	4.690	0.095	48	56	119.1	2.4	1,219.2	1,422.4
5	129	20-5014	5.190	0.095	48	56	131.8	2.4	1,219.2	1,422.4
6	155	20-6014	6.190	0.095	48	56	157.2	2.4	1,219.2	1,422.4

Note: Fitting is non-watertight

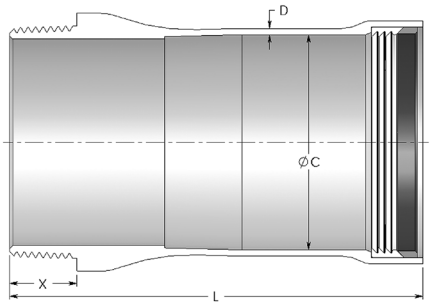
ID SW NPT Female Threaded Adapter



Size		Part Number	C	D	L	X	C	D	L	X
(in)	(mm)		(in)				(mm)			
2	53	20-2044	2.170	0.070	8	0.697	55.1	1.8	203.2	17.7
2½	63	20-2544	2.670	0.070	8	0.932	67.8	1.8	203.2	23.7
3	78	20-3044	3.170	0.070	8	1.016	80.5	1.8	203.2	25.8
3½	91	20-3544	3.670	0.070	8	1.071	93.2	1.8	203.2	27.2
4	103	20-4044	4.170	0.070	8	1.094	105.9	1.8	203.2	27.8
5	129	20-5044	5.230	0.095	8	1.187	132.8	2.4	203.2	30.1
6	155	20-6044	6.230	0.095	8	1.208	158.2	2.4	203.2	30.7

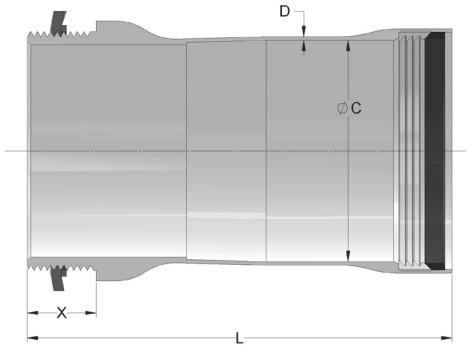
ID Standard Wall

ID SW NPT Male Threaded Adapter



Size		Part Number	C	D	L	X	C	D	L	X
(in)	(mm)		(in)				(mm)			
2	53	20-2027	2.170	0.070	8	0.757	55.1	1.8	203.2	19.2
2½	63	20-2527	2.670	0.070	8	1.138	67.8	1.8	203.2	28.9
3	78	20-3027	3.170	0.070	8	1.200	80.5	1.8	203.2	30.5
3½	91	20-3527	3.670	0.070	8	1.250	93.2	1.8	203.2	31.8
4	103	20-4027	4.170	0.070	8	1.300	105.9	1.8	203.2	33.0
5	129	20-5027	5.230	0.095	8	1.406	132.8	2.4	203.2	35.7
6	155	20-6027	6.230	0.095	8	1.513	158.2	2.4	203.2	38.4

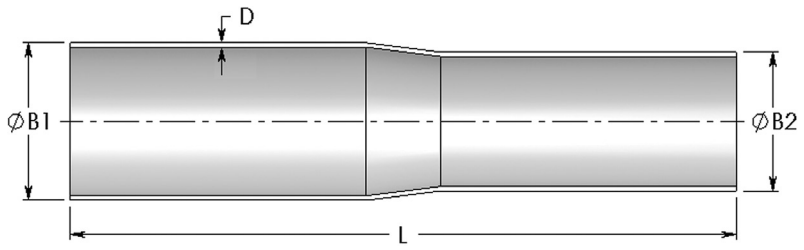
ID SW Box Connector



Size		Part Number	C	D	L	X	C	D	L	X
(in)	(mm)		(in)				(mm)			
2	53	20-2047	2.170	0.070	8	0.757	55.1	1.8	203.2	19.2
2½	63	20-2547	2.670	0.070	8	1.138	67.8	1.8	203.2	28.9
3	78	20-3047	3.170	0.070	8	1.200	80.5	1.8	203.2	30.5
3½	91	20-3547	3.670	0.070	8	1.250	93.2	1.8	203.2	31.8
4	103	20-4047	4.170	0.070	8	1.300	105.9	1.8	203.2	33.0
5	129	20-5047	5.230	0.095	8	1.406	132.8	2.4	203.2	35.7
6	155	20-6047	6.230	0.095	8	1.513	158.2	2.4	203.2	38.4

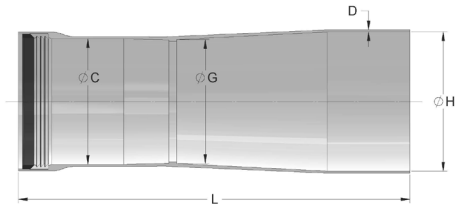
ID Standard Wall

ID SW Reducer



Size		Part Number	ØB1	ØB2	D	L	ØB1	ØB2	D	L
(in)	(mm)		(in)				(mm)			
2	53	20-2029	2.140	1.900	0.070	18	54.4	48.3	1.8	457.2
2½	63	20-2529	2.640	2.140	0.070	18	67.1	54.4	1.8	457.2
3	78	20-3029	3.140	2.640	0.070	18	79.8	67.1	1.8	457.2
3½	91	20-3529	3.640	3.140	0.070	18	92.5	79.8	1.8	457.2
4	103	20-4029	4.140	3.640	0.070	18	105.2	92.5	1.8	457.2
4½	116	20-4529	4.690	4.140	0.095	18	119.1	105.2	2.4	457.2
5	129	20-5029	5.190	4.690	0.095	18	131.8	119.1	2.4	457.2
6	155	20-6029	6.190	5.190	0.095	18	157.2	131.8	2.4	457.2

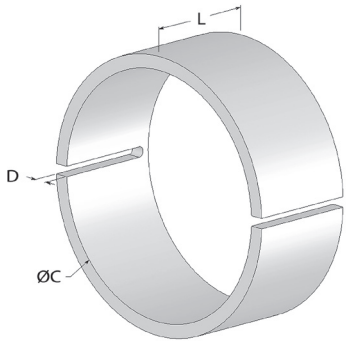
ID SW Multifit Adapter



Size		Part Number	ØC	D	ØG	ØH	L	ØC	D	ØG	ØH	L
(in)	(mm)		(in)					(mm)				
2	53	20-2037	2.170	0.070	2.239	2.424	13	55.1	1.8	61.6	56.9	330.2
2½	63	20-2537	2.670	0.070	2.739	2.924	13	67.8	1.8	74.3	69.6	330.2
3	78	20-3037	3.170	0.070	3.239	3.549	13	80.5	1.8	90.1	82.3	330.2
3½	91	20-3537	3.670	0.070	3.709	4.061	13	93.2	1.8	103.1	94.2	330.2
4	103	20-4037	4.170	0.070	4.109	4.620	13	105.9	1.8	117.3	104.4	330.2
4½	116	20-4537	4.730	0.095	4.750	4.831	13	120.1	2.4	122.7	120.7	330.2
5	129	20-5037	5.230	0.095	5.289	5.650	13	132.8	2.4	143.5	134.3	330.2
6	155	20-6037	6.230	0.095	6.259	6.686	13	158.2	2.4	169.8	159.0	330.2

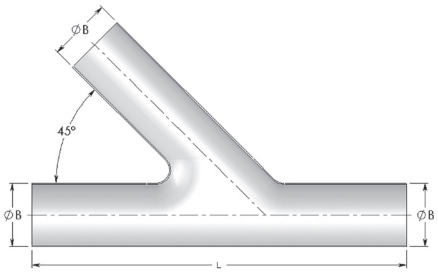
ID Standard Wall

ID SW Split Stop Ring



Size		Part Number	ØC	D	L	ØC	D	L
(in)	(mm)		(in)			(mm)		
2	53	20-2064	2.170	0.185	2	55.1	4.7	50.8
2½	63	20-2564	2.670	0.185	2	67.8	4.7	50.8
3	78	20-3064	3.170	0.185	2	80.5	4.7	50.8
3½	91	20-3564	3.670	0.185	2	93.2	4.7	50.8
4	103	20-4064	4.170	0.185	2	105.9	4.7	50.8
4½	116	20-4564	4.730	0.185	2	120.1	4.7	50.8
5	129	20-5064	5.230	0.185	2	132.8	4.7	50.8
6	155	20-6064	6.230	0.185	2	158.2	4.7	50.8

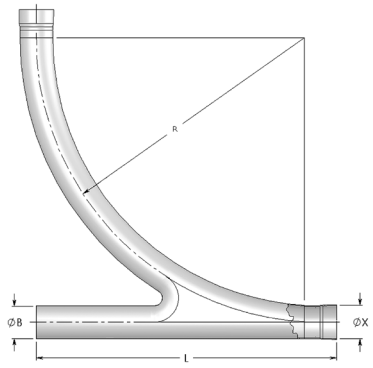
“Y” FITTING



Size		Part Number	ØB	L	ØB	L
(in)	(mm)		(in)		(mm)	
2	53	20-2015	2.140	24.50	54.4	622.3
2½	63	20-2515	2.640	24.50	67.1	622.3
3	78	20-3015	3.140	24.50	79.8	622.3
3½	91	20-3515	3.640	24.50	92.5	622.3
4	103	20-4015	4.140	24.50	105.2	622.3
4½	116	20-4515	4.690	24.50	119.1	622.3
5	129	20-5015	5.190	24.50	131.8	622.3
6	155	20-6015	6.190	24.50	157.2	622.3

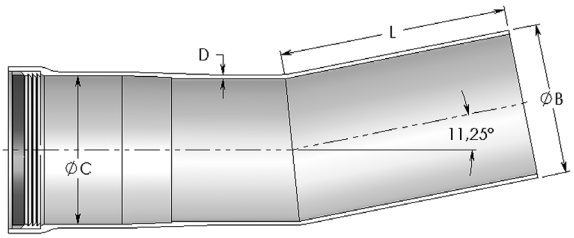
ID Standard Wall

"Y" ELBOW



Size		Part Number	ØB	L	R	X	ØB	L	R	X
(in)	(mm)		(in)				(mm)			
3	78	20-3025	3.140	36	36	3.275	79.756	914.4	914.4	83.185
3½	91	20-3525	3.640	36	36	3.750	92.456	914.4	914.4	95.250
4	103	20-4025	4.140	36	36	4.240	105.156	914.4	914.4	107.696

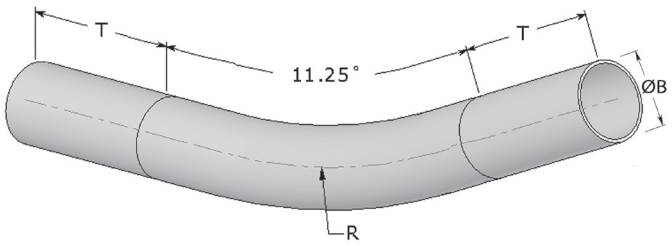
ID SW 11.25° Fitting



Size		Part Number	ØB	ØC	D	L	ØB	ØC	D	L
(in)	(mm)		(in)				(mm)			
2	53	20-2035	2.140	2.170	0.070	7	54.4	55.1	1.8	177.8
2½	63	20-2535	2.640	2.670	0.070	7	67.1	67.8	1.8	177.8
3	78	20-3035	3.140	3.170	0.070	7	79.8	80.5	1.8	177.8
3½	91	20-3535	3.640	3.670	0.070	7	92.5	93.2	1.8	177.8
4	103	20-4035	4.140	4.170	0.070	7	105.2	105.9	1.8	177.8
4½	116	20-4535	4.690	4.730	0.095	7	119.1	120.1	2.4	177.8
5	129	20-5035	5.190	5.230	0.095	7	131.8	132.8	2.4	177.8
6	155	20-6035	6.190	6.230	0.095	7	157.2	158.2	2.4	177.8

ID Standard Wall

ID SW 11.25° Elbow

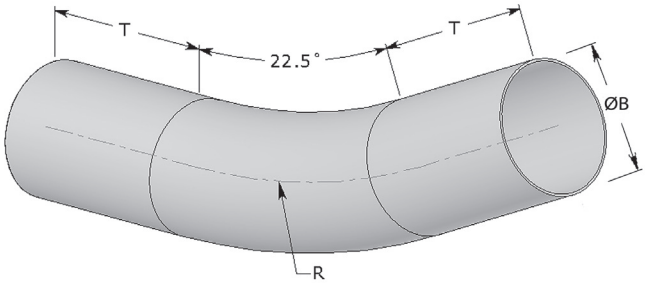


Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
12″ Radius								
2	53	20-2035R12	2.140	12	6	54.4	304.8	152.4
2½	63	20-2535R12	2.640	12	6	67.1	304.8	152.4
18″ Radius								
2	53	20-2035R18	2.140	18	6	54.4	457.2	152.4
2 ½	63	20-2535R18	2.640	18	6	67.1	457.2	152.4
3	78	20-3035R18	3.140	18	6	79.8	457.2	152.4
24″ Radius								
2	53	20-2035R24	2.140	24	6	54.4	609.6	152.4
2½	63	20-2535R24	2.640	24	6	67.1	609.6	152.4
3	78	20-3035R24	3.140	24	6	79.8	609.6	152.4
3½	91	20-3535R24	3.640	24	6	92.5	609.6	152.4
4	103	20-4035R24	4.140	24	6	105.2	609.6	152.4
36″ Radius								
2	53	20-2035R36	2.140	36	6	54.4	914.4	152.4
2½	63	20-2535R36	2.640	36	6	67.1	914.4	152.4
3	78	20-3035R36	3.140	36	6	79.8	914.4	152.4
3½	91	20-3535R36	3.640	36	6	92.5	914.4	152.4
4	103	20-4035R36	4.140	36	6	105.2	914.4	152.4
4½	116	20-4535R36	4.690	36	6	119.1	914.4	152.4
5	129	20-5035R36	5.190	36	6	131.8	914.4	152.4
6	155	20-6035R36	6.190	36	6	157.2	914.4	152.4
48″ Radius								
2	53	20-2035R48	2.140	48	6	54.4	1219.2	152.4
2½	63	20-2535R48	2.640	48	6	67.1	1219.2	152.4
3	78	20-3035R48	3.140	48	6	79.8	1219.2	152.4
3½	91	20-3535R48	3.640	48	6	92.5	1219.2	152.4
4	103	20-4035R48	4.140	48	6	105.2	1219.2	152.4
4½	116	20-4535R48	4.690	48	6	119.1	1219.2	152.4
5	129	20-5035R48	5.190	48	6	131.8	1219.2	152.4
6	155	20-6035R48	6.190	48	6	157.2	1219.2	152.4

Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
60″ Radius								
2	53	20-2035R60	2.140	60	6	54.4	1524.0	152.4
2½	63	20-2535R60	2.640	60	6	67.1	1524.0	152.4
3	78	20-3035R60	3.140	60	6	79.8	1524.0	152.4
3½	91	20-3535R60	3.640	60	6	92.5	1524.0	152.4
4	103	20-4035R60	4.140	60	6	105.2	1524.0	152.4
4½	116	20-4535R60	4.690	60	6	119.1	1524.0	152.4
5	129	20-5035R60	5.190	60	6	131.8	1524.0	152.4
6	155	20-6035R60	6.190	60	6	157.2	1524.0	152.4
72″ Radius								
2	53	20-2035R72	2.140	72	6	54.4	1828.8	152.4
2½	63	20-2535R72	2.640	72	6	67.1	1828.8	152.4
3	78	20-3035R72	3.140	72	6	79.8	1828.8	152.4
3½	91	20-3535R72	3.640	72	6	92.5	1828.8	152.4
4	103	20-4035R72	4.140	72	6	105.2	1828.8	152.4
4½	116	20-4535R72	4.690	72	6	119.1	1828.8	152.4
5	129	20-5035R72	5.190	72	6	131.8	1828.8	152.4
6	155	20-6035R72	6.190	72	6	157.2	1828.8	152.4

ID Standard Wall

ID SW 22.5° Elbow

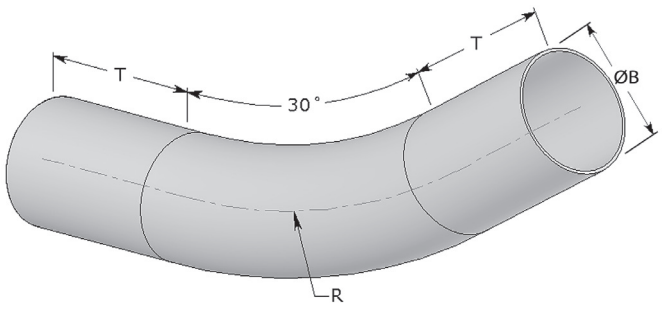


Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
12" Radius								
2	53	20-2034R12	2.140	12	6	54.4	304.8	152.4
2½	63	20-2534R12	2.640	12	6	67.1	304.8	152.4
18" Radius								
2	53	20-2034R18	2.140	18	6	54.4	457.2	152.4
2 ½	63	20-2534R18	2.640	18	6	67.1	457.2	152.4
3	78	20-3034R18	3.140	18	6	79.8	457.2	152.4
24" Radius								
2	53	20-2034R24	2.140	24	6	54.4	609.6	152.4
2½	63	20-2534R24	2.640	24	6	67.1	609.6	152.4
3	78	20-3034R24	3.140	24	6	79.8	609.6	152.4
3½	91	20-3534R24	3.640	24	6	92.5	609.6	152.4
4	103	20-4034R24	4.140	24	6	105.2	609.6	152.4
36" Radius								
2	53	20-2034R36	2.140	36	6	54.4	914.4	152.4
2½	63	20-2534R36	2.640	36	6	67.1	914.4	152.4
3	78	20-3034R36	3.140	36	6	79.8	914.4	152.4
3½	91	20-3534R36	3.640	36	6	92.5	914.4	152.4
4	103	20-4034R36	4.140	36	6	105.2	914.4	152.4
4½*	116	20-4534R36	4.690	36	6	119.1	914.4	152.4
5	129	20-5034R36	5.190	36	6	131.8	914.4	152.4
6	155	20-6034R36	6.190	36	6	157.2	914.4	152.4
48" Radius								
2	53	20-2034R48	2.140	48	6	54.4	1219.2	152.4
2½	63	20-2534R48	2.640	48	6	67.1	1219.2	152.4
3	78	20-3034R48	3.140	48	6	79.8	1219.2	152.4
3½	91	20-3534R48	3.640	48	6	92.5	1219.2	152.4
4	103	20-4034R48	4.140	48	6	105.2	1219.2	152.4
4½	116	20-4534R48	4.690	48	6	119.1	1219.2	152.4
5	129	20-5034R48	5.190	48	6	131.8	1219.2	152.4
6	155	20-6034R48	6.190	48	6	157.2	1219.2	152.4

Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
60" Radius								
2	53	20-2034R60	2.140	60	6	54.4	1524.0	152.4
2½	63	20-2534R60	2.640	60	6	67.1	1524.0	152.4
3	78	20-3034R60	3.140	60	6	79.8	1524.0	152.4
3½	91	20-3534R60	3.640	60	6	92.5	1524.0	152.4
4	103	20-4034R60	4.140	60	6	105.2	1524.0	152.4
4½	116	20-4534R60	4.690	60	6	119.1	1524.0	152.4
5	129	20-5034R60	5.190	60	6	131.8	1524.0	152.4
6	155	20-6034R60	6.190	60	6	157.2	1524.0	152.4
72" Radius								
2	53	20-2034R72	2.140	72	6	54.4	1828.8	152.4
2½	63	20-2534R72	2.640	72	6	67.1	1828.8	152.4
3	78	20-3034R72	3.140	72	6	79.8	1828.8	152.4
3½	91	20-3534R72	3.640	72	6	92.5	1828.8	152.4
4	103	20-4034R72	4.140	72	6	105.2	1828.8	152.4
4½	116	20-4534R72	4.690	72	6	119.1	1828.8	152.4
5	129	20-5034R72	5.190	72	6	131.8	1828.8	152.4
6	155	20-6034R72	6.190	72	6	157.2	1828.8	152.4

ID Standard Wall

ID SW 30° Elbow

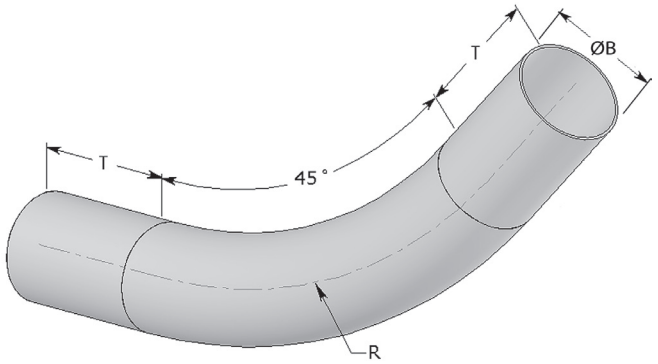


Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
12" Radius								
2	53	20-2033R12	2.140	12	6	54.4	304.8	152.4
2½	63	20-2533R12	2.640	12	6	67.1	304.8	152.4
18" Radius								
2	53	20-2033R18	2.140	18	6	54.4	457.2	152.4
2 ½	63	20-2533R18	2.640	18	6	67.1	457.2	152.4
3	78	20-3033R18	3.140	18	6	79.8	457.2	152.4
24" Radius								
2	53	20-2033R24	2.140	24	6	54.4	609.6	152.4
2½	63	20-2533R24	2.640	24	6	67.1	609.6	152.4
3	78	20-3033R24	3.140	24	6	79.8	609.6	152.4
3½	91	20-3533R24	3.640	24	6	92.5	609.6	152.4
4	103	20-4033R24	4.140	24	6	105.2	609.6	152.4
36" Radius								
2	53	20-2033R36	2.140	36	6	54.4	914.4	152.4
2½	63	20-2533R36	2.640	36	6	67.1	914.4	152.4
3	78	20-3033R36	3.140	36	6	79.8	914.4	152.4
3½	91	20-3533R36	3.640	36	6	92.5	914.4	152.4
4	103	20-4033R36	4.140	36	6	105.2	914.4	152.4
4½*	116	20-4533R36	4.690	36	6	119.1	914.4	152.4
5	129	20-5033R36	5.190	36	6	131.8	914.4	152.4
6	155	20-6033R36	6.190	36	6	157.2	914.4	152.4
48" Radius								
2	53	20-2033R48	2.140	48	6	54.4	1219.2	152.4
2½	63	20-2533R48	2.640	48	6	67.1	1219.2	152.4
3	78	20-3033R48	3.140	48	6	79.8	1219.2	152.4
3½	91	20-3533R48	3.640	48	6	92.5	1219.2	152.4
4	103	20-4033R48	4.140	48	6	105.2	1219.2	152.4
4½	116	20-4533R48	4.690	48	6	119.1	1219.2	152.4
5	129	20-5033R48	5.190	48	6	131.8	1219.2	152.4
6	155	20-6033R48	6.190	48	6	157.2	1219.2	152.4

Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
60" Radius								
2	53	20-2033R60	2.140	60	6	54.4	1524.0	152.4
2½	63	20-2533R60	2.640	60	6	67.1	1524.0	152.4
3	78	20-3033R60	3.140	60	6	79.8	1524.0	152.4
3½	91	20-3533R60	3.640	60	6	92.5	1524.0	152.4
4	103	20-4033R60	4.140	60	6	105.2	1524.0	152.4
4½	116	20-4533R60	4.690	60	6	119.1	1524.0	152.4
5	129	20-5033R60	5.190	60	6	131.8	1524.0	152.4
6	155	20-6033R60	6.190	60	6	157.2	1524.0	152.4
72" Radius								
2	53	20-2033R72	2.140	72	6	54.4	1828.8	152.4
2½	63	20-2533R72	2.640	72	6	67.1	1828.8	152.4
3	78	20-3033R72	3.140	72	6	79.8	1828.8	152.4
3½	91	20-3533R72	3.640	72	6	92.5	1828.8	152.4
4	103	20-4033R72	4.140	72	6	105.2	1828.8	152.4
4½	116	20-4533R72	4.690	72	6	119.1	1828.8	152.4
5	129	20-5033R72	5.190	72	6	131.8	1828.8	152.4
6	155	20-6033R72	6.190	72	6	157.2	1828.8	152.4

ID Standard Wall

ID SW 45° Elbow

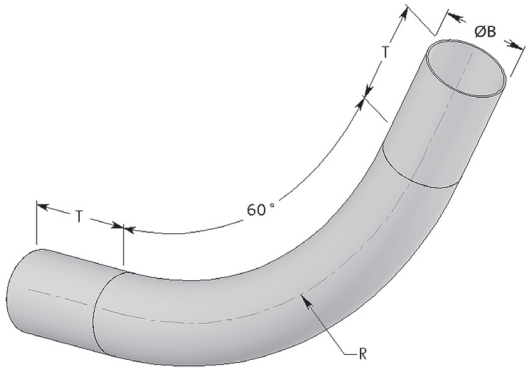


Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
12″ Radius								
2	53	20-2032R12	2.140	12	6	54.4	304.8	152.4
2½	63	20-2532R12	2.640	12	6	67.1	304.8	152.4
18″ Radius								
2	53	20-2032R18	2.140	18	6	54.4	457.2	152.4
2 ½	63	20-2532R18	2.640	18	6	67.1	457.2	152.4
3	78	20-3032R18	3.140	18	6	79.8	457.2	152.4
24″ Radius								
2	53	20-2032R24	2.140	24	6	54.4	609.6	152.4
2½	63	20-2532R24	2.640	24	6	67.1	609.6	152.4
3	78	20-3032R24	3.140	24	6	79.8	609.6	152.4
3½	91	20-3532R24	3.640	24	6	92.5	609.6	152.4
4	103	20-4032R24	4.140	24	6	105.2	609.6	152.4
36″ Radius								
2	53	20-2032R36	2.140	36	6	54.4	914.4	152.4
2½	63	20-2532R36	2.640	36	6	67.1	914.4	152.4
3	78	20-3032R36	3.140	36	6	79.8	914.4	152.4
3½	91	20-3532R36	3.640	36	6	92.5	914.4	152.4
4	103	20-4032R36	4.140	36	6	105.2	914.4	152.4
4½	116	20-4532R36	4.690	36	6	119.1	914.4	152.4
5	129	20-5032R36	5.190	36	6	131.8	914.4	152.4
6	155	20-6032R36	6.190	36	6	157.2	914.4	152.4
48″ Radius								
2	53	20-2032R48	2.140	48	6	54.4	1219.2	152.4
2½	63	20-2532R48	2.640	48	6	67.1	1219.2	152.4
3	78	20-3032R48	3.140	48	6	79.8	1219.2	152.4
3½	91	20-3532R48	3.640	48	6	92.5	1219.2	152.4
4	103	20-4032R48	4.140	48	6	105.2	1219.2	152.4
4½	116	20-4532R48	4.690	48	6	119.1	1219.2	152.4
5	129	20-5032R48	5.190	48	6	131.8	1219.2	152.4
6	155	20-6032R48	6.190	48	6	157.2	1219.2	152.4

Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
60″ Radius								
2	53	20-2032R60	2.140	60	6	54.4	1524.0	152.4
2½	63	20-2532R60	2.640	60	6	67.1	1524.0	152.4
3	78	20-3032R60	3.140	60	6	79.8	1524.0	152.4
3½	91	20-3532R60	3.640	60	6	92.5	1524.0	152.4
4	103	20-4032R60	4.140	60	6	105.2	1524.0	152.4
4½	116	20-4532R60	4.690	60	6	119.1	1524.0	152.4
5	129	20-5032R60	5.190	60	6	131.8	1524.0	152.4
6	155	20-6032R60	6.190	60	6	157.2	1524.0	152.4
72″ Radius								
2	53	20-2032R72	2.140	72	6	54.4	1828.8	152.4
2½	63	20-2532R72	2.640	72	6	67.1	1828.8	152.4
3	78	20-3032R72	3.140	72	6	79.8	1828.8	152.4
3½	91	20-3532R72	3.640	72	6	92.5	1828.8	152.4
4	103	20-4032R72	4.140	72	6	105.2	1828.8	152.4
4½	116	20-4532R72	4.690	72	6	119.1	1828.8	152.4
5	129	20-5032R72	5.190	72	6	131.8	1828.8	152.4
6	155	20-6032R72	6.190	72	6	157.2	1828.8	152.4

ID Standard Wall

ID SW 60° Elbow

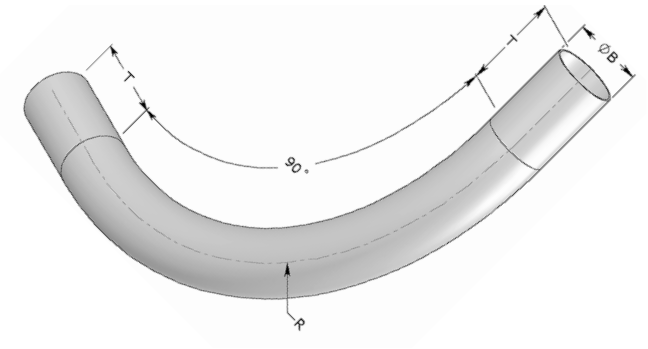


Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
12" Radius								
2	53	20-2031R12	2.140	12	6	54.4	304.8	152.4
2½	63	20-2531R12	2.640	12	6	67.1	304.8	152.4
18" Radius								
2	53	20-2031R18	2.140	18	6	54.4	457.2	152.4
2 ½	63	20-2531R18	2.640	18	6	67.1	457.2	152.4
3	78	20-3031R18	3.140	18	6	79.8	457.2	152.4
24" Radius								
2	53	20-2031R24	2.140	24	6	54.4	609.6	152.4
2½	63	20-2531R24	2.640	24	6	67.1	609.6	152.4
3	78	20-3031R24	3.140	24	6	79.8	609.6	152.4
3½	91	20-3531R24	3.640	24	6	92.5	609.6	152.4
4	103	20-4031R24	4.140	24	6	105.2	609.6	152.4
36" Radius								
2	53	20-2031R36	2.140	36	6	54.4	914.4	152.4
2½	63	20-2531R36	2.640	36	6	67.1	914.4	152.4
3	78	20-3031R36	3.140	36	6	79.8	914.4	152.4
3½	91	20-3531R36	3.640	36	6	92.5	914.4	152.4
4	103	20-4031R36	4.140	36	6	105.2	914.4	152.4
4½	116	20-4531R36	4.690	36	6	119.1	914.4	152.4
5	129	20-5031R36	5.190	36	6	131.8	914.4	152.4
6	155	20-6031R36	6.190	36	6	157.2	914.4	152.4
48" Radius								
2	53	20-2031R48	2.140	48	6	54.4	1219.2	152.4
2½	63	20-2531R48	2.640	48	6	67.1	1219.2	152.4
3	78	20-3031R48	3.140	48	6	79.8	1219.2	152.4
3½	91	20-3531R48	3.640	48	6	92.5	1219.2	152.4
4	103	20-4031R48	4.140	48	6	105.2	1219.2	152.4
4½	116	20-4531R48	4.690	48	6	119.1	1219.2	152.4
5	129	20-5031R48	5.190	48	6	131.8	1219.2	152.4
6	155	20-6031R48	6.190	48	6	157.2	1219.2	152.4

Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
60" Radius								
2	53	20-2031R60	2.140	60	6	54.4	1524.0	152.4
2½	63	20-2531R60	2.640	60	6	67.1	1524.0	152.4
3	78	20-3031R60	3.140	60	6	79.8	1524.0	152.4
3½	91	20-3531R60	3.640	60	6	92.5	1524.0	152.4
4	103	20-4031R60	4.140	60	6	105.2	1524.0	152.4
4½	116	20-4531R60	4.690	60	6	119.1	1524.0	152.4
5	129	20-5031R60	5.190	60	6	131.8	1524.0	152.4
6	155	20-6031R60	6.190	60	6	157.2	1524.0	152.4
72" Radius								
2	53	20-2031R72	2.140	72	6	54.4	1828.8	152.4
2½	63	20-2531R72	2.640	72	6	67.1	1828.8	152.4
3	78	20-3031R72	3.140	72	6	79.8	1828.8	152.4
3½	91	20-3531R72	3.640	72	6	92.5	1828.8	152.4
4	103	20-4031R72	4.140	72	6	105.2	1828.8	152.4
4½	116	20-4531R72	4.690	72	6	119.1	1828.8	152.4
5	129	20-5031R72	5.190	72	6	131.8	1828.8	152.4
6	155	20-6031R72	6.190	72	6	157.2	1828.8	152.4

ID Standard Wall

ID SW 90° Elbow

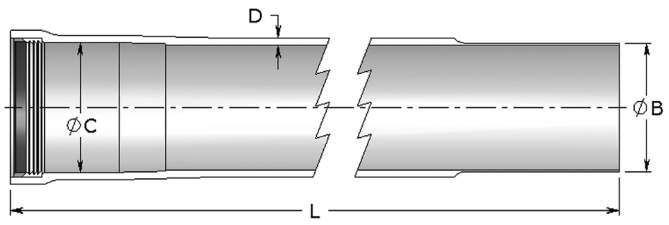


Size (in)	Size (mm)	Part Number	ØB (in)	R (in)	T (in)	ØB (mm)	R (mm)	T (mm)
12″ Radius								
2	53	20-2030R12	2.140	12	6	54.4	304.8	152.4
2½	63	20-2530R12	2.640	12	6	67.1	304.8	152.4
18″ Radius								
2	53	20-2030R18	2.140	18	6	54.4	457.2	152.4
2 ½	63	20-2530R18	2.640	18	6	67.1	457.2	152.4
3	78	20-3030R18	3.140	18	6	79.8	457.2	152.4
24″ Radius								
2	53	20-2030R24	2.140	24	6	54.4	609.6	152.4
2½	63	20-2530R24	2.640	24	6	67.1	609.6	152.4
3	78	20-3030R24	3.140	24	6	79.8	609.6	152.4
3½	91	20-3530R24	3.640	24	6	92.5	609.6	152.4
4	103	20-4030R24	4.140	24	6	105.2	609.6	152.4
36″ Radius								
2	53	20-2030R36	2.140	36	6	54.4	914.4	152.4
2½	63	20-2530R36	2.640	36	6	67.1	914.4	152.4
3	78	20-3030R36	3.140	36	6	79.8	914.4	152.4
3½	91	20-3530R36	3.640	36	6	92.5	914.4	152.4
4	103	20-4030R36	4.140	36	6	105.2	914.4	152.4
4½	116	20-4530R36	4.690	36	6	119.1	914.4	152.4
5	129	20-5030R36	5.190	36	6	131.8	914.4	152.4
6*	155	20-6030R36	6.190	36	6	157.2	914.4	152.4
48″ Radius								
2	53	20-2030R48	2.140	48	6	54.4	1219.2	152.4
2½	63	20-2530R48	2.640	48	6	67.1	1219.2	152.4
3	78	20-3030R48	3.140	48	6	79.8	1219.2	152.4
3½	91	20-3530R48	3.640	48	6	92.5	1219.2	152.4
4	103	20-4030R48	4.140	48	6	105.2	1219.2	152.4
4½	116	20-4530R48	4.690	48	6	119.1	1219.2	152.4
5	129	20-5030R48	5.190	48	6	131.8	1219.2	152.4
6	155	20-6030R48	6.190	48	6	157.2	1219.2	152.4

Size (in)	Size (mm)	Part Number	ØB (in)	R (in)	T (in)	ØB (mm)	R (mm)	T (mm)
60″ Radius								
2	53	20-2030R60	2.140	60	6	54.4	1524.0	152.4
2½	63	20-2530R60	2.640	60	6	67.1	1524.0	152.4
3	78	20-3030R60	3.140	60	6	79.8	1524.0	152.4
3½	91	20-3530R60	3.640	60	6	92.5	1524.0	152.4
4	103	20-4030R60	4.140	60	6	105.2	1524.0	152.4
4½	116	20-4530R60	4.690	60	6	119.1	1524.0	152.4
5	129	20-5030R60	5.190	60	6	131.8	1524.0	152.4
6	155	20-6030R60	6.190	60	6	157.2	1524.0	152.4
72″ Radius								
2	53	20-2030R72	2.140	72	6	54.4	1828.8	152.4
2½	63	20-2530R72	2.640	72	6	67.1	1828.8	152.4
3	78	20-3030R72	3.140	72	6	79.8	1828.8	152.4
3½	91	20-3530R72	3.640	72	6	92.5	1828.8	152.4
4	103	20-4030R72	4.140	72	6	105.2	1828.8	152.4
4½	116	20-4530R72	4.690	72	6	119.1	1828.8	152.4
5	129	20-5030R72	5.190	72	6	131.8	1828.8	152.4
6	155	20-6030R72	6.190	72	6	157.2	1828.8	152.4

ID Standard Wall

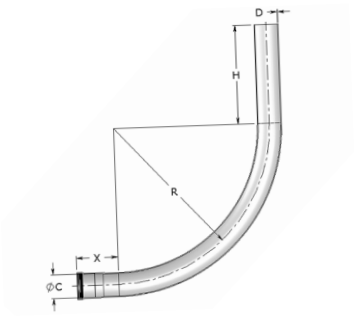
ID SW Riserway



Size		Part Number	ØB	ØC	D	L	ØB	ØC	D	L
(in)	(mm)		(in)				(mm)			
2*	53	20-2440	2.140	2.170	0.235	118	54.4	55.1	6.0	3
2½	63	20-2940	2.640	2.670	0.235	118	67.1	67.8	6.0	3
3*	78	20-3440	3.140	3.170	0.235	118	79.8	80.5	6.0	3
3½	91	20-3940	3.640	3.670	0.235	118	92.5	93.2	6.0	3
4*	103	20-4440	4.140	4.170	0.235	118	105.2	105.9	6.0	3
4½	116	20-4940	4.690	4.730	0.235	118	119.1	120.1	6.0	3
5*	129	20-5440	5.190	5.230	0.235	118	131.8	132.8	6.0	3
6*	155	20-6440	6.190	6.230	0.235	118	157.2	158.2	6.0	3

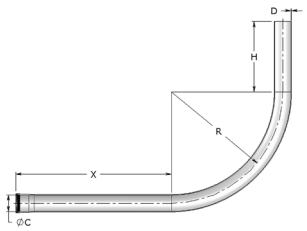
ID Standard Wall

ID SW Poleriser



Size		Part Number	ØC	D	R	H	X	ØC	D	R	H	X
(in)	(mm)		(in)					(mm)				(m)
2	53	20-2038	2.170	0.070	30	19	8	55.1	1.8	762.0	482.6	203.2
2 ½	63	20-2538	2.670	0.130	30	19	8	67.8	3.3	762.0	482.6	203.2
3	78	20-3038	3.170	0.130	30	19	8	80.5	3.3	762.0	482.6	203.2
3 ½	91	20-4038	3.670	0.130	30	19	8	93.2	3.3	762.0	482.6	203.2
4	103	20-5038	4.170	0.130	30	19	8	105.9	3.3	762.0	482.6	203.2
4 ½	116	20-4538	4.730	0.130	30	19	8	120.1	3.3	762.0	482.6	203.2
5	129	20-5038	5.230	0.130	30	19	8	132.8	3.3	762.0	482.6	203.2
6	155	20-6038	6.230	0.130	30	19	8	158.2	3.3	762.0	482.6	203.2

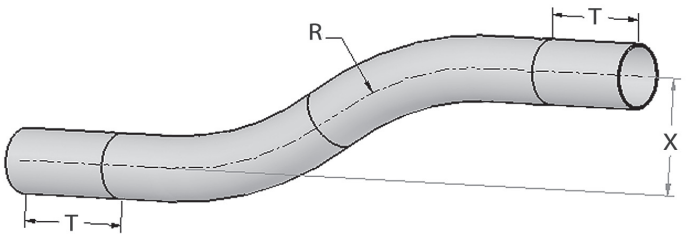
ID SW Extended Poleriser



Size		Part Number	ØC	D	R	H	X	ØC	D	R	H	X
(in)	(mm)		(in)					(mm)				(m)
2	53	20-2039	2.170	0.070	30	19	42	55.1	1.8	762.0	482.6	203.2
2 ½	63	20-2539	2.670	0.130	30	19	42	67.8	3.3	762.0	482.6	203.2
3	78	20-3039	3.170	0.130	30	19	42	80.5	3.3	762.0	482.6	203.2
3 ½	91	20-4039	3.670	0.130	30	19	42	93.2	3.3	762.0	482.6	203.2
4	103	20-5039	4.170	0.130	30	19	42	105.9	3.3	762.0	482.6	203.2
4 ½	116	20-4539	4.730	0.130	30	19	42	120.1	3.3	762.0	482.6	203.2
5	129	20-5039	5.230	0.130	30	19	42	132.8	3.3	762.0	482.6	203.2
6	155	20-6039	6.230	0.130	30	19	42	158.2	3.3	762.0	482.6	203.2

ID Standard Wall

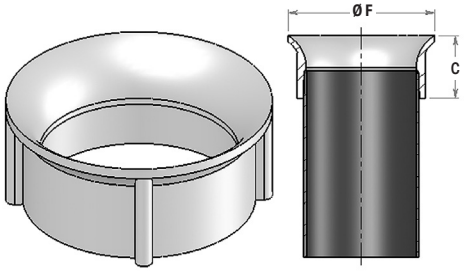
ID SW Offset Elbow



Size	Part Number
ALL	Special

Please contact our local agent for quotes and feasibility.

ID SW Radius Bell End



Size		Part Number	C	Ø F	C	Ø F
(in)	(mm)		(in)		(mm)	
2	53	20-2018	1.7	3.0	43.2	76.2
2½	63	20-2518	1.7	3.5	43.2	88.9
3	78	20-3018	1.7	4.0	43.2	101.6
3½	91	20-3518	1.7	4.5	43.2	114.3
4	103	20-4018	2.2	5.0	55.9	127.0
4½	116	20-4518	2.2	5.5	55.9	139.7
5	129	20-5018	2.2	6.0	55.9	152.4
6	155	20-6018	2.4	7.0	61.0	177.8

ID Standard Wall

ID SW Conduit Bodies

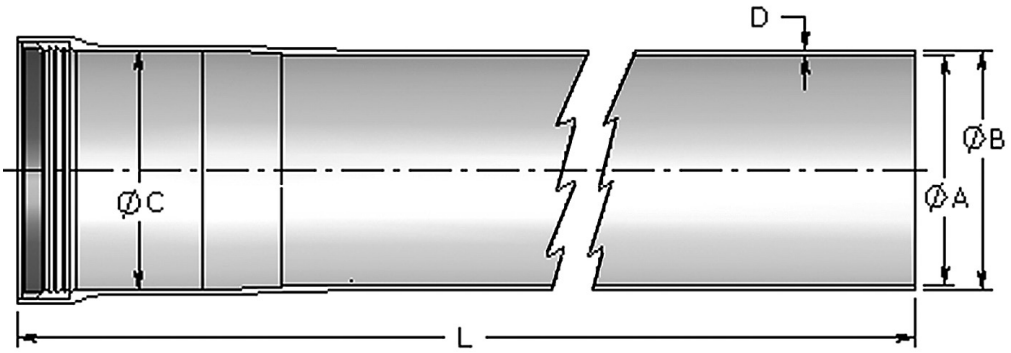
Size		Part Number			Length	Width	Depth	Length	Width	Depth
(in)	(mm)				(in)			(mm)		
2	53	LB	20-2091		11.63	4.38	5.47	295	111	139
2	53	LL	20-2092		11.63	6.09	3.59	295	155	91
2	53	LR	20-2093		11.63	6.09	3.59	295	155	91
2	53	T	20-2094		13.40	6.09	3.59	340	155	91
2	53	C	20-2095		13.40	4.38	3.59	340	111	91
2	53	TB	20-2096		13.40	4.38	5.47	340	111	139
2	53	X	20-2097		13.40	7.81	3.59	340	198	91

Consult factory for availability

ID Heavy Wall

ID Heavy Wall (HW) Conduit

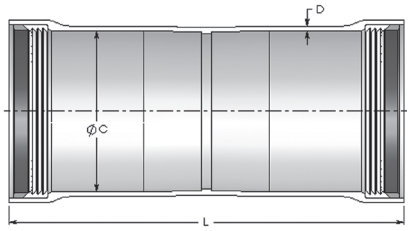
- Enhanced Mechanical Protection
- Standard length is 19.68 ft. (6m) but can also be available in 9.84 ft. section (3m), upon special request.



Size		Part Number	ØA	ØB	ØC	D	L	ØA	ØB	ØC	D	L
(in)	(mm)		(in)					(mm)				
4	103	22-4000	4.000	4.190	4.230	0.095	236.25	101.6	106.4	107.4	2.4	6
4½	116	22-4500	4.500	4.730	4.770	0.115	236.25	114.3	120.1	121.2	2.9	6
5	129	22-5000	5.000	5.230	5.270	0.115	236.25	127.0	132.8	133.9	2.9	6
6	155	22-6000	6.000	6.230	6.270	0.115	236.25	152.4	158.2	159.3	2.9	6

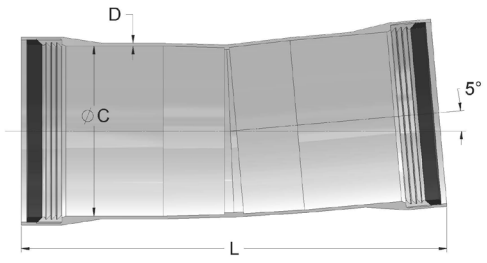
ID Heavy Wall

ID HW Double Bell Coupling



Size		Part Number	ØC	D	L	ØC	D	L
(in)	(mm)		(in)			(mm)		
4	103	22-4010	4.230	0.095	10.25	107.4	2.4	260.4
4½	116	22-4510	4.770	0.115	10.25	121.2	2.9	260.4
5	129	22-5010	5.270	0.115	10.25	133.9	2.9	260.4
6	155	22-6010	6.270	0.115	10.25	159.3	2.9	260.4

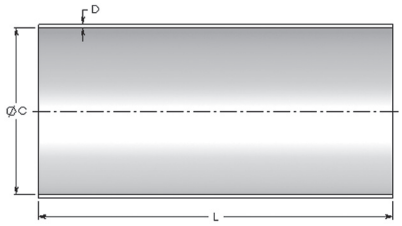
ID HW 5° Double Bell Coupling



Size		Part Number	ØC	D	L	ØC	D	L
(in)	(mm)		(in)			(mm)		
4	103	22-4011	4.230	0.095	10.5	107.4	2.4	266.7
4½	116	22-4511	4.770	0.115	10.5	121.2	2.9	266.7
5	129	22-5011	5.270	0.115	10.6	133.9	2.9	269.2
6	155	22-6011	6.270	0.115	10.7	159.3	2.9	271.8

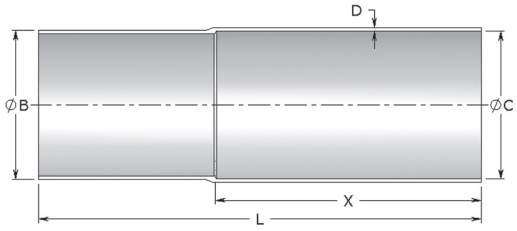
ID Heavy Wall

ID HW Sleeve (Repair Fitting)



Size		Part Number	ØC	D	L	ØC	D	L
(in)	(mm)		(in)			(mm)		
4	103	22-4016	4.230	0.095	12	107.4	2.4	304.8
4½	116	22-4516	4.770	0.115	12	121.2	2.9	304.8
5	129	22-5016	5.270	0.115	12	133.9	2.9	304.8
6	155	22-6016	6.270	0.115	12	159.3	2.9	304.8

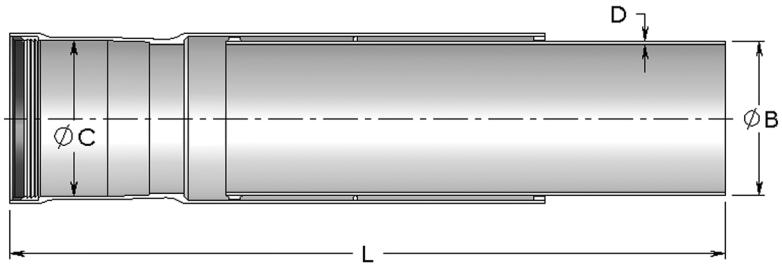
ID HW Single Expansion Joint



Size		Part Number	ØB	ØC	D	L	X	ØB	ØC	D	L	X
(in)	(mm)		(in)					(mm)				
4	103	22-4012	4.190	4.230	0.095	20	12	106.4	107.4	2.4	508.0	304.8
4½	116	22-4512	4.730	4.770	0.115	20	12	120.1	121.2	2.9	508.0	304.8
5	129	22-5012	5.230	5.270	0.115	20	12	132.8	133.9	2.9	508.0	304.8
6	155	22-6012	6.230	6.270	0.115	20	12	158.2	159.3	2.9	508.0	304.8

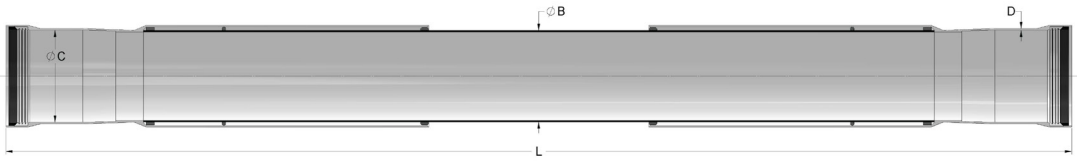
ID Heavy Wall

ID HW O-Ring Expansion Joint



Size		Part Number	ØB	ØC	D	L (min)	L (max)	ØB	ØC	D	L (min)	L (max)
(in)	(mm)		(in)					(mm)				
4	103	22-4017	4.190	4.230	0.095	24	36	106.4	107.4	2.4	609.6	914.4
4½	116	22-4517	4.730	4.770	0.115	24	36	120.1	121.2	2.9	609.6	914.4
5	129	22-5017	5.230	5.270	0.115	24	36	132.8	133.9	2.9	609.6	914.4
6	155	22-6017	6.230	6.270	0.115	24	36	158.2	159.3	2.9	609.6	914.4

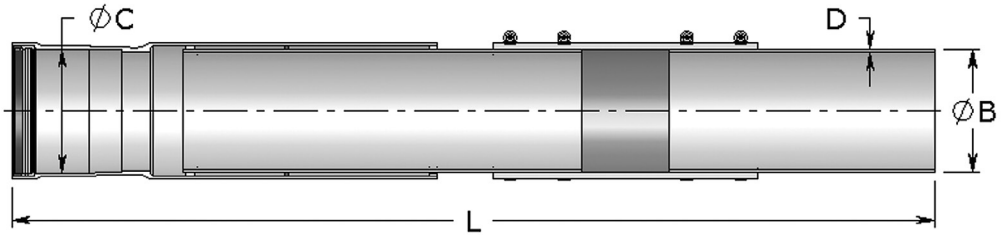
ID HW Double O-Ring Expansion Joint



Size		Part Number	ØB	ØC	D	L (min)	L (max)	ØB	ØC	D	L (min)	L (max)
(in)	(mm)		(in)					(mm)				
4	103	22-4067	4.190	4.230	0.095	48	72	106.4	107.4	2.4	1,219.2	1,828.8
4½	116	22-4567	4.730	4.770	0.115	48	72	120.1	121.2	2.9	1,219.2	1,828.8
5	129	22-5067	5.230	5.270	0.115	48	72	132.8	133.9	2.9	1,219.2	1,828.8
6	155	22-6067	6.230	6.270	0.115	48	72	158.2	159.3	2.9	1,219.2	1,828.8

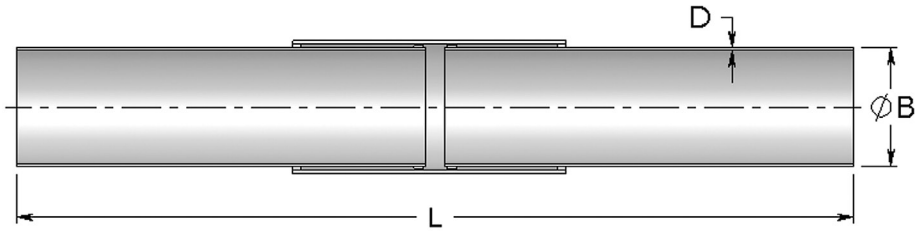
ID Heavy Wall

ID HW O-Ring Expansion / Deflection Joint



Size		Part Number	ØB	ØC	D	L (min)	L (max)	ØB	ØC	D	L (min)	L (max)
(in)	(mm)		(in)					(mm)				
4	103	22-4057	4.190	4.230	0.095	40	52	106.4	107.4	2.4	1,016.0	1,320.8
4½	116	22-4557	4.730	4.770	0.115	40	52	120.1	121.2	2.9	1,016.0	1,320.8
5	129	22-5057	5.230	5.270	0.115	40	52	132.8	133.9	2.9	1,016.0	1,320.8
6	155	22-6057	6.230	6.270	0.115	40	52	158.2	159.3	2.9	1,016.0	1,320.8

ID HW Wobble (for up to 3° Curvature)

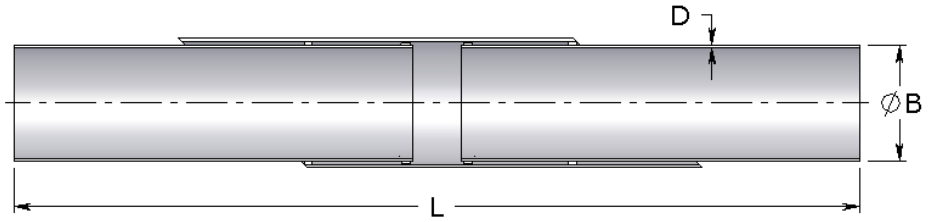


Size		Part Number	ØB	D	L (min)	L (max)	ØB	D	L (min)	L (max)
(in)	(mm)		(in)				(mm)			
4	103	22-4013	4.190	0.095	36	46	106.4	2.4	914.4	1,168.4
4½	116	22-4513	4.730	0.115	36	46	120.1	2.9	914.4	1,168.4
5	129	22-5013	5.230	0.115	36	46	132.8	2.9	914.4	1,168.4
6	155	22-6013	6.230	0.115	36	46	158.2	2.9	914.4	1,168.4

Note: Fitting is non-watertight

ID Heavy Wall

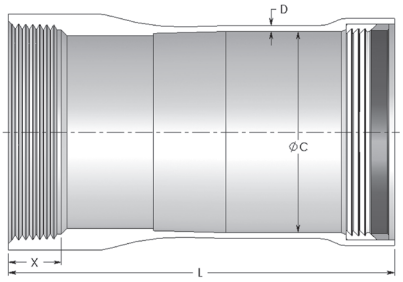
ID HW Skew Wobble (for up to 7.5° Curvature)



Size		Part Number	ØB	D	L (min)	L (max)	ØB	D	L (min)	L (max)
(in)	(mm)		(in)				(mm)			
4	103	22-4014	4.190	0.095	48	56	106.4	2.4	1,219.2	1,422.4
4½	116	22-4514	4.730	0.115	48	56	120.1	2.9	1,219.2	1,422.4
5	129	22-5014	5.230	0.115	48	56	132.8	2.9	1,219.2	1,422.4
6	155	22-6014	6.230	0.115	48	56	158.2	2.9	1,219.2	1,422.4

Note: Fitting is non-watertight

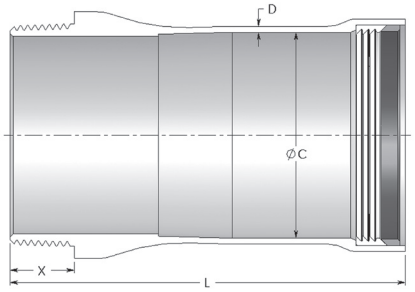
ID HW NPT Female Threaded Adapter



Size		Part Number	ØC	D	L	X	ØC	D	L	X
(in)	(mm)		(in)				(mm)			
4	103	22-4044	4.230	0.095	8	1.094	107.4	2.4	203.2	27.8
5	129	22-5044	5.270	0.115	8	1.187	133.9	2.9	203.2	30.1
6	155	22-6044	6.270	0.115	8	1.208	159.3	2.9	203.2	30.7

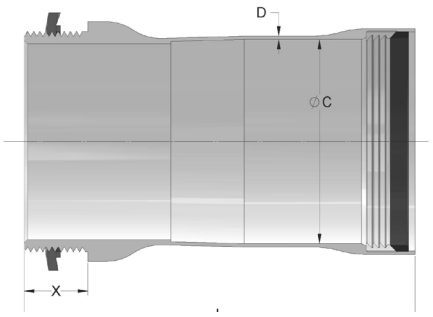
ID Heavy Wall

ID HW NPT Male Threaded Adapter



Size		Part Number	ØC	D	L	X	ØC	D	L	X
(in)	(mm)		(in)				(mm)			
4	103	22-4027	4.230	0.095	8	1.300	107.4	2.4	203.2	33.0
5	129	22-5027	5.270	0.115	8	1.406	133.9	2.9	203.2	35.7
6	155	22-6027	6.270	0.115	8	1.513	159.3	2.9	203.2	38.4

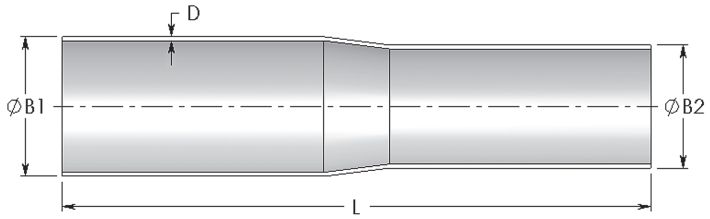
ID HW Box Connector



Size		Part Number	ØC	D	L	X	ØC	D	L	X
(in)	(mm)		(in)				(mm)			
4	103	22-4047	4.230	0.095	8	1.300	107.4	2.4	203.2	33.0
5	129	22-5047	5.270	0.115	8	1.406	133.9	2.9	203.2	35.7
6	155	22-6047	6.270	0.115	8	1.513	159.3	2.9	203.2	38.4

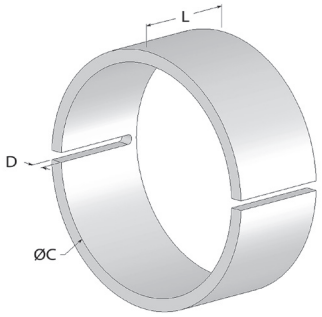
ID Heavy Wall

ID HW Reducer



Size		Part Number	ØB1	ØB2	D	L	ØB1	ØB2	D	L
(in)	(mm)		(in)				(mm)			
4	103	22-4029	4.190	3.690	0.095	18	106.4	93.7	2.4	457.2
4½	116	22-4529	4.730	4.190	0.115	18	120.1	106.4	2.9	457.2
5	129	22-5029	5.230	4.730	0.115	18	132.8	120.1	2.9	457.2
6	155	22-6029	6.230	5.230	0.115	18	158.2	132.8	2.9	457.2

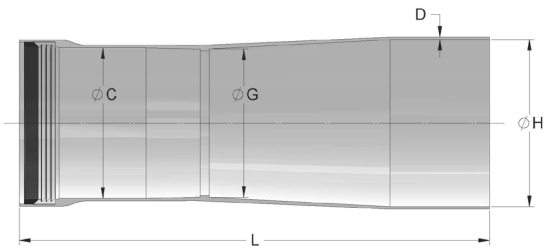
ID HW Split Stop Ring



Size		Part Number	ØC	D	L	ØC	D	L
(in)	(mm)		(in)			(mm)		
4	103	22-4064	4.230	0.185	2	107.4	4.7	50.8
4½	116	22-4564	4.770	0.185	2	121.2	4.7	50.8
5	129	22-5064	5.270	0.185	2	133.9	4.7	50.8
6	155	22-6064	6.270	0.185	2	159.3	4.7	50.8

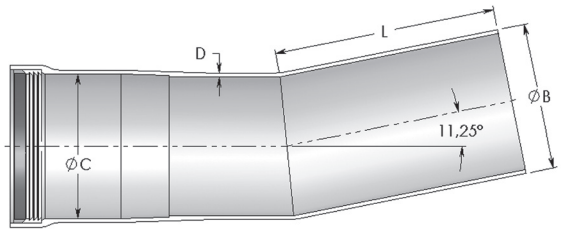
ID Heavy Wall

ID HW Multifit



Size		Part Number	ØC	D	ØG	ØH	L	ØC	D	ØG	ØH	L
(in)	(mm)		(in)					(mm)				
4	103	22-4037	4.230	0.095	4.109	4.620	13	107.4	2.4	104.4	117.3	330.2
4½	116	22-4537	4.770	0.115	4.750	4.831	13	121.2	2.9	120.7	122.7	330.2
5	129	22-5037	5.270	0.115	5.289	5.650	13	133.9	2.9	134.3	143.5	330.2
6	155	22-6037	6.270	0.115	6.259	6.686	13	159.3	2.9	159.0	169.8	330.2

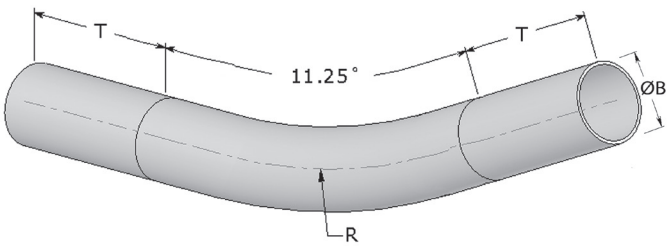
ID HW 11.25° Fitting



Size		Part Number	ØB	ØC	D	L	ØB	ØC	D	L
(in)	(mm)		(in)				(mm)			
4	103	22-4035	4.190	4.230	7	106.4	107.4	116.6	2.4	177.8
4½	116	22-4535	4.730	4.770	7	120.1	121.2	143.3	2.9	177.8
5	129	22-5035	5.230	5.270	7	132.8	132.8	133.9	2.9	177.8
6	155	22-6035	6.230	6.270	7	158.2	158.2	169.5	2.9	177.8

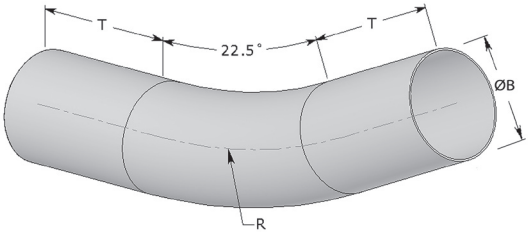
ID Heavy Wall

ID HW 11.25° Elbow



Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
24" Radius								
4	103	22-4035R24	4.190	24	6	106.4	609.6	152.4
36" Radius								
4	103	22-4035R36	4.190	36	6	106.4	914.4	152.4
4½	116	22-4535R36	4.730	36	6	120.1	914.4	152.4
5	129	22-5035R36	5.230	36	6	132.8	914.4	152.4
6	155	22-6035R36	6.230	36	6	158.2	914.4	152.4
48" Radius								
4	103	22-4035R48	4.190	48	6	106.4	1219.2	152.4
4½	116	22-4535R48	4.730	48	6	120.1	1219.2	152.4
5	129	22-5035R48	5.230	48	6	132.8	1219.2	152.4
6	155	22-6035R48	6.230	48	6	158.2	1219.2	152.4
60" Radius								
4	103	22-4035R60	4.190	60	6	106.4	1524.0	152.4
4½	116	22-4535R60	4.730	60	6	120.1	1524.0	152.4
5	129	22-5035R60	5.230	60	6	132.8	1524.0	152.4
6	155	22-6035R60	6.230	60	6	158.2	1524.0	152.4
72" Radius								
4	103	22-4035R72	4.190	72	6	106.4	1828.8	152.4
4½	116	22-4535R72	4.730	72	6	120.1	1828.8	152.4
5	129	22-5035R72	5.230	72	6	132.8	1828.8	152.4
6	155	22-6035R72	6.230	72	6	158.2	1828.8	152.4

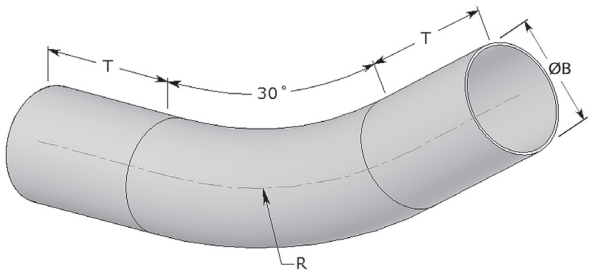
ID HW 22.5° Elbow



Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
24" Radius								
4	103	22-4034R24	4.190	24	6	106.4	609.6	152.4
36" Radius								
4	103	22-4034R36	4.190	36	6	106.4	914.4	152.4
4½	116	22-4534R36	4.730	36	6	120.1	914.4	152.4
5	129	22-5034R36	5.230	36	6	132.8	914.4	152.4
6	155	22-6034R36	6.230	36	6	158.2	914.4	152.4
48" Radius								
4	103	22-4034R48	4.190	48	6	106.4	1219.2	152.4
4½	116	22-4534R48	4.730	48	6	120.1	1219.2	152.4
5	129	22-5034R48	5.230	48	6	132.8	1219.2	152.4
6	155	22-6034R48	6.230	48	6	158.2	1219.2	152.4
60" Radius								
4	103	22-4034R60	4.190	60	6	106.4	1524.0	152.4
4½	116	22-4534R60	4.730	60	6	120.1	1524.0	152.4
5	129	22-5034R60	5.230	60	6	132.8	1524.0	152.4
6	155	22-6034R60	6.230	60	6	158.2	1524.0	152.4
72" Radius								
4	103	22-4034R72	4.190	72	6	106.4	1828.8	152.4
4½	116	22-4534R72	4.730	72	6	120.1	1828.8	152.4
5	129	22-5034R72	5.230	72	6	132.8	1828.8	152.4
6	155	22-6034R72	6.230	72	6	158.2	1828.8	152.4

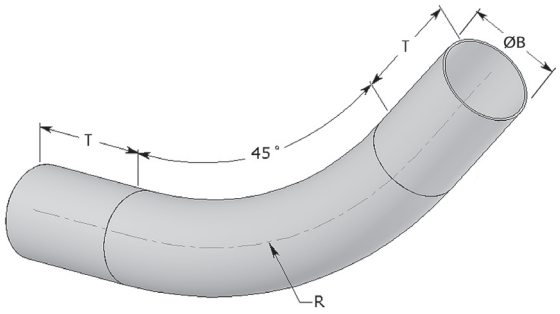
ID Heavy Wall

ID HW 30° Elbow



Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
24" Radius								
4	103	22-4033R24	4.190	24	6	106.4	609.6	152.4
36" Radius								
4	103	22-4033R36	4.190	36	6	106.4	914.4	152.4
4½	116	22-4533R36	4.730	36	6	120.1	914.4	152.4
5	129	22-5033R36	5.230	36	6	132.8	914.4	152.4
6	155	22-6033R36	6.230	36	6	158.2	914.4	152.4
60" Radius								
4	103	22-4033R48	4.190	48	6	106.4	1219.2	152.4
4½	116	22-4533R48	4.730	48	6	120.1	1219.2	152.4
5	129	22-5033R48	5.230	48	6	132.8	1219.2	152.4
6	155	22-6033R48	6.230	48	6	158.2	1219.2	152.4
60" Radius								
4	103	22-4033R60	4.190	60	6	106.4	1524.0	152.4
4½	116	22-4533R60	4.730	60	6	120.1	1524.0	152.4
5	129	22-5033R60	5.230	60	6	132.8	1524.0	152.4
6	155	22-6033R60	6.230	60	6	158.2	1524.0	152.4
72" Radius								
4	103	22-4033R72	4.190	72	6	106.4	1828.8	152.4
4½	116	22-4533R72	4.730	72	6	120.1	1828.8	152.4
5	129	22-5033R72	5.230	72	6	132.8	1828.8	152.4
6	155	22-6033R72	6.230	72	6	158.2	1828.8	152.4

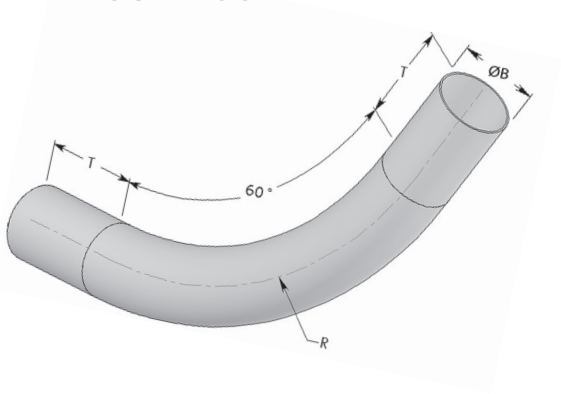
ID HW 45° Elbow



Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
24" Radius								
4	103	22-4032R24	4.190	24	6	106.4	609.6	152.4
36" Radius								
4	103	22-4032R36	4.190	36	6	106.4	914.4	152.4
4½	116	22-4532R36	4.730	36	6	120.1	914.4	152.4
5	129	22-5032R36	5.230	36	6	132.8	914.4	152.4
6	155	22-6032R36	6.230	36	6	158.2	914.4	152.4
60" Radius								
4	103	22-4032R48	4.190	48	6	106.4	1219.2	152.4
4½	116	22-4532R48	4.730	48	6	120.1	1219.2	152.4
5	129	2-5032R48	5.230	48	6	132.8	1219.2	152.4
6	155	22-6032R48	6.230	48	6	158.2	1219.2	152.4
60" Radius								
4	103	22-4032R60	4.190	60	6	106.4	1524.0	152.4
4½	116	22-4532R60	4.730	60	6	120.1	1524.0	152.4
5	129	22-5032R60	5.230	60	6	132.8	1524.0	152.4
6	155	2-6032R60	6.230	60	6	158.2	1524.0	152.4
72" Radius								
4	103	22-4032R72	4.190	72	6	106.4	1828.8	152.4
4½	116	22-4532R72	4.730	72	6	120.1	1828.8	152.4
5	129	22-5032R72	5.230	72	6	132.8	1828.8	152.4
6	155	22-6032R72	6.230	72	6	158.2	1828.8	152.4

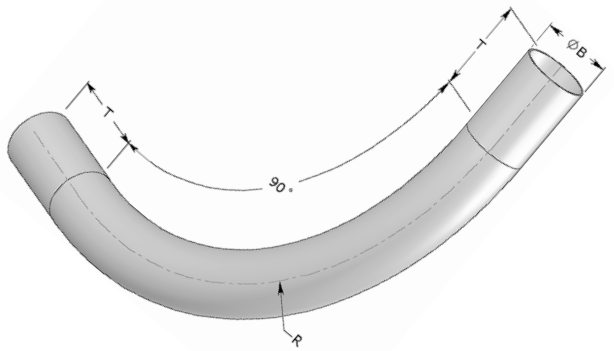
ID Heavy Wall

ID HW 60° Elbow



Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
24" Radius								
4	103	22-4031R24	4.190	24	6	106.4	609.6	152.4
36" Radius								
4	103	22-4031R36	4.190	36	6	106.4	914.4	152.4
4½	116	22-4531R36	4.730	36	6	120.1	914.4	152.4
5	129	22-5031R36	5.230	36	6	132.8	914.4	152.4
6	155	22-6031R36	6.230	36	6	158.2	914.4	152.4
60" Radius								
4	103	22-4031R48	4.190	48	6	106.4	1219.2	152.4
4½	116	22-4531R48	4.730	48	6	120.1	1219.2	152.4
5	129	22-5031R48	5.230	48	6	132.8	1219.2	152.4
6	155	22-6031R48	6.230	48	6	158.2	1219.2	152.4
60" Radius								
4	103	22-4031R60	4.190	60	6	106.4	1524.0	152.4
4½	116	22-4531R60	4.730	60	6	120.1	1524.0	152.4
5	129	22-5031R60	5.230	60	6	132.8	1524.0	152.4
6	155	22-6031R60	6.230	60	6	158.2	1524.0	152.4
72" Radius								
4	103	22-4031R72	4.190	72	6	106.4	1828.8	152.4
4½	116	22-4531R72	4.730	72	6	120.1	1828.8	152.4
5	129	22-5031R72	5.230	72	6	132.8	1828.8	152.4
6	155	22-6031R72	6.230	72	6	158.2	1828.8	152.4

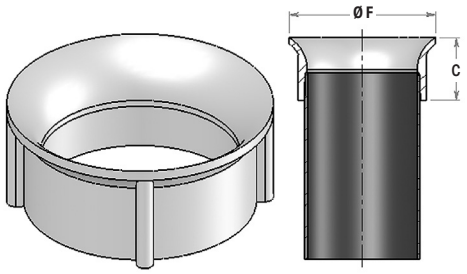
ID HW 90° Elbow



Size		Part Number	ØB	R	T	ØB	R	T
(in)	(mm)		(in)			(mm)		
24" Radius								
4	103	22-4030R24	4.190	24	6	106.4	609.6	152.4
36" Radius								
4	103	22-4030R36	4.190	36	6	106.4	914.4	152.4
4½	116	22-4530R36	4.730	36	6	120.1	914.4	152.4
5	129	22-5030R36	5.230	36	6	132.8	914.4	152.4
6	155	22-6030R36	6.230	36	6	158.2	914.4	152.4
60" Radius								
4	103	22-4030R48	4.190	48	6	106.4	1219.2	152.4
4½	116	22-4530R48	4.730	48	6	120.1	1219.2	152.4
5	129	22-5030R48	5.230	48	6	132.8	1219.2	152.4
6	155	22-6030R48	6.230	48	6	158.2	1219.2	152.4
60" Radius								
4	103	22-4030R60	4.190	60	6	106.4	1524.0	152.4
4½	116	22-4530R60	4.730	60	6	120.1	1524.0	152.4
5	129	22-5030R60	5.230	60	6	132.8	1524.0	152.4
6	155	22-6030R60	6.230	60	6	158.2	1524.0	152.4
72" Radius								
4	103	22-4030R72	4.190	72	6	106.4	1828.8	152.4
4½	116	22-4530R72	4.730	72	6	120.1	1828.8	152.4
5	129	22-5030R72	5.230	72	6	132.8	1828.8	152.4
6	155	22-6030R72	6.230	72	6	158.2	1828.8	152.4

ID Heavy Wall

ID HW Radius Bell End

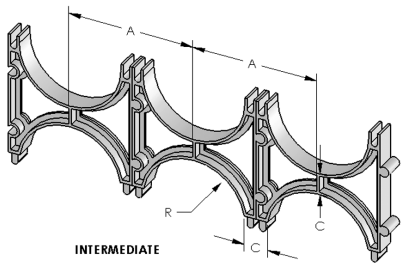


Size		Part Number	C	ØF	C	ØF
(in)	(mm)		(in)		(mm)	
4	103	22-4018	2.2	5.0	55.9	127.0
4½	116	22-4518	2.2	5.5	55.9	139.7
5	129	22-5018	2.2	6.0	55.9	152.4
6	155	22-6018	2.4	7.0	61.0	177.8

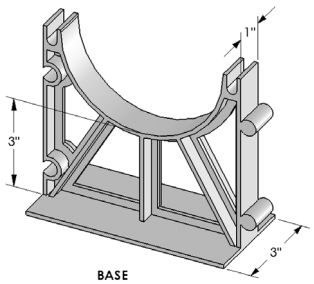
Base & Intermediate Spacer

Base & Intermediate Spacer

Conduit Size		Base	Intermediate	C	R	A	C	R	A
(in)	(mm)	Spacer Number	Spacer Number	(in)			(mm)		
2	53	45-0131	45-0137	1½	1.2	4.0	38.1	30.5	101.6
3	78	45-0138	45-0139	1½	1.8	5.1	38.1	45.7	129.5
4	103	45-0115	45-0124	1½	2.3	6.1	38.1	58.4	154.9
5	129	45-0143	45-0136	1½	2.9	7.3	38.1	73.7	185.4
6	155	45-0144	45-0145	1½	3.3	8.2	38.1	83.8	208.3
8	203	45-0119	45-0146	1½	4.3	10.2	38.1	109.2	259.1
2	53	45-0109	45-0110	2	1.2	4.5	50.8	30.5	114.3
3	78	45-0104	45-0140	2	1.8	5.6	50.8	45.7	142.2
4	103	45-0103	45-0108	2	2.3	6.6	50.8	58.4	167.6
5	129	45-0116	45-0125	2	2.9	7.9	50.8	73.7	200.7
6	155	45-0117	45-0127	2	3.4	8.7	50.8	83.8	221.0
8	203	45-0128	45-0118	2	4.3	10.7	50.8	109.2	271.8
2	53	45-0123	45-0111	3	1.2	5.5	76.2	30.5	139.7
3	78	45-0121	45-0122	3	1.8	6.6	76.2	45.7	167.6
4	103	45-0105	45-0112	3	2.3	7.6	76.2	58.4	193.0
5	129	45-0101	45-0134	3	2.9	8.9	76.2	73.7	226.1
6	155	45-0135	45-0147	3	3.4	9.8	76.2	83.8	248.9

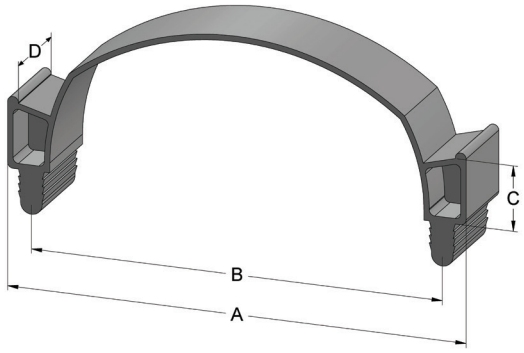


INTERMEDIATE



BASE

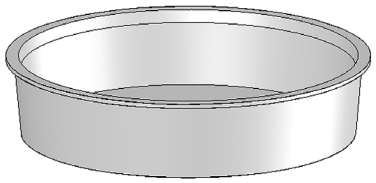
Cap Lock



Conduit Size		Base	A	B	C	D	A	B	C	D
(in)	(mm)	Spacer Number	(in)				(mm)			
2	53	45-0133	4.18	3.625	.750	1.0	106.2	92.1	19.1	25.4
3	78	45-0130	5.30	4.75	.750	1.0	134.6	120.7	19.1	25.4
4	103	45-0126	6.00	5.625	1.25	1.0	152.4	142.9	31.8	25.4
5	129	45-0129	7.43	6.875	1.25	1.0	188.7	174.6	31.8	25.4
6	155	45-0132	8.43	7.875	1.25	1.0	214.1	200.0	31.8	25.4

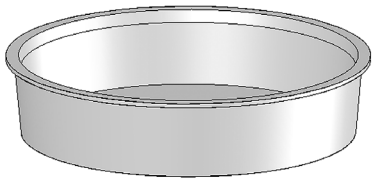
Accessories

IPS Thermoplastic Plug



Size		Part Number	Depth	
(in)	(mm)		(in)	(mm)
¾	21	10-7528	0.6	15.2
1	27	10-1028	0.6	15.2
1¼	35	10-1228	0.8	20.3
1½	41	10-1528	0.8	20.3
2	53	10-2028	0.8	20.3
3	78	10-3028	0.8	20.3
4	103	10-4028	1.0	25.4
5	129	10-5028	1.0	25.4
6	155	10-6028	1.5	38.1
8	203	10-8028	1.5	38.1

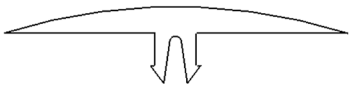
ID Thermoplastic Plug



Size		Part Number	Depth	
(in)	(mm)		(in)	(mm)
2	53	20-2028	1.0	25.4
3	78	20-3028	1.0	25.4
3½	91	20-3528	1.0	25.4
4	103	20-4028	1.3	33.0
4½	116	20-4528	1.0	25.4
5	129	20-5028	1.0	25.4
6	155	20-6028	1.5	38.1

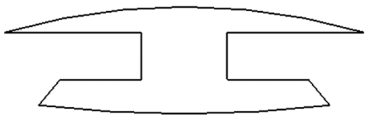
Accessories

Thermoplastic T-Strip



Size	Part Number
All	20-0167

Thermoplastic H-Strip



Size	Part Number
All	20-0169

Accessories

Splice & Repair Kit

Size	Part Number	Conduit Size		Length of Cut Mat		Splices Per Kit
		(in)	(mm)	(in)	(cm)	(kg)
All	20-0174	2	53	10	25	14
		3	78	12	31	11
		4	103	15	38	9
		5	129	19	48	7
		6	155	23	59	6

Adhesive Kit

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

Mechanical Properties (20-0161)	
Shore D Hardness	81
Tensile Strength	3060 Psi
Lap Shear Strength	252 Psi
Viscosity	3700 cP
Mix Ratio	2:1
Color	Opaque
Solid Content	100%

Mechanical Properties (20-0172)	
Technology	Cyanoacrylate (Par A) / Epoxy Hybrid (Part B)
Shore D Hardness	65 to 69
Tensile Strength	1 025 Psi (ISO 527-3)
Viscocity	High (4,000 to 7,000LMS Part A/ 25,000 to 40,000LMS Part B)
Mix Ratio	1:1
Color	Off-white to light yellow gel
Solid Content	100%

20-0165

Mechanical Properties (20-0163)	
Shore D Hardness	72
Tensile Strength	8000 Psi
Lap Shear Strength	3500 Psi
Viscosity	13500 cP
Mix Ratio	1:1
Color	Yellow
Solid Content	100%

Mechanical Properties (20-0164)	
Shore D Hardness	90
Tensile Strength	9900 Psi
Lap Shear Strength	2600 Psi
Viscosity	40000 cP
Mix Ratio	2:1
Color	Opaque
Solid Content	100%

20-0163 / 20-0164

Note: Mixing tip included

Accessories

Joint Calculation Table (Adhesive Kit)

Size		Joints Made	Pull-Out Strength	
(in)	(mm)	per Kit	(lbs)	(kgs)
2	53	18	2,000	907
2½	63	16	2,500	1,1 34
3	78	13	3,000	1,360
3½	91	11	3,500	1,587
4	103	10	4,000	1,814
4½	116	8	4,500	2,041
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

Split Conduit Assembly Instructions

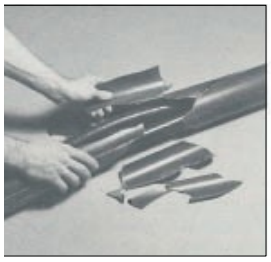
Immediate and instant repair

Immediate, instant, in place, permanent repair for FRE® duct system is available with our patented Split Conduit* System. FRE® Split Conduit* is pre-cut and hinged on one side to permit the replacement of damaged or faulty ducting without any interruption of service. The Split Conduit* is applied in place : then sealed with extruded H and T strips for a completely finished repair.

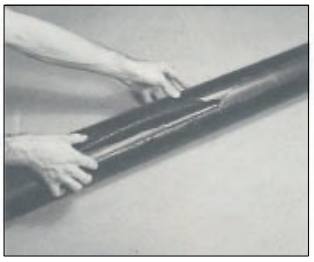
Additional advantages include :

- Year-round, all temperature installation
- Resistance to high humidity and temperatures
- Simplified inventory, easy storage and handling
- All fittings available: Y, elbows, dbell (except FRE® to steel, i.e. thread adapter)
- Especially suited to communication, computer, data & fiber optic ducting
- Withstands severe temperature variations
- High compressive and impact strength
- Resistance to deformation and cable fusion when shorted
- Repairable
- Heat transfer ability
- Minimum expansion and contraction
- Light weight and easy to handle
- Cuts easily with any saw

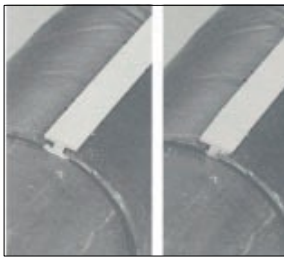
How to Install: 3 Easy Steps



Remove damaged or faulty ducting



Encapsulate cable with FRE® Split Conduit*



Seal with extruded H and T strips

FRE® Split Conduit* is pre-cut on one side and hinged on the other side (Fig. 1). A H-strip is used on the side which has the full cut and a T-strip is used on the hinged side of the conduit (Fig. 2). The Split Conduit* is installed over the cables to be protected or over broken conduit of all types. This is accomplished by separating the split side of the conduit wide enough to allow it to slide over the cable or damaged conduit. It is best to start with one end of the conduit and work towards the other end.

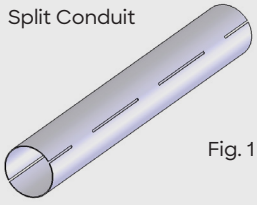


Fig. 1

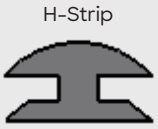
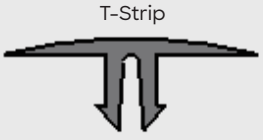


Fig. 2



Split Conduit Assembly Instructions

H-strip Procedure:

Once the conduit is in place, the H-strip is installed first before the T-strip. Do not apply extruded strips over the belled end of the conduit (Fig. 3).

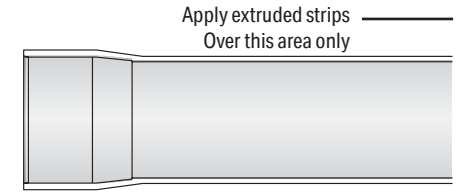


Fig. 3

Step 1:

Spread the conduit and insert the H-strip into position at one end. Then apply hand pressure along the « H » section forcing the small leg into the conduit (Fig. 4).

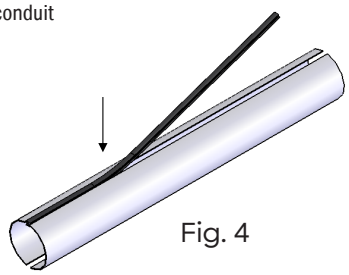


Fig. 4

Step 2:

When the section is in place, clasp the conduit on either side of the H-strip and squeeze it into the « H » until it locks. That operation should be done at every foot for full insertion (Fig. 5).

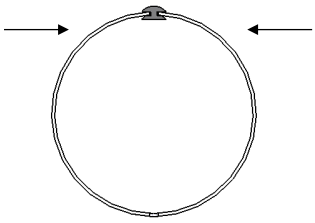


Fig. 5

Note:

On the spigot end of the conduit, the H-strip may be installed in a different manner, if desired. The H-strip can be slid down the split until it butts the H-strip previously installed. Then trim to the correct length. The strip is then locked into place by applying a clamping force to the conduit and forcing the conduit edges into the H-strip as before. For better seal, duct tape can be applied at the butt-joint of the H-strip (Fig. 6 and Fig. 7).

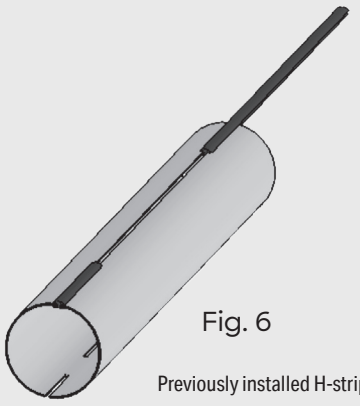


Fig. 6

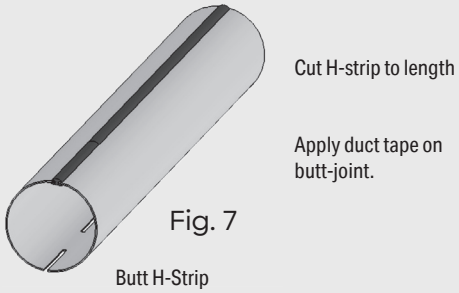


Fig. 7

Split Conduit Assembly Instructions

T-strip procedure:

After the H-strip is in place, the T-strip is installed in the intermittent slots.

Step 1:

Position the T-strip such that one end is located at the center of one of the slots. Then apply hand pressure to force the teeth into position and slide the T-strip to the end of the slot (Fig. 1, Fig. 2 and Fig. 3).

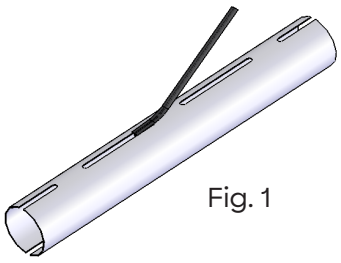


Fig. 1

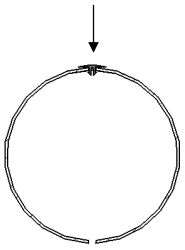


Fig. 2

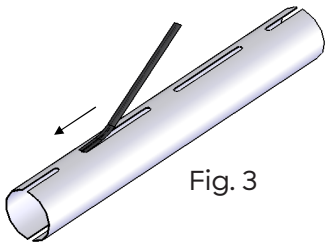


Fig. 3

Step 2:

Apply hand pressure on the T-strip starting at the installed end of the slot and work towards the other end forcing the T-strip's teeth into the slot as you go. Then at the other end of the slot, cut the T-strip to the correct length. Continue this procedure for the other slots (Fig. 4 and Fig. 5).

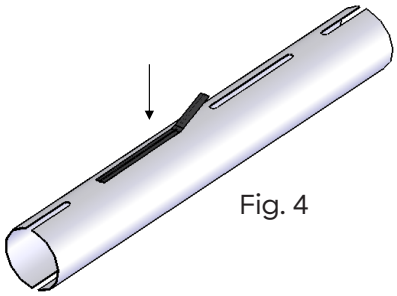


Fig. 4

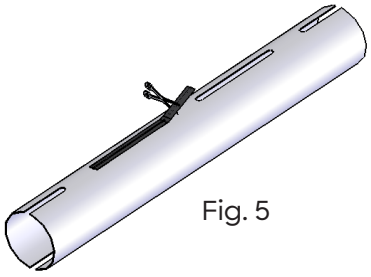


Fig. 5

Note:

To economize on T-strip material, two short sections of T-strip may be used to seal a slot instead of one continuous section. Again, duct tape can be applied at the butt-joint of the T-strip.

As a final operation (optional), to ensure system rigidity and to lock the sealing strips into position, use tie wraps or the Repair Kit (#20-0174). Tie wraps are inserted at the midpoint of each of the intermittent slots (Fig. 6)

This conduit length is now completed and work can begin on the next length. When installing subsequent conduit lengths, ensure that they are oriented properly such that a bell end and a spigot end are facing each other for every set of adjacent conduits. As subsequent conduits are completed with the installation of H & T-strips, they can be coupled in bell & spigot fashion. Since tight mechanical sealing is not possible at the bell and spigot joint, taping or additional tie wraps can be used to ensure better joint integrity.

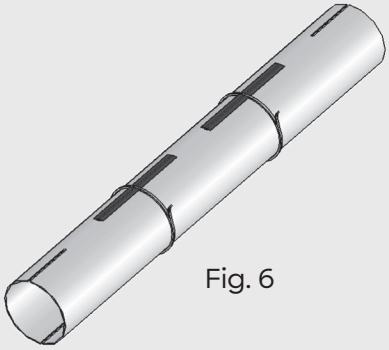


Fig. 6

Product Test Data

Above Ground Fiberglass Conduit

Material	Test Results	Test Protocal
Resin	Epoxy (no fillers)	
Glass	E-Glass (E- or E-CR-Glass)	CSA C22.2 2515
Toxicity (Toxic Gas Emission)	< 0.2% halogens by weight	2515

Physical Properties	Test Results	Test Protocal
Glass Content	68% ± 3%	API 15LR
Specific Gravity	1.94 g/cm3	ASTM D792
Barcol Hardness	54 ± 2	ASTM D2583
U.V. Resistance	> 3,500 Hrs (Xenon Arc)	CSA C22.2 2515
Water Absorption	< 1%	ASTM D570

Mechanical Data	Test Results	Test Protocal
Tensile Strength (axial)	> 7000 psi (48.26 MPa)	ASTM D638
Elasticity Modulus (4") (103 mm)	1.3 E6 psi (8 963 MPa)	ASTM D2105
TriSeal™ Joint Pull-Out Load	500 lbs (227 kg)	ASTM D2105
Adhesive Joint Pull-Out Load	1,000 lbs (454 kg) per inch trade size	ASTM D2105

Surface Finish	Test Results	Test Protocal
Exterior (average)	< 2000 microinches (50.8 micrometers)	
Interior (average)	< 125 microinches (3.2 micrometers)	
Color	Black (standard)	

Thermal Properties	Test Results	Test Protocal
Coefficient of Thermal Expansion	1.37 E-5 in./in./°F (2.47 E-5 m./m./°C)	ASTM D696
Thermal Conductivity	2 Btu.in/ft2.h. °F (0.288 W / m.K)	ASTM D335
Thermal Resistivity	0.5°F. ft2.h/Btu.in (3.47 m.K / W)	ASTM D335
Flammability	Article 5.10	ASTM D2105
Heat Deflection Temperature (HDT)	> 312°F (> 156°C)	ASTM D2105

Electrical Data	Test Results	Test Protocal
Dielectric Strength	500 volts/mil	ASTM D149
Dielectric Breakdown Voltage	29.7 kV	ASTM D149
Dissipation Factor	0.5%	ASTM D150

Coefficient of Friction	Test Results	Test Protocal
Cross Linked Polyethylene Cable	0.233 ± .02	CSA B196.1
PVC Jacketed Cable	0.385 ± .06	CSA B196.1
Concentric Neutral Cable	0.160 ± .03	CSA B196.1
Teck (Armoured) Cable	0.161 ± .03	CSA B196.1

Chemical Resistance

Above Ground Fiberglass Conduit

Chemical Resistance	After 45 Days	After 90 Days	Chemical Resistance	After 45 Days	After 90 Days
Sodium chloride, 10% aq. sin.	45	E	Nitric acid, 10% aq. sin.	45	E
Diesel fuel	E	E	Sodium carbonate, 10% aq. sin.	E	E
Unleaded gasoline	E	E	Benzene	NR	NR
Jet fuel	E	E	Toluene	E	E
Hydrochloric acid, 10% aq. sin.	E	E	Xylene	E	E
Sulfuric acid, 10% aq. sin.	E	E	Acetone	NR	NR

E : Excellent chemical resistance

NR : Not Recommended for long term contact.

Note : Chemical resistance tests reported here were conducted according to UL-651 section 38. Samples were immersed in the specified chemical reagent for 45 and 90 days, respectively. Weight gains or weight losses at the end of the immersion period were recorded. Mechanical integrity was determined by the parallel plate crush (ASTM D2412) test. Loads were measured at 5% deflection and at failure at the end of the immersion period and compared to the reference values of control specimens not exposed to any chemical attack. Weight gains or losses above 2% and drops in crushing resistance (load at 5% deflection or load at failure) above 15% were considered as evidence of insufficient chemical resistance.

Performance Specs

Representative Performance Specs

Size		Wall		Weight		Failure Load (ASTM D2412)		Impact (ASTM D2444)		Field Bending Radius at 0.2% Strain		Moment of Inertia	
(in)	(mm)	(in)	(mm)	(lbs/ft)	(kg/m)	(lbs/ft)	(kg/m)	(lbs/ft)	(kg/m)	(ft)	(m)	(in^4)	(cm^4)
IPS Standard Wall (SW)													
¾	21	.066	1.7	.17	.25	5,000	7,439	25	3.46	42	13	0.024	1.0
1	27	.066	1.7	.22	.32	4,200	6,249	30	4.15	42	13	0.050	2.1
1¼	35	.066	1.7	.28	.41	3,800	5,654	30	4.15	46	14	0.103	4.3
1½	41	.066	1.7	.32	.46	3,500	5,207	35	4.84	54	16	0.157	6.5
2	53	.070	1.8	.42	.63	3,000	4,463	80	11.07	68	21	0.337	14.0
3	78	.070	1.8	.63	.94	2,300	3,422	120	16.60	100	30	1.110	46.2
4	103	.070	1.8	.82	1.22	2,000	2,976	160	22.14	132	40	2.390	99.5
5	129	.095	2.4	1.39	2.07	3,000	4,463	200	27.67	160	49	6.101	253.9
6	155	.110	2.8	1.89	2.82	2,800	4,166	240	33.21	190	58	11.948	478.6
8	203	.115	2.9	2.61	3.88	2,400	3,571	280	38.75	235	72	27.818	1157.9
IPS Heavy Wall (HW)													
4	103	.095	1.8	.82	1.22	2,700	4,018	160	22.14	n/a	n/a	3.300	137.4
5	129	.115	2.4	1.39	2.07	3,700	5,506	200	27.68	n/a	n/a	7.468	310.8
6	155	.115	2.8	1.89	2.82	2,900	4,315	240	33.22	n/a	n/a	12.521	521.2
ID Standard Wall (SW)													
2	53	.070	1.8	.38	.57	3,200	4,761	60	8.30	68	21	0.244	10.2
2½	63	.070	1.8	.48	.71	2,700	4,017	80	11.06	80	24	0.467	19.4
3	78	.070	1.8	.57	.85	2,400	3,571	120	16.60	100	30	0.796	33.1
3½	91	.070	1.8	.66	.98	2,200	3,273	140	19.37	116	35	1.251	52.1
4	103	.070	1.8	.75	1.12	2,100	3,124	160	22.14	132	40	1.854	77.2
4½	116	.095	2.4	1.16	1.72	3,400	5,059	180	24.90	150	46	3.621	150.7
5	129	.095	2.4	1.28	1.90	3,800	5,654	200	27.67	166	51	4.936	205.4
6	155	.095	2.4	1.53	2.28	3,600	5,356	200	27.67	198	60	8.449	351.7
ID Heavy Wall (HW)													
4	103	.095	2.4	1.03	1.53	2,800	4,166	160	22.14	n/a	n/a	2.563	106.7
4½	116	.115	2.4	1.16	1.72	3,900	5,803	180	24.91	n/a	n/a	4.442	184.9
5	129	.115	2.4	1.28	1.90	4,200	6,250	200	27.68	n/a	n/a	6.047	251.7
6	155	.115	2.4	1.53	2.28	4,00	5,952	200	27.68	n/a	n/a	10.330	429.9

Note: Impact resistance tests were carried out at -40°C, as required by UL 2515/CSA C22.2 2515, and at 23°C. The values reported here are the lowest of the two measurements (normally those taken at -40°C).

N/A: Not Available, please consult FRE Composites for details.

Flexural Data

Maximum flexural Modulus:	1.4E6 Psi	9 653 Mpa
Allowable working stress at 0,2% strain:	2 800 Psi	19.31 Mpa
Maximum long term flexural modulus at 0,2% strain:	1E6 Psi	6 895 Mpa
Longterm allowable design stress:	2 000 Psi	13.79 Mpa

Performance Specs

Representative Performance Specs

Size		Wall		Weight		Failure Load (ASTM D2412)		Impact (ASTM D2444)		Field Bending Radius at 0.2% strain		Moment of Inertia	
in	mm	in	mm	lbs/ft.	kg/m	lbs/ft.	kg/m	lbs/ft.	kg/m	ft.	m	in4	cm4
IPS Thin Wall (for Encased Burial (EB))													
4	102	.070	1.8	.64	.95	1,500	2,232	80	11.07	n/a	n/a	1.859	77.37
5	127	.070	1.8	1.01	1.50	2,200	3,273	100	13.84	n/a	n/a	4.433	184.5
6	152	.095	2.4	1.64	2.44	2,100	3,125	120	16.61	n/a	n/a	10.247	426.5
ID Thin Wall (for Encased Burial (EB))													
4	103	.055	1.4	.59	.88	1,600	3,381	80	11.07	n/a	n/a	1.440	59.9
4½	116	.070	1.8	.85	1.27	2,500	3,720	90	12.46	n/a	n/a	2.624	109.2
5	129	.070	1.8	.95	1.41	2,800	4,166	100	13.84	n/a	n/a	3.583	149.1
6	155	.070	1.8	1.52	2.26	2,600	3,869	100	13.84	n/a	n/a	6.149	255.9

Note: Impact resistance tests were carried out at -40°C, as required by UL 2515/CSA C22.2 2515, and at 23°C. The values reported here are the lowest of the two measurements (normally those taken at -40°C).

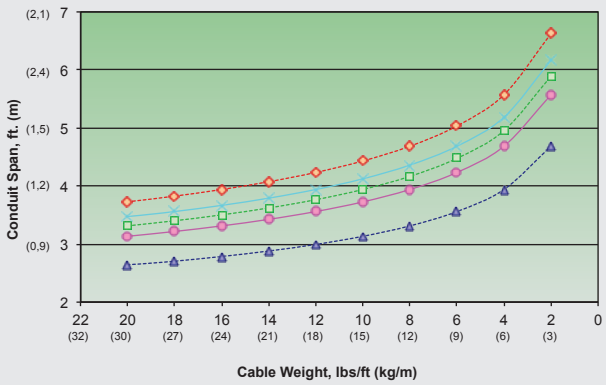
N/A: Not Available, please consult FRE Composites for details.

Conduit Deflection Tables

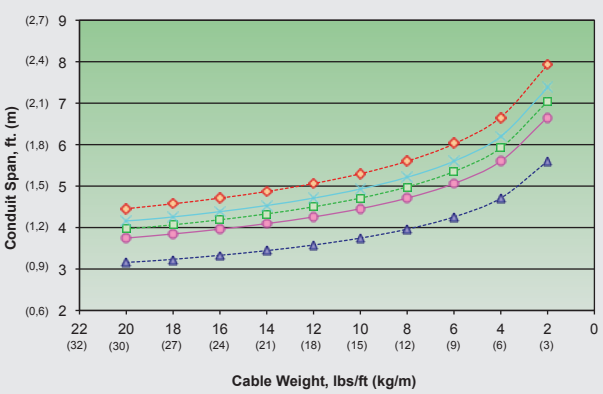
The graphs on the following pages reflect the span-deflection characteristics of Epoxy Systems Conduit. First, select the appropriate deflection graph. Continue by selecting the appropriate cable weight from the X-axis and move in a vertical direction, intercepting various deflection lines. At the appropriate deflection line for your application, look left the chart to find the recommended span between supports.

In order to take long-term creep into account, the charts have been tabulated using the long-term modulus in the calculations. Because of this, conduit sections will actually deflect much less than the charted value when first installed. If this long-term safety margin is not required, FRE Composites will prepare appropriate span charts for your application on request.

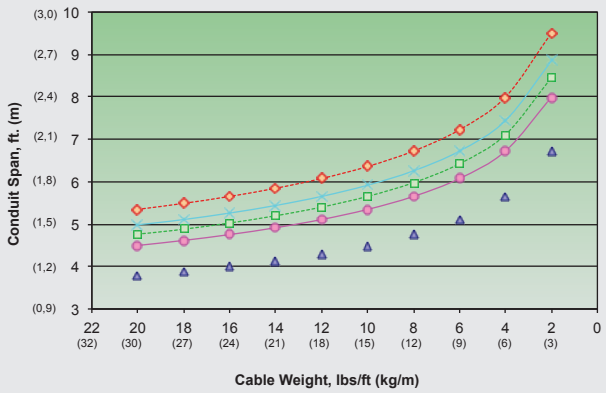
¾" (21 mm) SW Conduit (IPS only)



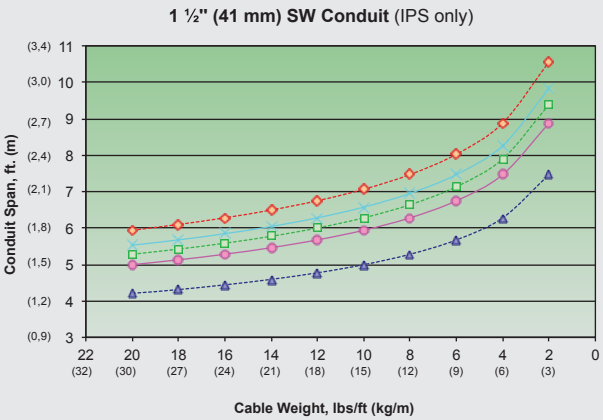
1" (27 mm) SW Conduit (IPS only)



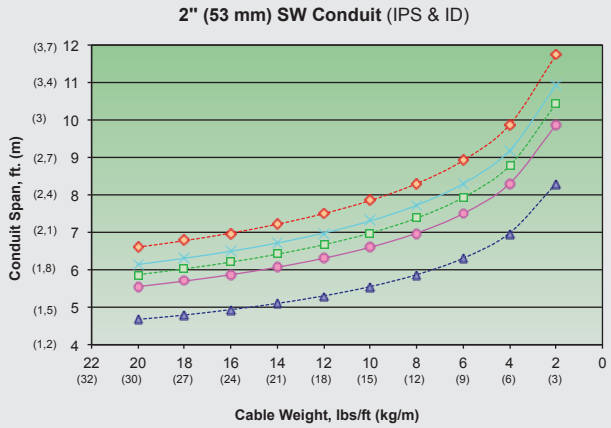
1 ¼" (35 mm) SW Conduit (IPS only)



1 ½" (41 mm) SW Conduit (IPS only)

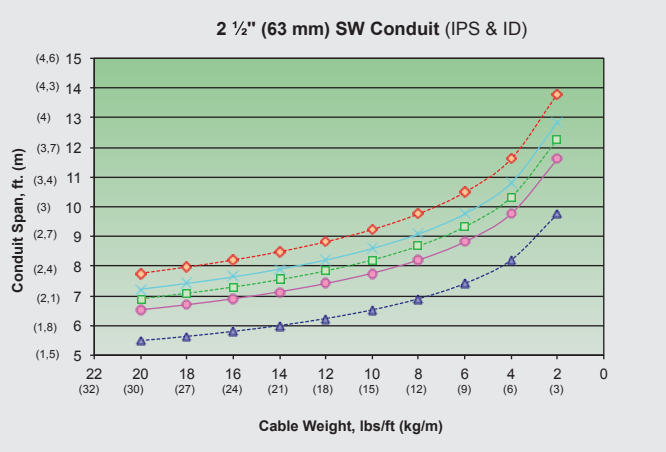


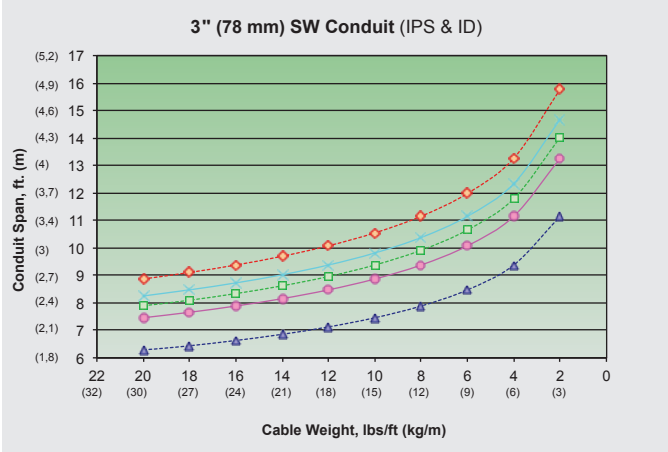
2" (53 mm) SW Conduit (IPS & ID)

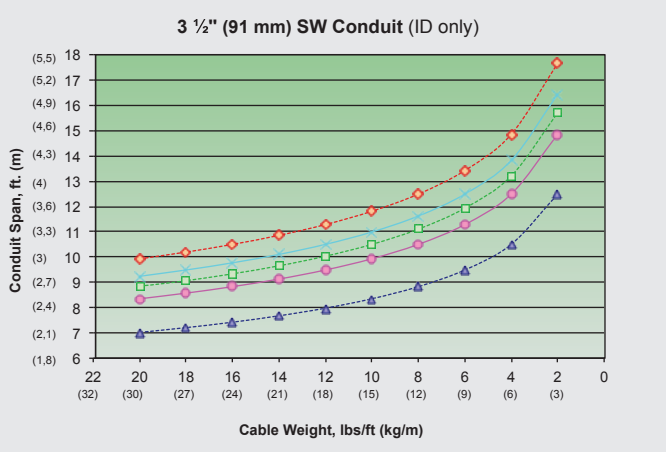


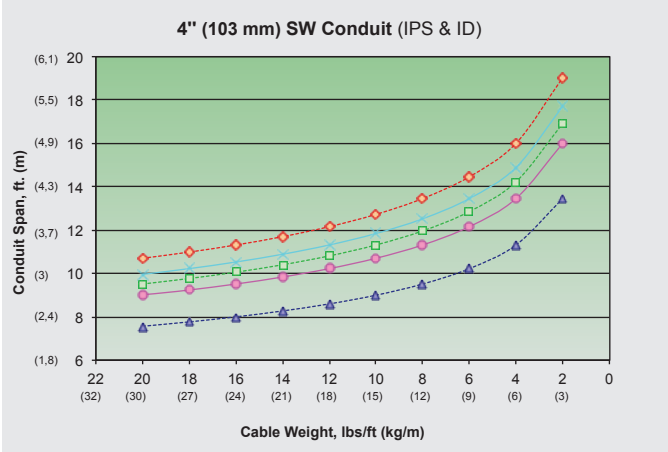
1/4" (6mm) Deflection — 1/2" (13mm) Deflection — 5/8" (16mm) Deflection — 3/4" (19mm) Deflection — 1" (25mm) Deflection

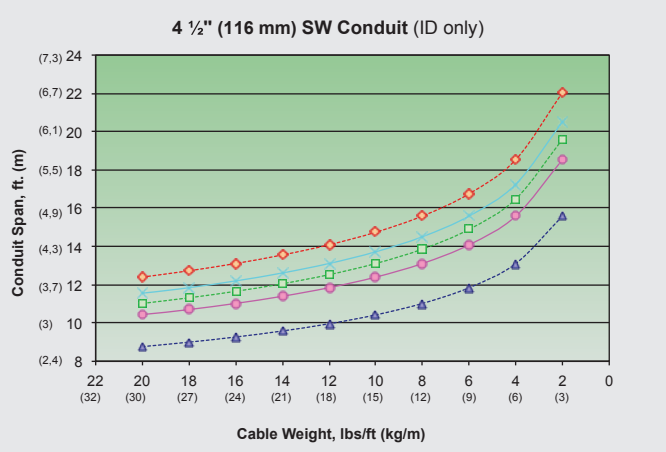
Conduit Deflection Tables

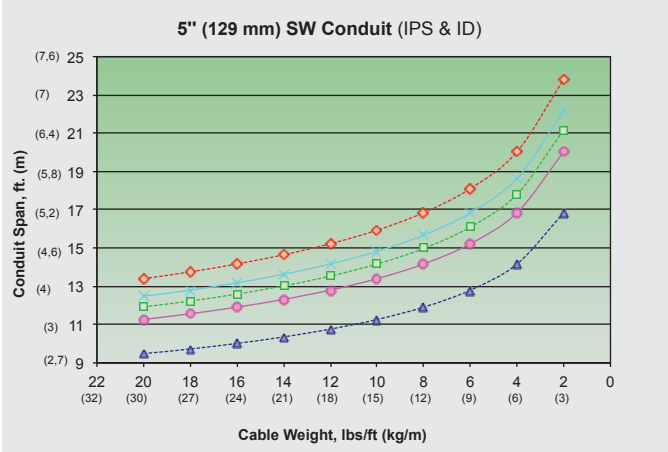


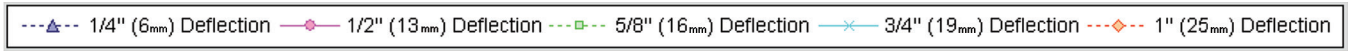






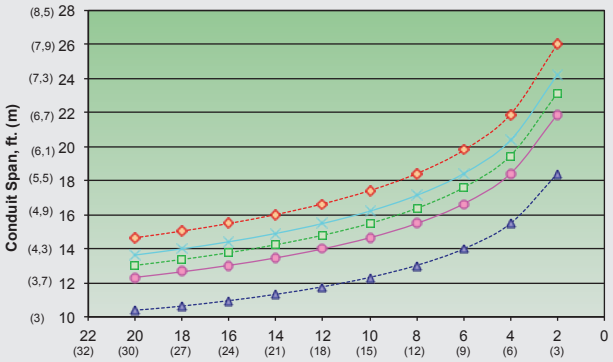




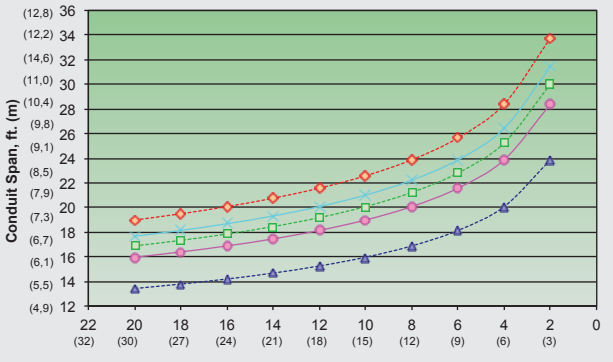


Conduit Deflection Tables

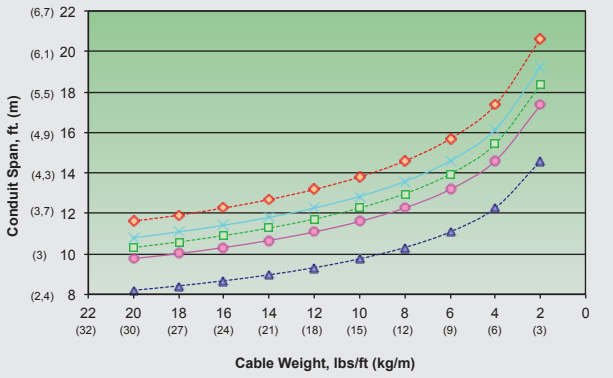
6" (155 mm) SW Conduit (IPS & ID)



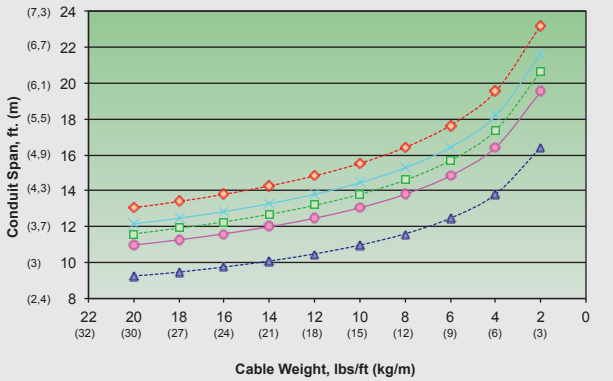
8" (203 mm) SW Conduit (IPS only)



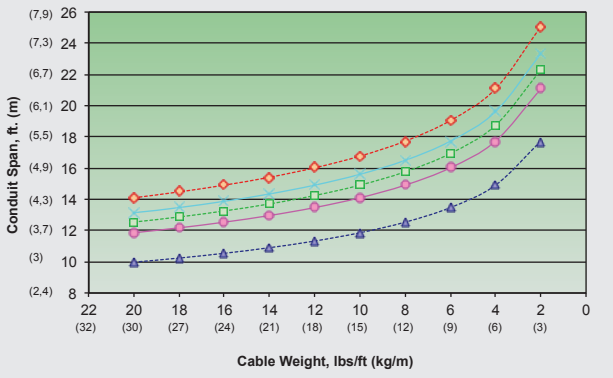
4" (103 mm) HW Conduit (IPS & ID)



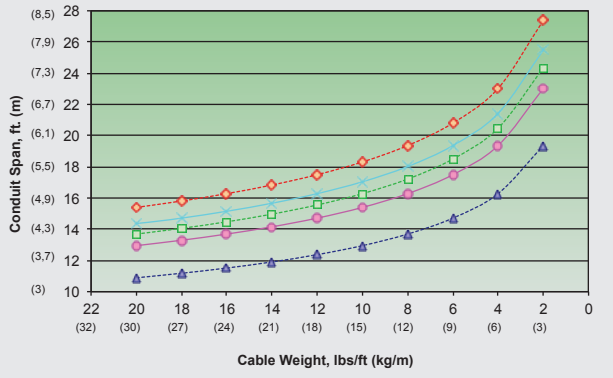
4 ½" (116 mm) HW Conduit (ID only)



5" (129 mm) HW Conduit (IPS & ID)



6" (155 mm) HW Conduit (IPS & ID)



1/4" (6mm) Deflection — 1/2" (13mm) Deflection — 5/8" (16mm) Deflection — 3/4" (19mm) Deflection — 1" (25mm) Deflection

Pulling Tension for Cables

The cable manufacturer must be consulted for the maximum pull permitted on a selected cable. Other data such as lubrication restrictions should also be obtained from the cable manufacturer. The total pulling force required for a cable in a conduit depends upon the cable weight, length of conduit, number and location of the elbows and the coefficient of friction. The following formula is published to aid in obtaining tension values: $T_i = T_{i-1} e^{(f\alpha)} + wLf \cos ø + wL \sin ø$

T_i = Tension at the point towards end of run (lbs)

f = Coefficient of friction

L = Length of conduit subjected to cable weight (ft.)

e = Napirian Logarithm base = 2.718

T_{i-1} = Tension at point towards beginning of run (lbs)

w = Cable weight per foot (lbs/ft.)

a = Elbow angle (°)

ø = Angle (°) of run with regards to

- positive if run moves upwards
- negative if run moves downwards
- equal zero (0) if run is horizontal

Example: Parameters - f = .25 w = 10 lbs/ft. r = 36 inches = Elbow radius (used to calculate elbow length)

i) Pulling from point "0" to point "7"

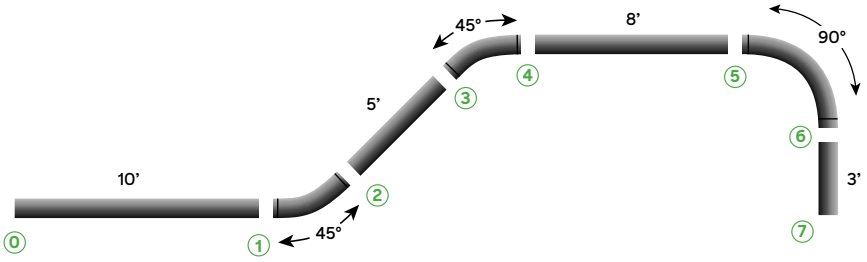
Point (i)	Ø (°)	a (°)	L (ft)	$e^{(f\alpha)}$	T_i (lb)
0	-	-	-	-	0.0
1	0.0	0.0	10.0	1.00	25.00
2	0.0	45.0	3.4	1.22	38.81
3	0.0	0.0	5.0	1.00	51.31
4	0.0	45.0	3.4	1.22	70.84
5	0.0	0.0	8.0	1.00	90.84
6	0.0	90.0	5.7	1.48	148.81
7	0.0	0.0	3.0	1.00	156.31

ii) Pulling from point "7" to point "0"

Point (i)	Ø (°)	a (°)	L (ft)	$e^{(f\alpha)}$	T_i (lb)
7	-	-	-	-	0.0
6	0.0	0.0	3.0	1.00	7.50
5	0.0	90.0	5.7	1.48	25.39
4	0.0	0.0	8.0	1.00	45.39
3	0.0	45.0	3.4	1.22	63.63
2	0.0	0.0	5.0	1.00	76.13
1	0.0	45.0	3.4	1.22	101.03
0	0.0	0.0	10.0	1.00	126.03

ø: This value is always zero until the run is directed other than completely horizontal.

Elbow Angle (°)	For F = 0 .25	For F = 0.35	For F = 0.45	For F = 0.55
11.25	1.050	1.071	1.092	1.114
22.5	1.103	1.147	1.193	1.241
30	1.140	1.201	1.266	1.334
45	1.217	1.316	1.424	1.540
60	1.299	1.443	1.602	1.779
90	1.481	1.733	2.028	2.372



The following table is published to aid in solving the values for $e^{(f\alpha)}$

Maximum Tension Allowed At Elbows:

The maximum pulling tension at an elbow must not exceed the calculated value of 300 x r (Radius of the conduit elbow in feet). The above equations are used to determine what tension will occur at an elbow. This is to avoid cable damage.

* In general, it is preferred to pull in the direction which results in the lowest tension. To do this, the pay-off reel should be placed at the end nearest the elbow.

*For safe pulling tension, to avoid cable damage, consult cable manufacturers for tension per cable type.

Wire Fill

Wire Fill

Maximum allowable percentage wire fill from National Electrical Code (NEC) and Canadian Electrical Code (CEC).

IPS Sizes

Imperial

Trade Size IPS	Inside Diameter	Total Area	Number of Conductors Percent of Cross Section of Conduit for Conductors		
			1	2	3
	(in)	100% (in^2)	53% Fill (in^2)	31% Fill (in^2)	40% Fill (in^2)
¾	0.918	0.662	0.351	0.205	0.265
1	1.183	1.099	0.583	0.341	0.440
1¼	1.528	1.834	0.972	0.568	0.733
1½	1.768	2.455	1.301	0.761	0.982
2	2.235	3.923	2.079	1.216	1.569
3	3.360	8.867	4.699	2.749	3.547
4	4.360	14.930	7.913	4.628	5.972
5	5.373	22.674	12.017	7.029	9.070
6	6.405	32.220	17.077	9.988	12.888
8	8.395	55.352	29.336	17.159	22.141

Metric

Trade Size IPS	Inside Diameter	Total Area	Number of Conductors Percent of Cross Section of Conduit for Conductors		
			1	2	3
	(mm)	100% (mm^2)	53% Fill (mm^2)	31% Fill (mm^2)	40% Fill (mm^2)
21	23	415	220	129	166
27	30	707	375	219	283
35	39	1,195	633	370	478
41	45	1,590	843	493	636
53	57	2,552	1,352	791	1,021
63	70	3,832	2,031	1,188	1,533
78	85	5,675	3,007	1,759	2,270
103	111	9,677	5,129	3,000	3,871
129	136	14,527	7,699	4,503	5,811
155	163	20,867	11,060	6,469	8,347
203	213	35,633	18,885	11,046	14,253

Wire Fill

Wire Fill

Maximum allowable percentage wire fill from National Electrical Code (NEC) and Canadian Electrical Code (CEC).

ID Sizes

Imperial

Trade Size ID	Inside Diameter	Total Area	Number of Conductors Percent of Cross Section of Conduit for Conductors		
			1	2	3
	(in)	100% (in^2)	53% Fill (in^2)	31% Fill (in^2)	40% Fill (in^2)
2	2.000	3.142	1.665	0.974	1.257
2½	2.500	4.909	2.602	1.522	1.964
3	3.000	7.069	3.746	2.191	2.827
3½	3.500	9.621	5.099	2.983	3.848
4	4.000	12.566	6.660	3.896	5.027
4½	4.500	15.904	8.429	4.930	6.362
5	5.000	19.635	10.407	6.087	7.854
6	6.000	28.274	14.985	8.765	11.310

Metric

Trade Size ID	Inside Diameter	Total Area	Number of Conductors Percent of Cross Section of Conduit for Conductors		
			1	2	3
	(mm)	100% (mm^2)	53% Fill (mm^2)	31% Fill (mm^2)	40% Fill (mm^2)
53	53	2,027	1,074	628	811
63	63	3,167	1,678	982	1,267
78	78	4,560	2,417	1,414	1,824
91	91	6,207	3,290	1,924	2,483
103	103	8,107	4,297	2,513	3,243
116	116	10,261	5,438	3,181	4,104
129	129	12,668	6,714	3,927	5,067
155	155	18,242	9,668	5,655	7, 297

Standard Conduit Packaging

Standard Conduit Packaging

IPS Thin Wall (TW)

Size		Length		Weight per Stick		Weight per Crate		Sticks per Crate	Footage per Crate		Crate per Truck	Footage per Truck		Weight per Truck		Width per Crate		Height per Crate	
(in)	(mm)	(ft)	(m)	(lb)	(kg)	(lb)	(kg)		(ft)	(m)		(ft)	(m)	(lb)	(kg)	(in)	(mm)	(in)	(mm)
4	103	19.68	6	13.00	5.90	574	260	43	846	258	16	13,540	4,127	9,184	4,166	45	1,143	24	610
5	129	19.68	6	22.00	9.98	675	306	30	590	180	16	9,446	2,879	10,800	4,899	45	1,143	24	610
6	155	19.68	6	24.00	10.89	495	225	20	394	120	16	6,298	1,920	7,920	3,592	45	1,143	24	610
8	203	19.68	6	44.00	19.96	455	206	10	197	60	16	3149	960	7,280	3,302	45	1,143	24	610

IPS Standard Wall (SW)

Trade Size		Length		Weight Per Stick		Weight Per Crate		Sticks Per Crate	Footage Per Crate		Crate Per Truck	Footage Per Truck		Weight Per Truck		Width Per Crate		Height Per Crate	
(in)	(mm)	(ft)	(m)	(lb)	(kg)	(lb)	(kg)		(ft)	(m)		(ft)	(m)	(lb)	(kg)	(in)	(mm)	(in)	(mm)
¾	21	9.84	3	1.50	0.68	307	139	200	1,968	600	80	157,440	47,988	24,560	11,140	45	1,143	8	203
1	27	9.84	3	2.20	1.00	337	153	150	1,476	450	80	118,080	35,991	26,960	12,229	45	1,143	10	254
1¼	35	9.84	3	2.60	1.18	397	180	150	1,476	450	80	118,080	35,991	31,760	14,406	45	1,143	10	254
1½	41	9.84	3	3.10	1.41	472	214	150	1,476	450	80	118,080	35,991	37,760	17,128	45	1,143	10	254
2	53	19.68	6	8.80	3.99	596	270	66	1,299	396	40	51,955	15,836	23,832	10,810	45	1,143	10	254
3	78	19.68	6	13.10	5.94	1,076	488	81	1,594	486	16	25,505	7,774	17,218	7,810	45	1,143	24	610
4	103	19.68	6	16.90	7.67	742	336	43	846	258	16	13,540	4,127	11,867	5,383	45	1,143	24	610
5	129	19.68	6	28.30	12.84	864	392	30	590	180	16	9,446	2,879	13,824	6,271	45	1,143	24	610
6	155	19.68	6	39.00	17.69	795	361	20	394	120	16	6,298	1,920	12,720	5,770	45	1,143	24	610
8	203	19.68	6	53.30	24.18	548	249	10	197	60	16	3,149	960	8,768	3,977	45	1,143	24	610

IPS Heavy Wall (HW)

Trade Size		Length		Weight Per Stick		Weight Per Crate		Sticks Per Crate	Footage Per Crate		Crate Per Truck	Footage Per Truck		Weight Per Truck		Width Per Crate		Height Per Crate	
(in)	(mm)	(ft)	(m)	(lb)	(kg)	(lb)	(kg)		(ft)	(m)		(ft)	(m)	(lb)	(kg)	(in)	(mm)	(in)	(mm)
4	103	19.68	6	23.00	10.43	1,004	455	43	846	258	16	13,540	4,127	16,064	7,287	45	1,143	24	610
5	129	19.68	6	34.30	15.56	1,044	474	30	590	180	16	9,446	2,879	16,704	7,577	45	1,143	24	610
6	155	19.68	6	40.80	18.51	831	377	20	394	120	16	6,298	1,920	13,296	6,031	45	1,143	24	610

Standard Conduit Packaging

Standard Conduit Packaging

ID Thin Wall (TW)

Size		Length		Weight per Stick		Weight per Crate		Sticks per Crate	Footage per Crate		Crate per Truck	Footage per Truck		Weight per Truck		Width per Crate		Height per Crate	
(in)	(mm)	(ft)	(m)	(lb)	(kg)	(lb)	(kg)		(ft)	(m)		(ft)	(m)	(lb)	(kg)	(in)	(mm)	(in)	(mm)
4	102	19.68	6	12.00	5.44	699	317	57	1,122	342	16	17,948	5,471	11,184	5,073	45	1,143	24	610
4½	114	19.68	6	18.00	8.16	789	358	43	846	258	16	13,540	4,127	12,624	5,726	45	1,143	24	610
5	127	19.68	6	20.00	9.07	775	352	38	748	228	16	11,965	3,647	12,400	5,625	45	1,143	24	610
6	152	19.68	6	24.00	10.89	639	290	26	512	156	16	8,187	2,495	10,224	4,638	45	1,143	24	610

ID Standard Wall (SW)

Trade Size		Length		Weight Per Stick		Weight Per Crate		Sticks Per Crate	Footage Per Crate		Crate Per Truck	Footage Per Truck		Weight Per Truck		Width Per Crate		Height Per Crate	
(in)	(mm)	(ft)	(m)	(lb)	(kg)	(lb)	(kg)		(ft)	(m)		(ft)	(m)	(lb)	(kg)	(in)	(mm)	(in)	(mm)
2	53	19.68	6	6.81	3.09	519	235	74	1,456	444	40	58,253	17,756	20,758	9,416	45	1,143	10	254
2½	63	19.68	6	8.40	3.81	1,317	597	155	3,050	930	16	48,806	14,876	21,072	9,558	45	1,143	24	610
3	78	19.68	6	11.24	5.10	1,139	517	100	1,968	600	16	31,488	9,598	18,224	8,266	45	1,143	24	610
3½	91	19.68	6	12.80	5.81	962	436	74	1,456	444	16	23,301	7,102	15,395	6,983	45	1,143	24	610
4	103	19.68	6	15.18	6.89	880	399	57	1,122	342	16	17,948	5,471	14,084	6,389	45	1,143	24	610
4½	116	19.68	6	20.70	9.39	905	411	43	846	258	16	13,540	4,127	14,482	6,569	45	1,143	24	610
5	129	19.68	6	25.22	11.44	973	442	38	748	228	16	11,965	3,647	15,574	7,064	45	1,143	24	610
6	155	19.68	6	31.30	14.20	829	376	26	512	156	16	8,187	2,495	13,261	6,015	45	1,143	24	610

ID Heavy Wall (HW)

Trade Size		Length		Weight Per Stick		Weight Per Crate		Sticks Per Crate	Footage Per Crate		Crate Per Truck	Footage Per Truck		Weight Per Truck		Width Per Crate		Height Per Crate	
(in)	(mm)	(ft)	(m)	(lb)	(kg)	(lb)	(kg)		(ft)	(m)		(ft)	(m)	(lb)	(kg)	(in)	(mm)	(in)	(mm)
4	103	19.68	6	22.00	9.98	1,269	576	57	1,122	342	16	17,948	5,471	20,304	9,210	45	1,143	24	610
4½	116	19.68	6	28.00	12.70	1,219	553	43	846	258	16	13,540	4,127	19,504	8,847	45	1,143	24	610
5	129	19.68	6	32.00	14.52	1,231	558	38	748	228	16	11,965	3,647	19,696	8,934	45	1,143	24	610
6	155	19.68	6	39.00	17.69	1,029	467	26	512	156	16	8,187	2,495	16,464	7,468	45	1,143	24	610

Standard Accessories Packaging

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			10	Bag	Elbows	1-2	27-53	10	Bundle
Wobble	2	53	10	Bag	Expansion JT	2-6	53-129	5	Bundle	Bends	3-6	78-155	5	Bundle
Wobble	3-6	78-129	5	Bundle	Adapters	1-1½	27-41	50	Bag	Bell Ends			A/R	Carton

Glossary

FRE® Conduit

Fiberglass conduit manufactured by FRE Composites. FRE is a registered trademark in Canada, United States and elsewhere in the world, and is a recognized and trusted name worldwide since the 1970's 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 Nonmetallic (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

Two (2) wall thicknesses recognized by UL/CSA/NEMA standards

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.

Thin Wall (TW) conduit

Conduit built with a thinner wall thickness that varies based on the conduit diameter and is only recommended for Encased Burial (EB) installations.

Heavy Wall (HW) conduit

Conduit built with a heavier wall thickness that varies based on the conduit diameter and is recommended for additional protection of exposed non-hazardous locations.

Medium wall (MW) is not a recognized wall thickness per any UL/CSA/NEMA standards.

Key Products

Split conduit (Patented design)

Section of FRE 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 4175593 and Canadian Patent 1043277.

Glossary

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 damage section of a conduit.

Wobble coupling
Non-watertight fitting allowing for vertical and horizontal movements (±3°) of the raceway.

Skew Wobble coupling
Non-watertight fitting allowing for vertical and horizontal movements (±7.5°) of the raceway.

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.

Hangers (Intermediate or Anchored)
Corrosion protected metallic supports utilized to hang conduit raceways in above ground installations.

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 (delta T°).

Coefficient of friction
Ratio of the force tending to maintain contact between two surfaces and the force which opposes the sliding of the surfaces one along the other.

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