



BreathSaver® xw
FIBERGLASS CONDUIT
SYSTEM FOR

**LOW SMOKE /
HIGH
TEMPERATURE**

applications

FRE
COMPOSITES®



EDT
The Power of One

F1RST
IN THE
FIELD®

FIBERGLASS
PRODUCTS
SINCE 1958

FRE COMPOSITES®

FRE Composites' plants produce North America's highest quality fiberglass conduit system products, ready for shipment worldwide. These plants house up-to-date automated filament winding equipments, and contains plenty of warehousing capacity, both indoors and outdoors.



BreathSaver®

PROTECTING YOUR *lifeline*®

Our **BreathSaver® XW Conduit System** products are UL Certified against UL 2196 - 2-Hour Fire rating for both vertical and horizontal installations when installed with Lifeline® RHW-2 cables per FHIT 25C of Prysmian.

FRE Composites is the only fiberglass conduit system manufacturer to be 2-Hour **CERTIFIED** under UL 2196 both for vertical and horizontal installations. This is once again being: **First in the Field®**.

THE FIBERGLASS ADVANTAGE

- ◆ 2-HOUR FIRE CERTIFIED (VERTICAL & HORIZONTAL)
- ◆ COMPLETE RANGE OF PRODUCT: • IPS DIMENSIONS : ¾" - 1 ½"
 - ID DIMENSIONS : 2" TO 6"
 - ALL ASSOCIATED FITTINGS
- ◆ LOW SMOKE HALOGEN-FREE (LSHF) CONSTRUCTION
- ◆ CORROSION-FREE FOR LONG LIFE
- ◆ EASY TO INSTALL
- ◆ NON-CONDUCTIVE

FIRST IN THE FIELD®

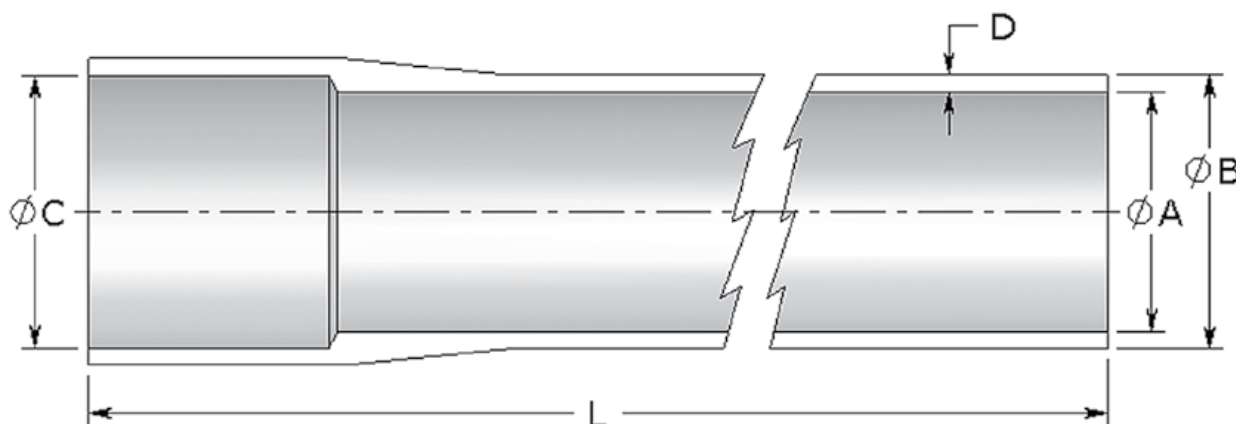
" Whoever is **First in the Field** and awaits the coming of the enemy, will be fresh to fight. Whoever is second in the field and has to hasten to battle will arrive exhausted. "

- Sun Tzu, The Art of War



IPS EXTRA HEAVY WALL (XW) CONDUIT SYSTEM

IPS EXTRA HEAVY WALL (XW) CONDUIT



SIZE		SYMBOL	ØA	ØB	ØC	D	L	ØA	ØB	ØC	D	L
in	mm	No.	inches					millimeters				meters
¾	21	74-7500	0.918	1.418	1.458	0.250	118.25	23.3	36.0	37.0	6.4	3
1	27	74-1000	1.183	1.683	1.723	0.250	118.25	30.0	42.7	43.8	6.4	3
1¼	35	74-1200	1.528	2.028	2.068	0.250	118.25	38.8	51.5	52.5	6.4	3
1½	41	74-1500	1.768	2.268	2.308	0.250	118.25	44.9	57.6	58.6	6.4	3
8*	203	74-8000	8.393	8.893	8.933	0.250	236.25	213.2	225.9	226.9	6.4	6

- BreathSaver® products are offered with a straight socket assembly requiring adhesive for assembly.
- Standard length is 9.84 ft. (3m) for ¾" to 1½" conduit and 19.68 ft. (6m). for 2" to 6".



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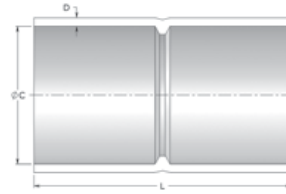
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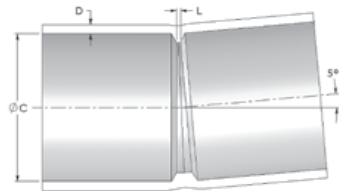
IPS XW DOUBLE BELL COUPLING

SIZE	SYMBOL	ØC	D	L	ØC	D	L	
in	mm	No.	inches	millimeters				
¾	21	74-7510	1.458	0.250	8.500	23.3	6.4	215.9
1	27	74-1010	1.723	0.250	8.500	30.0	6.4	215.9
1¼	35	74-1210	2.068	0.250	8.500	38.8	6.4	215.9
1½	41	74-1510	2.308	0.250	8.500	44.9	6.4	215.9
8	203	74-8010	8.933	0.250	8.500	226.9	6.4	215.9



IPS XW 5° DOUBLE BELL COUPLING

SIZE	SYMBOL	ØC	D	L	ØC	D	L	
in	mm	No.	inches	millimeters				
¾	21	74-7511	1.458	0.250	1.125	37.0	6.4	3.200
1	27	74-1011	1.723	0.250	1.125	43.8	6.4	3.200
1¼	35	74-1211	2.068	0.250	1.125	52.5	6.4	3.200
1½	41	74-1511	2.308	0.250	1.125	58.6	6.4	3.200
8	203	74-8011	8.933	0.250	8.500	226.9	6.4	3.200

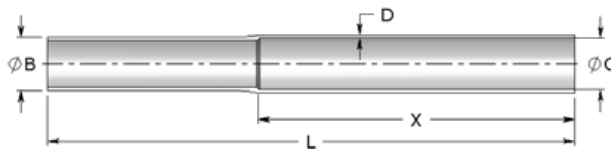


IPS XW SLEEVE

SIZE	SYMBOL	ØC	D	L	ØC	D	L
in	mm	No.	inches			millimeters	
¾	21	74-7516	1.458	0.250	12	37.0	6.4 304.8
1	27	74-1016	1.723	0.250	12	43.8	6.4 304.8
1¼	35	74-1216	2.068	0.250	12	52.5	6.4 304.8
1½	41	74-1516	2.308	0.250	12	58.6	6.4 304.8
8	203	74-8016	8.933	0.250	12	226.9	6.4 304.8



IPS XW SINGLE EXPANSION JOINT



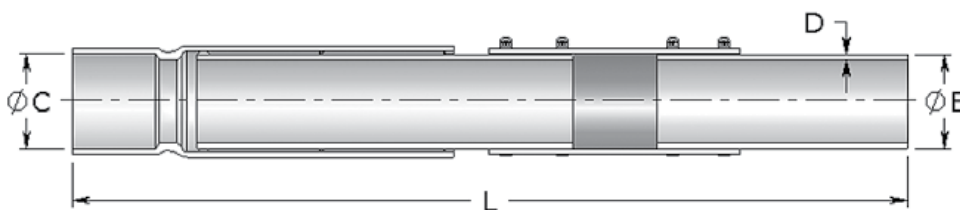
SIZE	SYMBOL	ØB	ØC	D	L	X	ØB	ØC	D	L	X	
in	mm	No.	inches				millimeters					
¾	21	74-7512	1.418	1.458	0.25	20	12	36.0	37.0	6.4	508.0	304.8
1	27	74-1012	1.683	1.723	0.25	20	12	42.7	43.8	6.4	508.0	304.8
1¼	35	74-1212	2.028	2.068	0.25	20	12	51.5	52.5	6.4	508.0	304.8
1½	41	74-1512	2.268	2.308	0.25	20	12	57.6	58.6	6.4	508.0	304.8
8	203	74-8012	8.393	8.893	0.25	20	12	225.9	226.9	6.4	508.0	304.8

IPS XW O-RING EXPANSION JOINT



SIZE		SYMBOL	ØB	ØC	D	L MIN	L MAX	ØB	ØC	D	L MIN	L MAX
in	mm	No.	inches				millimeters					
¾	21	74-7517	1.418	1.458	0.250	23	35	36.0	37.0	6.4	584.2	889.0
1	27	74-1017	1.683	1.723	0.250	23	35	42.7	43.8	6.4	584.2	889.0
1¼	35	74-1217	2.028	2.068	0.250	23	35	51.5	52.5	6.4	584.2	889.0
1½	41	74-1517	2.268	2.308	0.250	23	35	57.6	58.6	6.4	584.2	889.0
8	203	74-8017	8.893	8.933	0.250	23	35	225.9	226.9	6.4	584.2	889.0

IPS XW O-RING EXPANSION / DEFLECTION JOINT



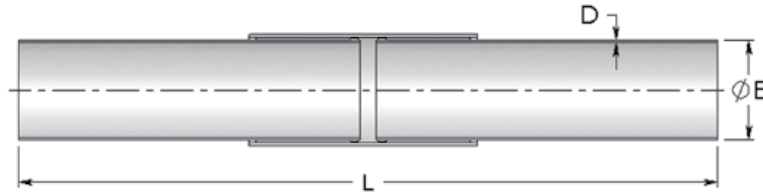
SIZE		SYMBOL	ØB	ØC	D	L MIN	L MAX	ØB	ØC	D	L MIN	L MAX
in	mm	No.	inches				millimeters					
¾	21	74-7557	1.418	1.458	0.250	39	51	36.0	37.0	6.4	990.6	1295.4
1	27	74-1057	1.683	1.723	0.250	39	51	42.7	43.8	6.4	990.6	1295.4
1¼	35	74-1257	2.028	2.068	0.250	39	51	51.5	52.5	6.4	990.6	1295.4
1½	41	74-1557	2.268	2.308	0.250	39	51	57.6	58.6	6.4	990.6	1295.4
8	203	74-8057	8.893	8.933	0.250	39	51	225.9	226.9	6.4	990.6	1295.4



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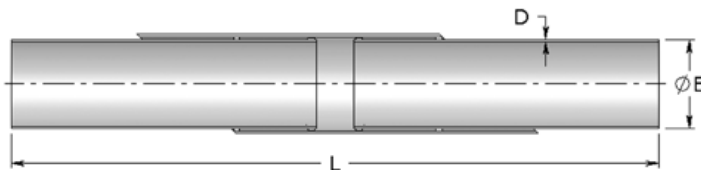
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IPS XW WOBBLE (FOR UP TO 3° CURVATURE)



SIZE		SYMBOL	ØB	D	L MIN	L MAX	ØB	D	L MIN	L MAX
in	mm	No.								
¾	21	74-7513	1.418	0.250	36	46	36.0	6.4	914.4	1168.4
1	27	74-1013	1.683	0.250	36	46	42.7	6.4	914.4	1168.4
1¼	35	74-1213	2.028	0.250	36	46	51.5	6.4	914.4	1168.4
1½	41	74-1513	2.268	0.250	36	46	57.6	6.4	914.4	1168.4
8	203	74-8013	8.893	0.250	36	46	225.9	6.4	914.4	1168.4

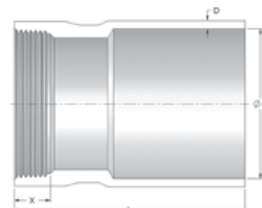
IPS XW SKEW WOBBLE (FOR UP TO 7.5° CURVATURE)



SIZE		SYMBOL	ØB	D	L MIN	L MAX	ØB	D	L MIN	L MAX
in	mm	No.	inches				millimeters			
¾	21	74-7514	1.418	0.250	48	56	36.0	6.4	1219.2	1422.4
1	27	74-1014	1.683	0.250	48	56	42.7	6.4	1219.2	1422.4
1¼	35	74-1214	2.028	0.250	48	56	51.7	6.4	1219.2	1422.4
1½	41	74-1514	2.268	0.250	48	56	57.6	6.4	1219.2	1422.4
8	203	74-8014	8.893	0.250	48	56	225.9	6.4	1219.2	1422.4

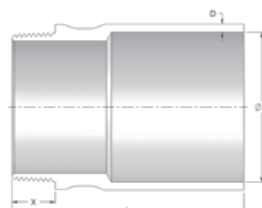
IPS XW NPT FEMALE THREADED ADAPTER

SIZE	SYMBOL	ØC	D	L	X	ØC	D	L	X	
in	mm	No.	inches			millimeters				
¾	21	74-7544	1.458	0.250	7	0.553	37.0	6.4	177.8	14.0
1	27	74-1044	1.723	0.250	7	0.661	43.8	6.4	177.8	16.8
1¼	35	74-1244	2.068	0.250	7	0.681	52.5	6.4	177.8	17.3
1½	41	74-1544	2.308	0.250	7	0.681	58.6	6.4	177.8	17.3
8	203	74-8044	8.933	0.250	7	1.313	226.9	6.4	177.8	33.4



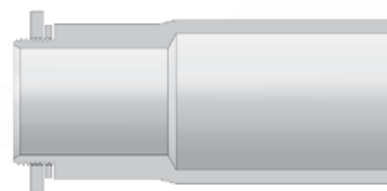
IPS XW NPT MALE THREADED ADAPTER

SIZE	SYMBOL	ØC	D	L	X	ØC	D	L	X	
in	mm	No.	inches			millimeters				
¾	21	74-7527	1.458	0.250	6	0.546	37	6.4	152.4	13.9
1	27	74-1027	1.723	0.250	6	0.984	43.8	6.4	152.4	25.0
1¼	35	74-1227	2.068	0.250	6	0.707	52.5	6.4	152.4	18.0
1½	41	74-1527	2.308	0.250	6	0.724	58.6	6.4	152.4	18.4
8	203	74-8027	8.933	0.250	6	1.713	226.9	6.4	177.8	43.5



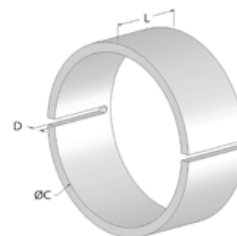
IPS XW BOX CONNECTOR

SIZE	SYMBOL	ØC	D	L	X	ØC	D	L	X	
in	mm	No.	inches			millimeters				
¾	21	74-7547	1.458	0.250	6	0.546	37	6.4	152.4	13.9
1	27	74-1047	1.723	0.250	6	0.683	43.8	6.4	152.4	17.3
1¼	35	74-1247	2.068	0.250	6	0.707	52.5	6.4	152.4	18.0
1½	41	74-1547	2.308	0.250	6	0.724	58.6	6.4	152.4	18.4
8	203	74-8047	8.933	0.250	6	1.713	226.9	6.4	177.8	43.5

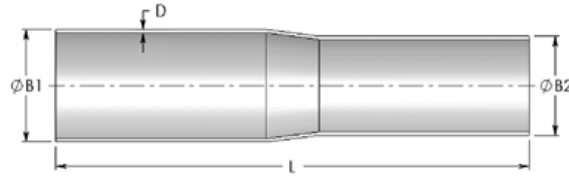


IPS XW SPLIT STOP RING

SIZE		SYMBOL	ØC	D	L	ØC	D	L
in	mm	No.	inches			millimeters		
¾	21	74-7564	1.458	0.250	2	37.0	6.4	50.8
1	27	74-1064	1.723	0.250	2	43.8	6.4	50.8
1¼	35	74-1264	2.068	0.250	2	52.5	6.4	50.8
1½	41	74-1564	2.308	0.250	2	58.6	6.4	50.8
8	203	74-8064	8.933	0.250	2	226.9	6.4	50.8



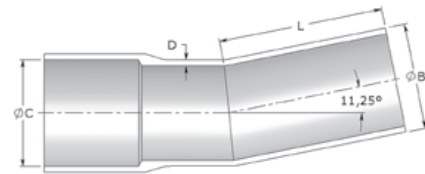
IPS XW REDUCER



SIZE		SYMBOL	ØB1	ØB2	D	L	ØB1	ØB2	D	L
in	mm	No.	inches				millimeters			
1	27	74-1029	1.683	1.418	0.250	18	42.7	36.0	6.4	457.2
1¼	35	74-1229	2.028	1.683	0.250	18	51.5	42.7	6.4	457.2
1½	41	74-1529	2.268	2.028	0.250	18	57.6	51.5	6.4	457.2

IPS XW 11.25° FITTING

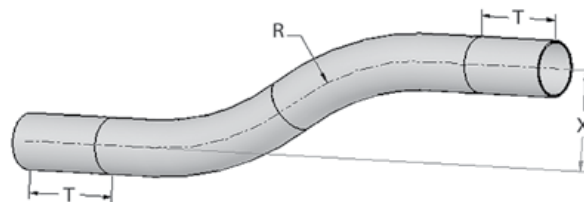
SIZE		SYMBOL	ØB	ØC	D	L	ØB	ØC	D	L
in	mm	No.	inches				millimeters			
¾	21	74-7535	1.418	1.458	0.250	6	36.0	37.0	6.4	152.4
1	27	74-1035	1.683	1.723	0.250	6	42.7	43.8	6.4	152.4
1¼	35	74-1235	2.028	2.068	0.250	6	51.5	52.5	6.4	152.4
1½	41	74-1535	2.268	2.308	0.250	6	57.6	58.6	6.4	152.4



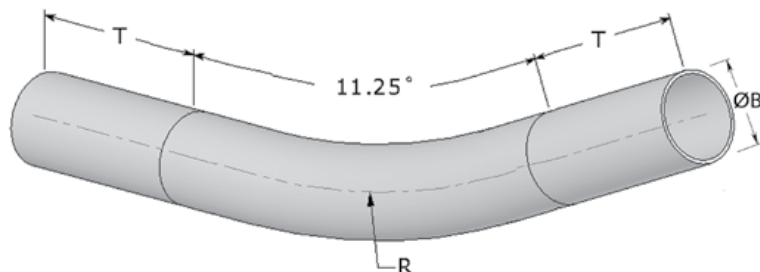
IPS XW OFFSET ELBOW

SIZE SYMBOL NO.

all special



IPS XW 11.25° ELBOW



12" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.	inches	inches		millimeters	millimeters	
¾ 21	74-7535R12	1.418	12	6	36.0	304.8	152.4
1 27	74-1035R12	1.683	12	6	42.7	304.8	152.4
1¼ 35	74-1235R12	2.028	12	6	51.5	304.8	152.4
1½ 41	74-1535R12	2.268	12	6	57.6	304.8	152.4

60" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.	inches	inches		millimeters	millimeters	
¾ 21	74-7535R60	1.418	60	6	36.0	1524.0	152.4
1 27	74-1035R60	1.683	60	6	42.7	1524.0	152.4
1¼ 35	74-1235R60	2.028	60	6	51.5	1524.0	152.4
1½ 41	74-1535R60	2.628	60	6	57.6	1524.0	152.4

24" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.	inches	inches		millimeters	millimeters	
¾ 21	74-7535R24	1.418	24	6	36.0	609.6	152.4
1 27	74-1035R24	1.683	24	6	42.7	609.6	152.4
1¼ 35	74-1235R24	2.028	24	6	51.5	609.6	152.4
1½ 41	74-1535R24	2.268	24	6	57.6	609.6	152.4

72" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.	inches	inches		millimeters	millimeters	
¾ 21	74-7535R72	1.418	72	6	36.0	1828.8	152.4
1 27	74-1035R72	1.683	72	6	42.7	1828.8	152.4
1¼ 35	74-1235R72	2.028	72	6	51.5	1828.8	152.4
1½ 41	74-1535R72	2.628	72	6	57.6	1828.8	152.4

36" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.	inches	inches		millimeters	millimeters	
¾ 21	74-7535R36	1.418	36	6	36.0	914.4	152.4
1 27	74-1035R36	1.683	36	6	42.7	914.4	152.4
1¼ 35	74-1235R36	2.028	36	6	51.5	914.4	152.4
1½ 41	74-1535R36	2.628	36	6	57.6	914.4	152.4

108" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.	inches	inches		millimeters	millimeters	
¾ 21	74-7535R108	1.418	108	6	36.0	2743.2	152.4
1 27	74-1035R108	1.683	108	6	42.7	2743.2	152.4
1¼ 35	74-1235R108	2.028	108	6	51.5	2743.2	152.4
1½ 41	74-1535R108	2.628	108	6	57.6	2743.2	152.4
8 203	74-8035R108	8.893	108	6	225.9	2743.2	152.4

48" RADIUS

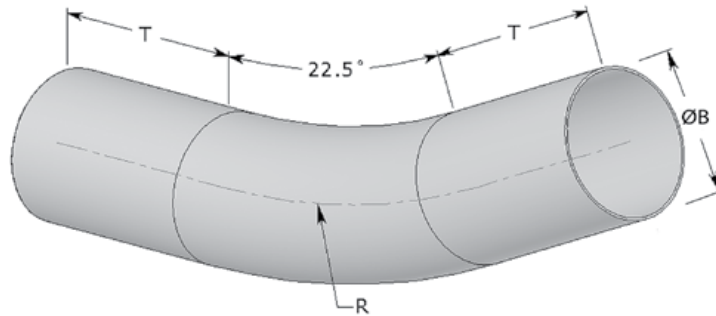
SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.	inches	inches		millimeters	millimeters	
¾ 21	74-7535R48	1.418	48	6	36.0	1219.2	152.4
1 27	74-1035R48	1.683	48	6	42.7	1219.2	152.4
1¼ 35	74-1235R48	2.028	48	6	51.5	1219.2	152.4
1½ 41	74-1535R48	2.628	48	6	57.6	1219.2	152.4



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IPS XW 22.5° ELBOW



12" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.	inches	inches		millimeters	millimeters	
¾ 21	74-7534R12	1.418	12	6	36.0	304.8	152.4
1 27	74-1034R12	1.683	12	6	42.7	304.8	152.4
1¼ 35	74-1234R12	2.028	12	6	51.5	304.8	152.4
1½ 41	74-1534R12	2.268	12	6	57.6	304.8	152.4

48" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.	inches	inches		millimeters	millimeters	
¾ 21	74-7534R48	1.418	48	6	36.0	1219.2	152.4
1 27	74-1034R48	1.683	48	6	42.7	1219.2	152.4
1¼ 35	74-1234R48	2.028	48	6	51.5	1219.2	152.4
1½ 41	74-1534R48	2.268	48	6	57.6	1219.2	152.4

18" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.	inches	inches		millimeters	millimeters	
¾ 21	70-7534R18	1.418	18	6	36.0	457.2	152.4
1 27	70-1034R18	1.683	18	6	42.7	457.2	152.4
1¼ 35	70-1234R18	2.028	18	6	51.5	457.2	152.4
1½ 41	70-1534R18	2.268	18	6	57.6	457.2	152.4

60" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.	inches	inches		millimeters	millimeters	
¾ 21	74-7534R60	1.418	60	6	36.0	1524.0	152.4
1 27	74-1034R60	1.683	60	6	42.7	1524.0	152.4
1¼ 35	74-1234R60	2.028	60	6	51.5	1524.0	152.4
1½ 41	74-1534R60	2.268	60	6	57.6	1524.0	152.4

24" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.	inches	inches		millimeters	millimeters	
¾ 21	70-7534R24	1.418	24	6	36.0	609.6	152.4
1 27	70-1034R24	1.683	24	6	42.7	609.6	152.4
1¼ 35	70-1234R24	2.028	24	6	51.5	609.6	152.4
1½ 41	70-1534R24	2.268	24	6	57.6	609.6	152.4

72" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.	inches	inches		millimeters	millimeters	
¾ 21	74-7534R72	1.418	72	6	36.0	1828.8	152.4
1 27	74-1034R72	1.683	72	6	42.7	1828.8	152.4
1¼ 35	74-1234R72	2.028	72	6	51.5	1828.8	152.4
1½ 41	74-1534R72	2.268	72	6	57.6	1828.8	152.4

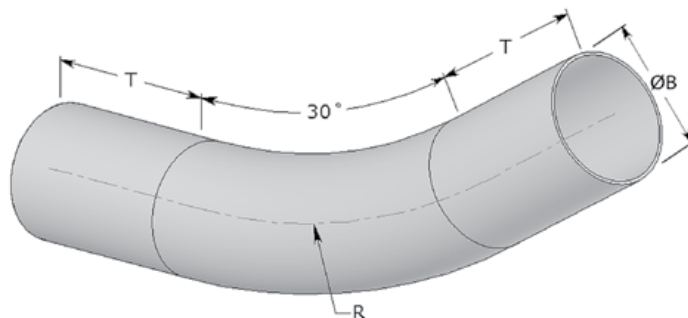
36" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.	inches	inches		millimeters	millimeters	
¾ 21	74-7534R36	1.418	36	6	36.0	914.4	152.4
1 27	74-1034R36	1.683	36	6	42.7	914.4	152.4
1¼ 35	74-1234R36	2.028	36	6	51.5	914.4	152.4
1½ 41	74-1534R36	2.268	36	6	57.6	914.4	152.4

108" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.	inches	inches		millimeters	millimeters	
¾ 21	74-7534R108	1.418	108	6	36.0	2743.2	152.4
1 27	74-1034R108	1.683	108	6	42.7	2743.2	152.4
1¼ 35	74-1234R108	2.028	108	6	51.5	2743.2	152.4
1½ 41	74-1534R108	2.268	108	6	57.6	2743.2	152.4
8 203	74-8034R108	8.893	108	6	225.9	2743.2	152.4

IPS XW 30° ELBOW



12" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
¾	21	74-7533R12	1.418	12	6	36.0	304.8 152.4
1	27	74-1033R12	1.683	12	6	42.7	304.8 152.4
1¼	35	74-1233R12	2.028	12	6	51.5	304.8 152.4
1½	41	74-1533R12	2.268	12	6	57.6	304.8 152.4

18" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
¾	21	74-7533R18	1.418	18	6	36.0	457.2 152.4
1	27	74-1033R18	1.683	18	6	42.7	457.2 152.4
1¼	35	74-1233R18	2.028	18	6	51.5	457.2 152.4
1½	41	74-1533R18	2.268	18	6	57.6	457.2 152.4

24" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
¾	21	74-7533R24	1.418	24	6	36.0	609.6 152.4
1	27	74-1033R24	1.683	24	6	42.7	609.6 152.4
1¼	35	74-1233R24	2.028	24	6	51.5	609.6 152.4
1½	41	74-1533R24	2.268	24	6	57.6	609.6 152.4

36" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
¾	21	74-7533R36	1.418	36	6	36.0	914.4 152.4
1	27	74-1033R36	1.683	36	6	42.7	914.4 152.4
1¼	35	74-1233R36	2.028	36	6	51.5	914.4 152.4
1½	41	74-1533R36	2.268	36	6	57.6	914.4 152.4

48" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
¾	21	74-7533R48	1.418	48	6	36.0	1219.2 152.4
1	27	74-1033R48	1.683	48	6	42.7	1219.2 152.4
1¼	35	74-1233R48	2.028	48	6	51.5	1219.2 152.4
1½	41	74-1533R48	2.268	48	6	57.6	1219.2 152.4

60" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
¾	21	74-7533R60	1.418	60	6	36	1524.0 152.4
1	27	74-1033R60	1.683	60	6	42.7	1524.0 152.4
1¼	35	74-1233R60	2.028	60	6	51.5	1524.0 152.4
1½	41	74-1533R60	2.268	60	6	57.6	1524.0 152.4

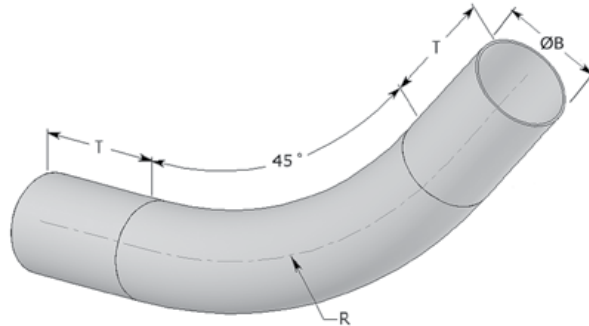
72" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
¾	21	74-7533R72	1.418	72	6	36.9	1828.8 152.4
1	27	74-1033R72	1.683	72	6	42.7	1828.8 152.4
1¼	35	74-1233R72	2.028	72	6	51.5	1828.8 152.4
1½	41	74-1533R72	2.268	72	6	57.6	1828.8 152.4

108" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
¾	21	74-7533R108	1.418	108	6	36.0	2743.2 152.4
1	27	74-1033R108	1.683	108	6	42.7	2743.2 152.4
1¼	35	74-1233R108	2.028	108	6	51.5	2743.2 152.4
1½	41	74-1533R108	2.628	108	6	57.6	2743.2 152.4
8	203	74-8033R108	8.893	108	6	225.9	2743.2 152.4

IPS XW 45° ELBOW



12" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
¾	21	74-7532R12	1.418	12	6	36.0	304.8 152.4
1	27	74-1032R12	1.683	12	6	42.7	304.8 152.4
1¼	35	74-1232R12	2.028	12	6	51.5	304.8 152.4
1½	41	74-1532R12	2.268	12	6	57.6	304.8 152.4

48" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
¾	21	74-7532R48	1.418	48	6	36.0	1219.2 152.4
1	27	74-1032R48	1.683	48	6	42.7	1219.2 152.4
1¼	35	74-1232R48	2.028	48	6	51.5	1219.2 152.4
1½	41	74-1532R48	2.268	48	6	57.6	1219.2 152.4

18" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
¾	21	74-7532R18	1.418	18	6	36.0	457.2 152.4
1	27	74-1032R18	1.683	18	6	42.7	457.2 152.4
1¼	35	74-1232R18	2.028	18	6	51.5	457.2 152.4
1½	41	74-1532R18	2.268	18	6	57.6	457.2 152.4

60" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
¾	21	74-7532R60	1.418	60	6	36.9	1524.0 152.4
1	27	74-1032R60	1.683	60	6	42.7	1524.0 152.4
1¼	35	74-1232R60	2.028	60	6	51.5	1524.0 152.4
1½	41	74-1532R60	2.268	60	6	57.6	1524.0 152.4

24" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
¾	21	74-7532R24	1.418	24	6	36.0	609.6 152.4
1	27	74-1032R24	1.683	24	6	42.7	609.6 152.4
1¼	35	74-1232R24	2.028	24	6	51.5	609.6 152.4
1½	41	74-1532R24	2.268	24	6	57.6	609.6 152.4

72" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
¾	21	74-7532R72	1.418	72	6	36.0	1828.8 152.4
1	27	74-1032R72	1.683	72	6	42.7	1828.8 152.4
1¼	35	74-1232R72	2.028	72	6	51.5	1828.8 152.4
1½	41	74-1532R72	2.268	72	6	57.6	1828.8 152.4

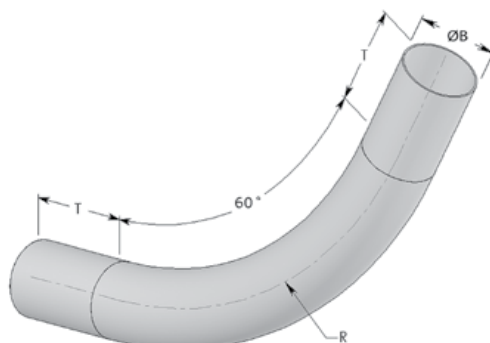
36" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
¾	21	74-7532R36	1.418	36	6	36.0	914.4 152.4
1	27	74-1032R36	1.683	36	6	42.7	914.4 152.4
1¼	35	74-1232R36	2.028	36	6	51.5	914.4 152.4
1½	41	74-1532R36	2.268	36	6	57.6	914.4 152.4

108" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
¾	21	74-7532R108	1.418	108	6	36.0	2743.2 152.4
1	27	74-1032R108	1.683	108	6	42.7	2743.2 152.4
1¼	35	74-1232R108	2.028	108	6	51.5	2743.2 152.4
1½	41	74-1532R108	2.628	108	6	57.6	2743.2 152.4
8	203	74-8032R108	8.893	108	6	225.9	2743.2 152.4

IPS XW 60° ELBOW



12" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.		inches			millimeters	
¾ 21	74-7531R12	1.418	12	6	36.0	304.8	152.4
1 27	74-1031R12	1.683	12	6	42.7	304.8	152.4
1¼ 35	74-1231R12	2.028	12	6	51.5	304.8	152.4
1½ 41	74-1531R12	2.268	12	6	57.6	304.8	152.4

18" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.		inches			millimeters	
¾ 21	74-7531R18	1.418	18	6	36.0	457.2	152.4
1 27	74-1031R18	1.683	18	6	42.7	457.2	152.4
1¼ 35	74-1231R18	2.028	18	6	51.5	457.2	152.4
1½ 41	74-1531R18	2.268	18	6	57.6	457.2	152.4

24" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.		inches			millimeters	
¾ 21	74-7531R24	1.418	24	6	36.0	609.6	152.4
1 27	74-1031R24	1.683	24	6	42.7	609.6	152.4
1¼ 35	74-1231R24	2.028	24	6	51.5	609.6	152.4
1½ 41	74-1531R24	2.268	24	6	57.6	609.6	152.4

36" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.		inches			millimeters	
¾ 21	74-7531R36	1.418	36	6	36.0	914.4	152.4
1 27	74-1031R36	1.683	36	6	42.7	914.4	152.4
1¼ 35	74-1231R36	2.028	36	6	51.5	914.4	152.4
1½ 41	74-1531R36	2.268	36	6	57.6	914.4	152.4

48" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.		inches			millimeters	
¾ 21	74-7531R48	1.418	48	6	36.9	1219.2	152.4
1 27	74-1031R48	1.683	48	6	42.7	1219.2	152.4
1¼ 35	74-1231R48	2.028	48	6	51.5	1219.2	152.4
1½ 41	74-1531R48	2.268	48	6	57.6	1219.2	152.4

60" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.		inches			millimeters	
¾ 21	74-7531R60	1.418	60	6	36.9	1524.0	152.4
1 27	74-1031R60	1.683	60	6	42.7	1524.0	152.4
1¼ 35	74-1231R60	2.028	60	6	51.5	1524.0	152.4
1½ 41	74-1531R60	2.268	60	6	57.6	1524.0	152.4

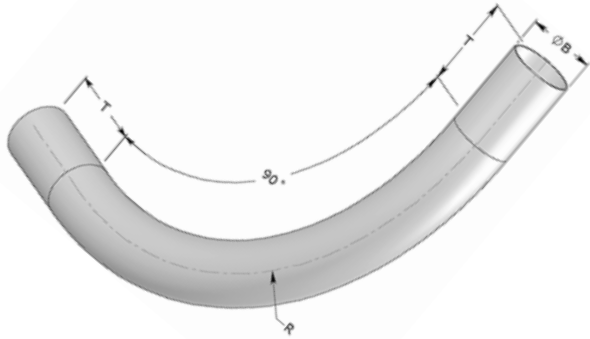
72" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.		inches			millimeters	
¾ 21	74-7531R72	1.418	72	6	36.0	1828.8	152.4
1 27	74-1031R72	1.683	72	6	42.7	1828.8	152.4
1¼ 35	74-1231R72	2.028	72	6	51.5	1828.8	152.4
1½ 41	74-1531R72	2.268	72	6	57.6	1828.8	152.4

108" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.		inches			millimeters	
¾ 21	74-7531R108	1.418	108	6	36.0	2743.2	152.4
1 27	74-1031R108	1.683	108	6	42.7	2743.2	152.4
1¼ 35	74-1231R108	2.028	108	6	51.5	2743.2	152.4
1½ 41	74-1531R108	2.628	108	6	57.6	2743.2	152.4
8 203	74-8031R108	8.893	108	6	225.9	2743.2	152.4

IPS XW 90° ELBOW



48" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.	inches			millimeters		
¾ 21	74-7530R48	1.418	48	6	36.0	1219.2	152.4
1 27	74-1030R48	1.683	48	6	42.7	1219.2	152.4
1¼ 35	74-1230R48	2.028	48	6	51.5	1219.2	152.4
1½ 41	74-1530R48	2.268	48	6	57.6	1219.2	152.4

18" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.	inches			millimeters		
¾ 21	74-7530R18	1.418	18	6	36.0	457.2	152.4
1 27	74-1030R18	1.683	18	6	42.7	457.2	152.4
1¼ 35	74-1230R18	2.028	18	6	51.5	457.2	152.4
1½ 41	74-1530R18	2.268	18	6	57.6	457.2	152.4

60" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.	inches			millimeters		
¾ 21	74-7530R60	1.418	60	6	36.0	1524.0	152.4
1 27	74-1030R60	1.683	60	6	42.7	1524.0	152.4
1¼ 35	74-1230R60	2.028	60	6	51.5	1524.0	152.4
1½ 41	74-1530R60	2.268	60	6	57.6	1524.0	152.4

24" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.	inches			millimeters		
¾ 21	74-7530R24	1.418	24	6	36.0	609.6	152.4
1 27	74-1030R24	1.683	24	6	42.7	609.6	152.4
1¼ 35	74-1230R24	2.028	24	6	51.5	609.6	152.4
1½ 41	74-1530R24	2.268	24	6	57.6	609.6	152.4

72" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.	inches			millimeters		
¾ 21	74-7530R72	1.418	72	6	36.0	1828.8	152.4
1 27	74-1030R72	1.683	72	6	42.7	1828.8	152.4
1¼ 35	74-1230R72	2.028	72	6	51.5	1828.8	152.4
1½ 41	74-1530R72	2.268	72	6	57.6	1828.8	152.4

36" RADIUS

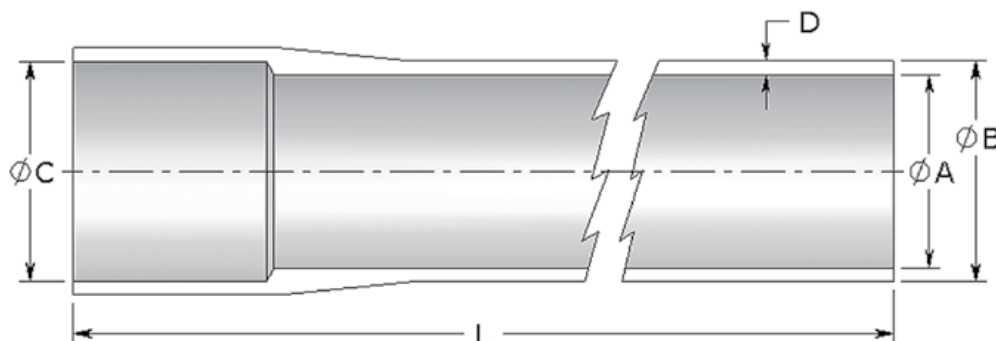
SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.	inches			millimeters		
¾ 21	74-7530R36	1.418	36	6	36.0	914.4	152.4
1 27	74-1030R36	1.683	36	6	42.7	914.4	152.4
1¼ 35	74-1230R36	2.028	36	6	51.5	914.4	152.4
1½ 41	74-1530R36	2.268	36	6	57.5	914.4	152.4

108" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.	inches			millimeters		
¾ 21	74-7530R108	1.418	108	6	36.0	2743.2	152.4
1 27	74-1030R108	1.683	108	6	42.7	2743.2	152.4
1¼ 35	74-1230R108	2.028	108	6	51.5	2743.2	152.4
1½ 41	74-1530R108	2.628	108	6	57.6	2743.2	152.4
8 203	74-8030R108	8.893	108	6	225.9	2743.2	152.4

ID EXTRA HEAVY WALL (XW) CONDUIT SYSTEM

ID EXTRA HEAVY WALL (XW) CONDUIT SYSTEM

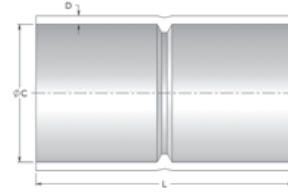


SIZE		SYMBOL	ØA	ØB	ØC	D	L	ØA	ØB	ØC	D	L
in	mm	No.	inches					millimeters				meters
2	53	84-2000	2.000	2.500	2.540	0.250	236.25	50.8	63.5	64.5	6.4	6
2½	63	84-2500	2.500	3.000	3.040	0.250	236.25	63.5	76.2	77.2	6.4	6
3	78	84-3000	3.000	3.500	3.540	0.250	236.25	76.2	88.9	89.9	6.4	6
3½	91	84-3500	3.500	4.000	4.040	0.250	236.25	88.9	101.6	102.6	6.4	6
4	103	84-4000	4.000	4.500	4.540	0.250	236.25	101.6	114.3	115.3	6.4	6
5	129	84-5000	5.000	5.500	5.540	0.250	236.25	127.0	139.7	140.7	6.4	6
6	155	84-6000	6.000	6.500	6.540	0.250	236.25	152.4	165.1	166.1	6.4	6

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

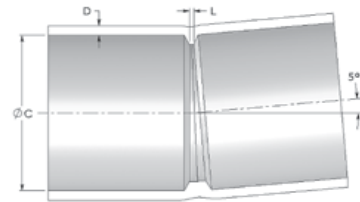
ID XW DOUBLE BELL COUPLING

SIZE		SYMBOL	ØC	D	L	ØC	D	L
in	mm	No.	inches			millimeters		
2	53	84-2010	2.540	0.250	8.50	64.5	6.4	215.9
2½	63	84-2510	3.040	0.250	8.50	77.2	6.4	215.9
3	78	84-3010	3.540	0.250	8.50	89.9	6.4	215.9
3½	91	84-3510	4.040	0.250	8.50	102.6	6.4	215.9
4	103	84-4010	4.540	0.250	8.50	115.6	6.4	215.9
5	129	84-5010	5.540	0.250	8.50	140.7	6.4	215.9
6	155	84-6010	6.540	0.250	8.50	166.1	6.4	215.9



ID XW 5° DOUBLE BELL COUPLING

SIZE		SYMBOL	ØC	D	L	ØC	D	L
in	mm	No.	inches			millimeters		
2	53	84-2011	2.540	0.250	0.125	64.5	6.4	3.2
2½	63	84-2511	3.040	0.250	0.125	77.2	6.4	3.2
3	78	84-3011	3.540	0.250	0.125	89.9	6.4	3.2
3½	91	84-3511	4.040	0.250	0.125	102.6	6.4	3.2
4	103	84-4011	4.540	0.250	0.125	115.3	6.4	3.2
5	129	84-5011	5.540	0.250	0.125	140.7	6.4	3.2
6	155	84-6011	6.540	0.250	0.125	166.1	6.4	3.2

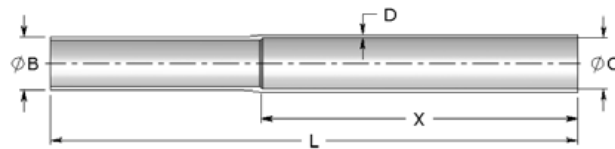


ID XW SLEEVE

SIZE		SYMBOL	ØC	D	L	ØC	D	L
in	mm	No.	inches			millimeters		
2	53	84-2016	2.540	0.250	12	64.5	6.4	304.8
2½	63	84-2516	3.040	0.250	12	77.2	6.4	304.8
3	78	84-3016	3.540	0.250	12	89.9	6.4	304.8
3½	91	84-3516	4.040	0.250	12	102.6	6.4	304.8
4	103	84-4016	4.540	0.250	12	115.3	6.4	304.8
5	129	84-5016	5.540	0.250	12	140.7	6.4	304.8
6	155	84-6016	6.540	0.250	12	166.1	6.4	304.8



ID XW SINGLE EXPANSION JOINT



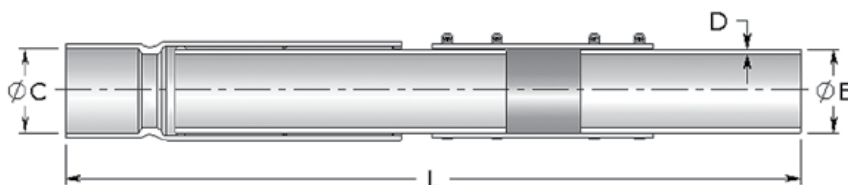
SIZE		SYMBOL	ØB	ØC	D	L	X	ØB	ØC	D	L	X
in	mm	No.	inches					millimeters				
2	53	84-2012	2.500	2.540	0.250	20	12	63.5	64.5	6.4	508.0	304.8
2½	63	84-2512	3.000	3.040	0.250	20	12	76.2	77.2	6.4	508.0	304.8
3	78	84-3012	3.500	3.540	0.250	20	12	88.9	89.9	6.4	508.0	304.8
3½	91	84-3512	4.000	4.040	0.250	20	12	101.6	102.6	6.4	508.0	304.8
4	103	84-4012	4.500	4.540	0.250	20	12	114.3	115.3	6.4	508.0	304.8
5	129	84-5012	5.500	5.540	0.250	20	12	139.7	140.7	6.4	508.0	304.8
6	155	84-6012	6.500	6.540	0.250	20	12	165.1	166.1	6.4	508.0	304.8

ID XW O-RING EXPANSION JOINT



SIZE	SYMBOL	ØB	ØC	D	L MIN	L MAX	ØB	ØC	D	L MIN	L MAX
in mm	No.	inches				millimeters					
2 53	84-2017	2.500	2.540	0.250	23	35	63.5	64.7	6.4	584.2	889.0
2½ 63	84-2517	3.000	3.040	0.250	23	35	76.2	77.2	6.4	584.2	889.0
3 78	84-3017	3.500	3.540	0.250	23	35	88.9	89.9	6.4	584.2	889.0
3½ 91	84-3517	4.000	4.040	0.250	23	35	101.6	102.6	6.4	584.2	889.0
4 103	84-4017	4.500	4.540	0.250	23	35	114.3	115.3	6.4	584.2	889.0
5 129	84-5017	5.500	5.540	0.250	23	35	139.7	140.7	6.4	584.2	889.0
6 155	84-6017	6.500	6.540	0.250	23	35	165.1	166.1	6.4	584.2	889.0

ID XW O-RING EXPANSION / DEFLECTION JOINT



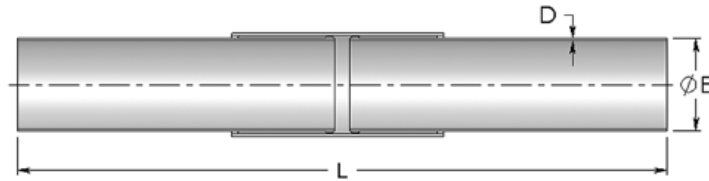
SIZE	SYMBOL	ØB	ØC	D	L MIN	L MAX	ØB	ØC	D	L MIN	L MAX
in mm	No.	inches				millimeters					
2 53	84-2057	2.500	2.540	0.250	39	51	63.5	64.5	6.4	990.6	1295.4
2½ 63	84-2557	3.000	3.040	0.250	39	51	76.2	77.2	6.4	990.6	1295.4
3 78	84-3057	3.500	3.540	0.250	39	51	88.9	89.9	6.4	990.6	1295.4
3½ 91	84-3557	4.000	4.040	0.250	39	51	101.6	102.6	6.4	990.6	1295.4
4 103	84-4057	4.500	4.540	0.250	39	51	114.3	115.3	6.4	990.6	1295.4
5 129	84-5057	5.500	5.540	0.250	39	51	139.7	140.7	6.4	990.6	1295.4
6 155	84-6057	6.500	6.540	0.250	39	51	165.1	166.1	6.4	990.6	1295.4



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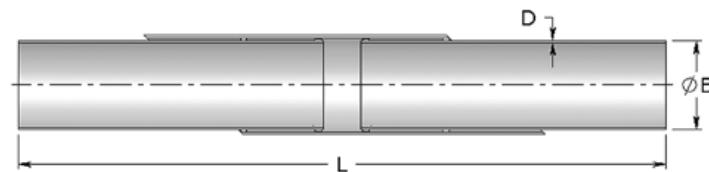
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ID XW WOBBLE (FOR UP TO 3° CURVATURE)



SIZE		SYMBOL	ØB	D	L MIN	L MAX	ØB	D	L MIN	L MAX
in	mm	No.	inches				millimeters			
2	53	84-2013	2.500	0.250	36	46	63.5	6.4	914.4	1168.4
2½	63	84-2513	3.000	0.250	36	46	76.2	6.4	914.4	1168.4
3	78	84-3013	3.500	0.250	36	46	88.9	6.4	914.4	1168.4
3½	91	84-3013	4.000	0.250	36	46	101.6	6.4	914.4	1168.4
4	103	84-4013	4.500	0.250	36	46	114.3	6.4	914.4	1168.4
5	129	84-5013	5.500	0.250	36	46	139.7	6.4	914.4	1168.4
6	155	84-6013	6.500	0.250	36	46	165.1	6.4	914.4	1168.4

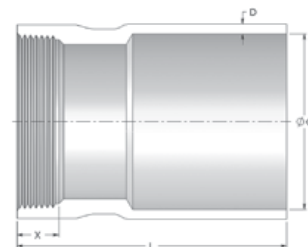
ID XW SKEW WOBBLE (FOR UP TO 7.5° CURVATURE)



SIZE		SYMBOL	ØB	D	L MIN	L MAX	ØB	D	L MIN	L MAX
in	mm	No.	inches				millimeters			
2	53	84-2014	2.500	0.250	48	56	63.5	6.4	1219.2	1422.4
2½	63	84-2514	3.000	0.250	48	56	76.2	6.4	1219.2	1422.4
3	78	84-3014	3.500	0.250	48	56	88.9	6.4	1219.2	1422.4
3½	91	84-3514	4.000	0.250	48	56	101.6	6.4	1219.2	1422.4
4	103	84-4014	4.500	0.250	48	56	114.3	6.4	1219.2	1422.4
5	129	84-5014	5.500	0.250	48	56	139.7	6.4	1219.2	1422.4
6	155	84-6014	6.500	0.250	48	56	165.1	6.4	1219.2	1422.4

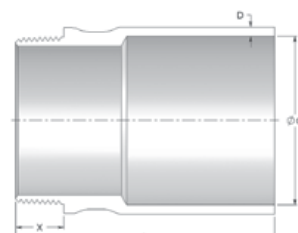
ID XW NPT FEMALE THREADED ADAPTER

SIZE	SYMBOL	ØC	D	L	X	ØC	D	L	X	
in	mm	No.	inches			millimeters				
2	53	84-2044	2.540	0.250	7	0.697	64.5	6.4	177.8	17.7
2½	63	84-2544	3.040	0.250	7	0.932	77.2	6.4	177.8	23.7
3	78	84-3044	3.540	0.250	7	1.016	89.9	6.4	177.8	25.8
3½	91	84-3544	4.040	0.250	7	1.071	102.6	6.4	177.8	27.2
4	103	84-4044	4.540	0.250	7	1.094	115.3	6.4	177.8	27.8
5	129	84-5044	5.540	0.250	7	1.187	140.7	6.4	177.8	30.1
6	155	84-6044	6.540	0.250	7	1.208	166.1	6.4	177.8	30.7



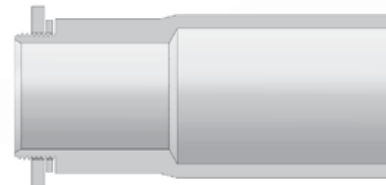
ID XW NPT MALE THREADED ADAPTER

SIZE	SYMBOL	ØC	D	L	X	ØC	D	L	X	
in	mm	No.	inches			millimeters				
2	53	84-2027	2.540	0.250	7	0.757	64.5	6.4	177.8	19.2
2½	63	84-2527	3.040	0.250	7	1.138	77.2	6.4	177.8	28.9
3	78	84-3027	3.540	0.250	7	1.200	89.9	6.4	177.8	30.5
3½	91	84-3527	4.040	0.250	7	1.250	102.6	6.4	177.8	31.75
4	103	84-4027	4.540	0.250	7	1.300	115.3	6.4	177.8	33.0
5	129	84-5027	5.540	0.255	7	1.406	140.7	6.4	177.8	35.7
6	155	84-6027	6.540	0.255	7	1.513	166.1	6.4	177.8	38.4

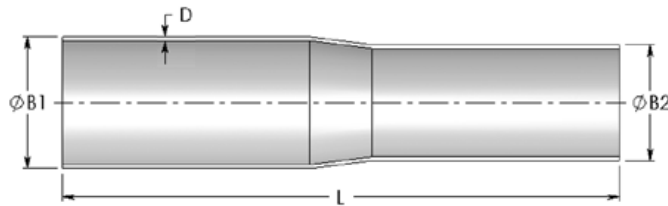


ID XW BOX CONNECTOR

SIZE	SYMBOL	ØC	D	L	X	ØC	D	L	X	
in	mm	No.	inches			millimeters				
2	53	84-2047	2.540	0.250	7	0.757	64.5	6.4	177.8	19.2
2½	63	84-2547	3.040	0.250	7	1.138	77.2	6.4	177.8	28.9
3	78	84-3047	3.540	0.250	7	1.200	89.9	6.4	177.8	30.5
3½	91	84-3547	4.040	0.250	7	1.250	102.6	6.4	177.8	31.75
4	103	84-4047	4.540	0.250	7	1.300	115.3	6.4	177.8	33.0
5	129	84-5047	5.540	0.250	7	1.406	140.7	6.4	177.8	35.7
6	155	84-6047	6.540	0.250	7	1.513	166.1	6.4	177.8	38.4

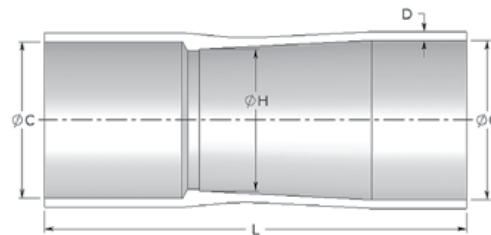


ID XW REDUCER



SIZE		SYMBOL	ØB1	ØB2	D	L	ØB1	ØB2	D	L
in	mm	No.	inches				millimeters			
2	53	84-2029	3.000	2.500	0.250	18	76.2	63.5	6.4	457.2
2½	63	84-2529	2.500	2.268	0.250	18	63.5	57.6	6.4	457.2
3	78	84-3029	3.500	2.500	0.250	18	88.9	63.5	6.4	457.2
3½	91	84-3529	4.000	3.000	0.250	18	101.6	76.2	6.4	457.2
4	103	84-4029	4.500	3.500	0.250	18	114.3	88.9	6.4	457.2
5	129	84-5029	5.500	4.500	0.250	18	139.7	114.3	6.4	457.2
6	155	84-6029	6.500	5.500	0.250	18	165.1	139.7	6.4	457.2

ID XW MULTIFIT ADAPTER



SIZE		SYMBOL	ØC	D	ØG	ØH	L	ØC	D	ØG	ØH	L
in	mm	No.	inches				millimeters					
2	53	84-2037	2.540	0.250	2.424	2.239	12.25	64.5	6.4	61.6	56.9	311.2
2½	63	84-2537	3.040	0.250	2.924	2.739	12.25	77.2	6.4	74.3	69.6	311.2
3	78	84-3037	3.540	0.250	3.549	3.239	12.25	89.9	6.4	90.1	82.3	311.2
3½	91	84-3537	4.040	0.250	4.061	3.709	12.25	102.6	6.4	103.1	94.2	311.2
4	103	84-4037	4.540	0.250	4.620	4.109	12.25	115.3	6.4	117.3	104.4	311.2
5	129	84-5037	5.540	0.250	5.650	5.289	12.25	140.7	6.4	143.5	134.3	311.2
6	155	84-6037	6.540	0.250	6.686	6.259	12.25	166.1	6.4	169.8	159.0	311.2



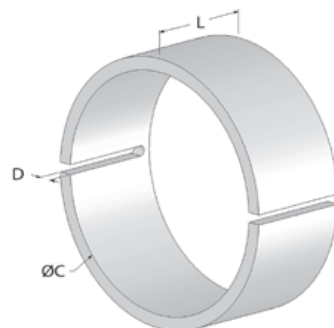
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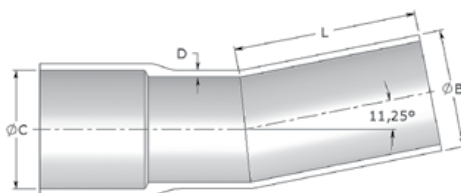
FREComposites.com

ID XW SPLIT STOP RING

SIZE		SYMBOL	ØC	D	L	ØC	D	L
in	mm	No.	inches		millimeters			
2	53	84-2064	2.540	0.250	2	64.5	6.4	50.8
2½	63	84-2564	3.040	0.250	2	77.2	6.4	50.8
3	78	84-3064	3.540	0.250	2	89.9	6.4	50.8
3½	91	84-3564	4.040	0.250	2	102.6	6.4	50.8
4	103	84-4064	4.540	0.250	2	115.3	6.4	50.8
5	129	84-5064	5.540	0.250	2	140.7	6.4	50.8
6	155	84-6064	6.540	0.250	2	166.1	6.4	50.8



ID XW 11.25° FITTING

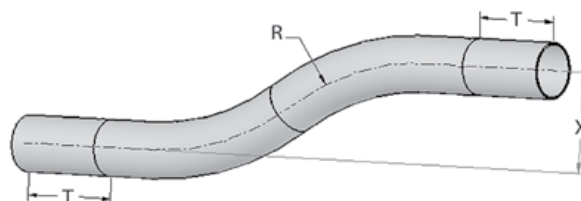


SIZE		SYMBOL	ØB	ØC	D	L	ØB	ØC	D	L
in	mm	No.	inches				millimeters			
2	53	84-2035	2.500	2.540	0.250	7	63.5	64.5	6.4	177.8
2½	63	84-2535	3.000	3.040	0.250	7	76.2	77.2	6.4	177.8
3	78	84-3035	3.500	3.540	0.250	7	88.9	89.9	6.4	177.8
3½	91	84-3535	4.000	4.040	0.250	7	101.6	102.6	6.4	177.8
4	103	84-4035	4.500	4.540	0.250	7	114.3	115.3	6.4	177.8
5	129	84-5035	5.500	5.540	0.250	7	139.7	140.7	6.4	177.8
6	155	84-6035	6.500	6.540	0.250	7	165.1	166.1	6.4	177.8

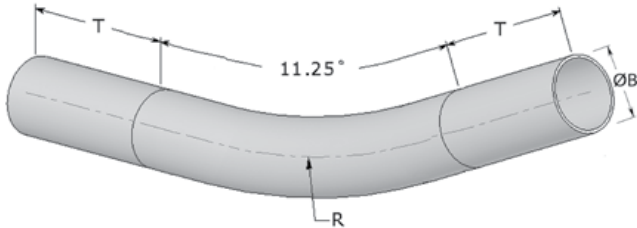
ID XW OFFSET ELBOW

SIZE SYMBOL NO.

All special



ID XW 11.25° ELBOW



12" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
2	53	84-2035R12	2.500	12	6	63.5	304.8 152.4

18" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
2	53	84-2035R18	2.500	18	6	63.5	457.2 152.4
2½	63	84-2535R18	3.000	18	6	76.2	457.2 152.4

24" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
2	53	84-2035R24	2.500	24	6	63.5	609.6 152.4
2½	63	84-2535R24	3.000	24	6	76.2	609.6 152.4
3	78	84-3035R24	3.500	24	6	88.9	609.6 152.4
3½	91	84-3535R24	4.000	24	6	101.6	609.6 152.4
4	103	84-4035R24	4.500	24	6	114.3	609.6 152.4

36" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
2	53	84-2035R36	2.500	36	6	63.5	914.4 152.4
2½	63	84-2535R36	3.000	36	6	76.2	914.4 152.4
3	78	84-3035R36	3.500	36	6	88.9	914.4 152.4
3½	91	84-3535R36	4.000	36	6	101.6	914.4 152.4
4	103	84-4035R36	4.500	36	6	114.3	914.4 152.4
5	129	84-5035R36	5.500	36	6	139.7	914.4 152.4

48" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
2	53	84-2035R48	2.500	48	6	63.5	1219.2 152.4
2½	63	84-2535R48	3.000	48	6	76.2	1219.2 152.4
3	78	84-3035R48	3.500	48	6	88.9	1219.2 152.4
3½	91	84-3535R48	4.000	48	6	101.6	1219.2 152.4
4	103	84-4035R48	4.500	48	6	114.3	1219.2 152.4
5	129	84-5035R48	5.500	48	6	139.7	1219.2 152.4
6	155	84-6035R48	6.500	48	6	165.1	1219.2 152.4

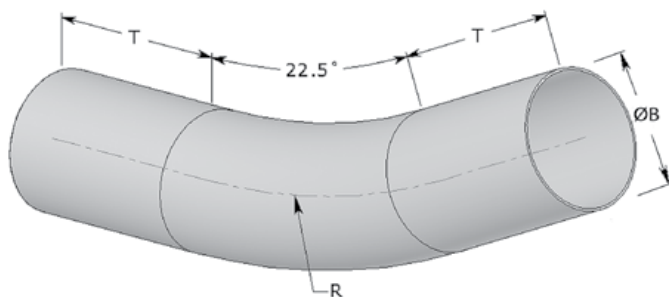
60" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
2	53	84-2035R60	2.500	60	6	63.5	1524.0 152.4
2½	63	84-2535R60	3.000	60	6	76.2	1524.0 152.4
3	78	84-3035R60	3.500	60	6	88.9	1524.0 152.4
3½	91	84-3535R60	4.000	60	6	101.6	1524.0 152.4
4	103	84-4035R60	4.500	60	6	114.3	1524.0 152.4
5	129	84-5035R60	5.500	60	6	139.7	1524.0 152.4
6	155	84-6035R60	6.500	60	6	165.1	1524.0 152.4

72" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
2	53	84-2035R72	2.500	72	6	63.5	1828.8 152.4
2½	63	84-2535R72	3.000	72	6	76.2	1828.8 152.4
3	78	84-3035R72	3.500	72	6	88.9	1828.8 152.4
3½	91	84-3535R72	4.000	72	6	101.6	1828.8 152.4
4	103	84-4035R72	4.500	72	6	114.3	1828.8 152.4
5	129	84-5035R72	5.500	72	6	139.7	1828.8 152.4
6	155	84-6035R72	6.500	72	6	165.1	1828.8 152.4

ID XW 22.5° ELBOW



12" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
2	53	84-2034R12	2.500	12	6	63.5	304.8 152.4

18" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
2	53	84-2034R18	2.500	18	6	63.5	457.2 152.4
2½	63	84-2534R18	3.000	18	6	76.2	457.2 152.4

24" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
2	53	84-2034R24	2.500	24	6	63.5	609.6 152.4
2½	63	84-2534R24	3.000	24	6	76.2	609.6 152.4
3	78	84-3034R24	3.500	24	6	88.9	609.6 152.4
3½	91	84-3534R24	4.000	24	6	101.6	609.6 152.4
4	103	84-4034R24	4.500	24	6	114.3	609.6 152.4

36" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
2	53	84-2034R36	2.500	36	6	63.5	914.4 152.4
2½	63	84-2534R36	3.000	36	6	76.2	914.4 152.4
3	78	84-3034R36	3.500	36	6	88.9	914.4 152.4
3½	91	84-3534R36	4.000	36	6	101.6	914.4 152.4
4	103	84-4034R36	4.500	36	6	114.3	914.4 152.4
5	129	84-5034R36	5.500	36	6	139.7	914.4 152.4

48" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
2	53	84-2034R48	2.500	48	6	63.5	1219.2 152.4
2½	63	84-2534R48	3.000	48	6	76.2	1219.2 152.4
3	78	84-3034R48	3.500	48	6	88.9	1219.2 152.4
3½	91	84-3534R48	4.000	48	6	101.6	1219.2 152.4
4	103	84-4034R48	4.500	48	6	114.3	1219.2 152.4
5	129	84-5034R48	5.500	48	6	139.7	1219.2 152.4
6	155	84-6034R48	6.500	48	6	165.1	1219.2 152.4

60" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
2	53	84-2034R60	2.500	60	6	63.5	1524.0 152.4
2½	63	84-2534R60	3.000	60	6	76.2	1524.0 152.4
3	78	84-3034R60	3.500	60	6	88.9	1524.0 152.4
3½	91	84-3534R60	4.000	60	6	101.6	1524.0 152.4
4	103	84-4034R60	4.500	60	6	114.3	1524.0 152.4
5	129	84-5034R60	5.500	60	6	139.7	1524.0 152.4
6	155	84-6034R60	6.500	60	6	165.1	1524.0 152.4

72" RADIUS

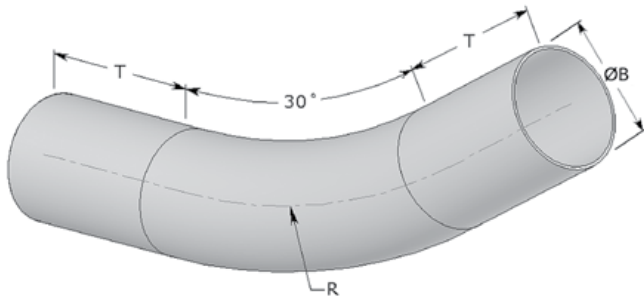
SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
2	53	84-2034R72	2.500	72	6	63.5	1828.8 152.4
2½	63	84-2534R72	3.000	72	6	76.2	1828.8 152.4
3	78	84-3034R72	3.500	72	6	88.9	1828.8 152.4
3½	91	84-3534R72	4.000	72	6	101.6	1828.8 152.4
4	103	84-4034R72	4.500	72	6	114.3	1828.8 152.4
5	129	84-5034R72	5.500	72	6	139.7	1828.8 152.4
6	155	84-6034R72	6.500	72	6	165.1	1828.8 152.4



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The Power of One
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ID XW 30° ELBOW



12" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.		inches		millimeters		
2 53	84-2033R12	2.500	12	6	63.5	304.8	152.4

18" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.		inches		millimeters		
2 53	84-2033R18	2.500	18	6	63.5	457.2	152.4
2½ 63	84-2533R18	3.000	18	6	76.2	457.2	152.4

24" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.		inches		millimeters		
2 53	84-2033R24	2.500	24	6	63.5	609.6	152.4
2½ 63	84-2533R24	3.000	24	6	76.2	609.6	152.4
3 78	84-3033R24	3.500	24	6	88.9	609.6	152.4
3½ 91	84-3533R24	4.000	24	6	101.6	609.6	152.4
4 103	84-4033R24	4.500	24	6	114.3	609.6	152.4

36" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.		inches		millimeters		
2 53	84-2033R36	2.500	36	6	63.5	914.4	152.4
2½ 63	84-2533R36	3.000	36	6	76.2	914.4	152.4
3 78	84-3033R36	3.500	36	6	88.9	914.4	152.4
3½ 91	84-3533R36	4.000	36	6	101.6	914.4	152.4
4 103	84-4033R36	4.500	36	6	114.3	914.4	152.4
5 129	84-5033R36	5.500	36	6	139.7	914.4	152.4

48" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.		inches		millimeters		
2 53	84-2033R48	2.500	48	6	63.5	1219.2	152.4
2½ 63	84-2533R48	3.000	48	6	76.2	1219.2	152.4
3 78	84-3033R48	3.500	48	6	88.9	1219.2	152.4
3½ 91	84-3533R48	4.000	48	6	101.6	1219.2	152.4
4 103	84-4033R48	4.500	48	6	114.3	1219.2	152.4
5 129	84-5033R48	5.500	48	6	139.7	1219.2	152.4
6 155	84-6033R48	6.500	48	6	165.1	1219.2	152.4

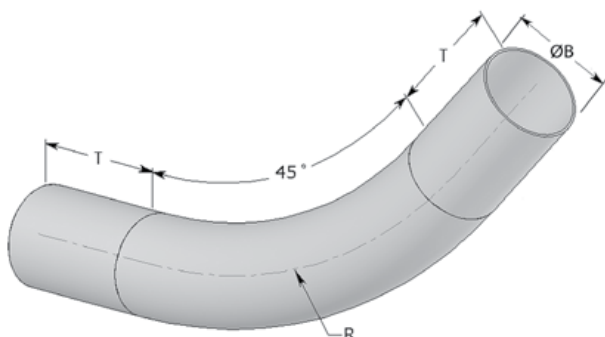
60" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.		inches		millimeters		
2 53	84-2033R60	2.500	60	6	63.5	1524.0	152.4
2½ 63	84-2533R60	3.000	60	6	76.2	1524.0	152.4
3 78	84-3033R60	3.500	60	6	88.9	1524.0	152.4
3½ 91	84-3533R60	4.000	60	6	101.6	1524.0	152.4
4 103	84-4033R60	4.500	60	6	114.3	1524.0	152.4
5 129	84-5033R60	5.500	60	6	139.7	1524.0	152.4
6 155	84-6033R60	6.500	60	6	165.1	1524.0	152.4

72" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.		inches		millimeters		
2 53	84-2033R72	2.500	72	6	63.5	1828.8	152.4
2½ 63	84-2533R72	3.000	72	6	76.2	1828.8	152.4
3 78	84-3033R72	3.500	72	6	88.9	1828.8	152.4
3½ 91	84-3533R72	4.000	72	6	101.6	1828.8	152.4
4 103	84-4033R72	4.500	72	6	114.3	1828.8	152.4
5 129	84-5033R72	5.500	72	6	139.7	1828.8	152.4
6 155	84-6033R72	6.500	72	6	165.1	1828.8	152.4

ID XW 45° ELBOW



12" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
2	53	84-2032R12	2.500	12	6	63.5	304.8 152.4

18" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
2	53	84-2032R18	2.500	18	6	63.5	457.2 152.4
2½	63	84-2532R18	3.000	18	6	76.2	457.2 152.4

24" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
2	53	84-2032R24	2.500	24	6	63.5	609.6 152.4
2½	63	84-2532R24	3.000	24	6	76.2	609.6 152.4
3	78	84-3032R24	3.500	24	6	88.9	609.6 152.4
3½	91	84-3532R24	4.000	24	6	101.6	609.6 152.4
4	103	84-4032R24	4.500	24	6	114.3	609.6 152.4

36" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
2	53	84-2032R36	2.500	36	6	63.5	914.4 152.4
2½	63	84-2532R36	3.000	36	6	76.2	914.4 152.4
3	78	84-3032R36	3.500	36	6	88.9	914.4 152.4
3½	91	84-3532R36	4.000	36	6	101.6	914.4 152.4
4	103	84-4032R36	4.500	36	6	114.3	914.4 152.4
5	129	84-5032R36	5.500	36	6	139.7	914.4 152.4

48" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
2	53	84-2032R48	2.500	48	6	63.5	1219.2 152.4
2½	63	84-2532R48	3.000	48	6	76.2	1219.2 152.4
3	78	84-3032R48	3.500	48	6	88.9	1219.2 152.4
3½	91	84-3532R48	4.000	48	6	101.6	1219.2 152.4
4	103	84-4032R48	4.500	48	6	114.3	1219.2 152.4
5	129	84-5032R48	5.500	48	6	139.7	1219.2 152.4
6	155	84-6032R48	6.500	48	6	165.1	1219.2 152.4

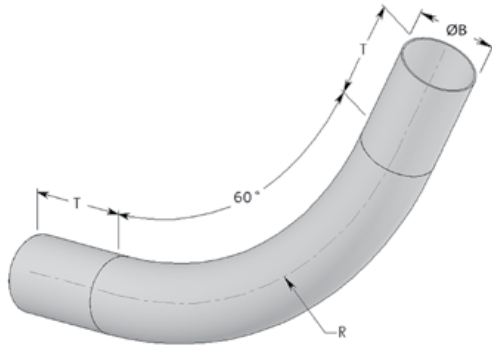
60" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
2	53	84-2032R60	2.500	60	6	63.5	1524.0 152.4
2½	63	84-2532R60	3.000	60	6	76.2	1524.0 152.4
3	78	84-3032R60	3.500	60	6	88.9	1524.0 152.4
3½	91	84-3532R60	4.000	60	6	101.6	1524.0 152.4
4	103	84-4032R60	4.500	60	6	105.2	1524.0 152.4
5	129	84-5032R60	5.500	60	6	114.3	1524.0 152.4
6	155	84-6032R60	6.500	60	6	139.7	1524.0 152.4

72" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
2	53	84-2032R72	2.500	72	6	63.5	1828.8 152.4
2½	63	84-2532R72	3.000	72	6	76.2	1828.8 152.4
3	78	84-3032R72	3.500	72	6	88.9	1828.8 152.4
3½	91	84-3532R72	4.000	72	6	101.6	1828.8 152.4
4	103	84-4032R72	4.500	72	6	105.2	1828.8 152.4
5	129	84-5032R72	5.500	72	6	114.3	1828.8 152.4
6	155	84-6032R72	6.500	72	6	139.7	1828.8 152.4

ID XW 60° ELBOW



12" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.		inches			millimeters	
2 53	84-2031R12	2.500	12	6	63.5	304.8	152.4

18" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.		inches			millimeters	
2 53	84-2031R18	2.500	18	6	63.5	457.2	152.4
2½ 63	84-2531R18	3.000	18	6	76.2	457.2	152.4

24" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.		inches			millimeters	
2 53	84-2031R24	2.500	24	6	63.5	609.6	152.4
2½ 63	84-2531R24	3.000	24	6	76.2	609.6	152.4
3 78	84-3031R24	3.500	24	6	88.9	609.6	152.4
3½ 91	84-3531R24	4.000	24	6	101.6	609.6	152.4
4 103	84-4031R24	4.500	24	6	114.3	609.6	152.4

36" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.		inches			millimeters	
2 53	84-2031R36	2.500	36	6	63.5	914.4	152.4
2½ 63	84-2531R36	3.000	36	6	76.2	914.4	152.4
3 78	84-3031R36	3.500	36	6	88.9	914.4	152.4
3½ 91	84-3531R36	4.000	36	6	101.6	914.4	152.4
4 103	84-4031R36	4.500	36	6	114.3	914.4	152.4
5 129	84-5031R36	5.500	36	6	139.7	914.4	152.4

48" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.		inches			millimeters	
2 53	84-2031R48	2.500	48	6	63.5	1219.2	152.4
2½ 63	84-2531R48	3.000	48	6	76.2	1219.2	152.4
3 78	84-3031R48	3.500	48	6	88.9	1219.2	152.4
3½ 91	84-3531R48	4.000	48	6	101.6	1219.2	152.4
4 103	84-4031R48	4.500	48	6	114.6	1219.2	152.4
5 129	84-5031R48	5.500	48	6	139.7	1219.2	152.4
6 155	84-6031R48	6.500	48	6	165.1	1219.2	152.4

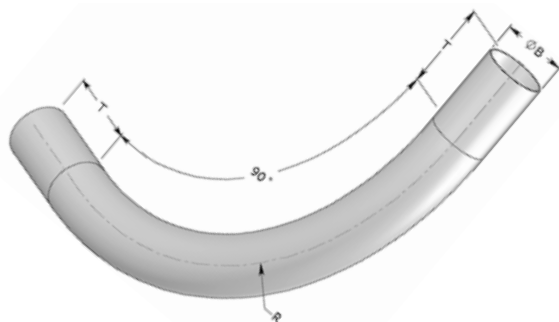
60" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.		inches			millimeters	
2 53	84-2031R60	2.500	60	6	63.4	1524.0	152.4
2½ 63	84-2531R60	3.000	60	6	76.2	1524.0	152.4
3 78	84-3031R60	3.500	60	6	88.9	1524.0	152.4
3½ 91	84-3531R60	4.000	60	6	101.6	1524.0	152.4
4 103	84-4031R60	4.500	60	6	114.6	1524.0	152.4
5 129	84-5031R60	5.500	60	6	139.7	1524.0	152.4
6 155	84-6031R60	6.500	60	6	165.1	1524.0	152.4

72" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in mm	No.		inches			millimeters	
2 53	84-2031R72	2.500	72	6	63.5	1828.8	152.4
2½ 63	84-2531R72	3.000	72	6	76.2	1828.8	152.4
3 78	84-3031R72	3.500	72	6	88.9	1828.8	152.4
3½ 91	84-3531R72	4.000	72	6	101.6	1828.8	152.4
4 103	84-4031R72	4.500	72	6	114.3	1828.8	152.4
5 129	84-5031R72	5.500	72	6	139.7	1828.8	152.4
6 155	84-6031R72	6.500	72	6	165.1	1828.8	152.4

ID XW 90° ELBOW



12" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
2	53	84-2030R12	2.500	12	6	63.5	304.8 152.4

18" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
2	53	84-2030R18	2.500	18	6	63.5	457.2 152.4

24" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
2	53	84-2030R24	2.500	24	6	63.5	609.6 152.4
2½	63	84-2530R24	3.000	24	6	76.2	609.6 152.4
3	78	84-2530R24	3.500	24	6	88.9	609.6 152.4
3½	91	84-3530R24	4.000	24	6	101.6	609.6 152.4
4	103	84-4030R24	4.500	24	6	114.3	609.6 152.4

36" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
2	53	84-2030R36	2.500	36	6	63.5	914.4 152.4
2½	63	84-2530R36	3.000	36	6	76.2	914.4 152.4
3	78	84-3030R36	3.500	36	6	88.9	914.4 152.4
3½	91	84-3530R36	4.000	36	6	101.6	914.4 152.4
4	103	84-4030R36	4.500	36	6	114.3	914.4 152.4
5	129	84-5030R36	5.500	36	6	139.7	914.4 152.4

48" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
2	53	84-2030R48	2.140	48	6	54.4	1219.2 152.4
2½	63	84-2530R48	2.640	48	6	67.1	1219.2 152.4
3	78	84-3030R48	3.140	48	6	79.8	1219.2 152.4
3½	91	84-3530R48	3.64	48	6	92.5	1219.2 152.4
4	103	84-4030R48	4.140	48	6	105.2	1219.2 152.4
5	129	84-5030R48	5.190	48	6	131.8	1219.2 152.4
6	155	84-6030R48	6.190	48	6	157.2	1219.2 152.4

60" RADIUS

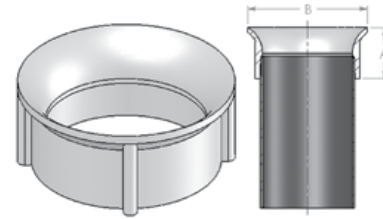
SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
2	53	84-2030R60	2.500	60	6	63.5	1524.0 152.4
2½	63	84-2530R60	3.000	60	6	76.2	1524.0 152.4
3	78	84-3030R60	3.500	60	6	88.9	1524.0 152.4
3½	91	84-3530R60	4.000	60	6	101.6	1524.0 152.4
4	103	84-4030R60	4.500	60	6	114.3	1524.0 152.4
5	129	84-5030R60	5.500	60	6	139.7	1524.0 152.4
6	155	84-6030R60	6.500	60	6	165.1	1524.0 152.4

72" RADIUS

SIZE	SYMBOL	ØB	R	T	ØB	R	T
in	mm	No.	inches		millimeters		
2	53	84-2030R72	2.500	72	6	63.5	1828.8 152.4
2½	63	84-2530R72	3.000	72	6	76.2	1828.8 152.4
3	78	84-3030R72	3.500	72	6	88.9	1828.8 152.4
3½	91	84-3530R72	4.000	72	6	101.6	1828.8 152.4
4	103	84-4030R72	4.500	72	6	114.3	1828.8 152.4
5	129	84-5030R72	5.500	72	6	139.7	1828.8 152.4
6	155	84-6030R72	6.500	72	6	165.1	1828.8 152.4

IPS XW RADIUS BELL END

SIZE		SYMBOL	ØA	ØB	ØA	ØB
in	mm	No.	inches		millimeters	
¾	21	74-7518	1.7	1.918	43.18	48.72
1	27	74-1018	1.7	2.183	43.18	55.45
1¼	35	74-1218	1.7	2.528	43.18	64.21
1½	41	74-1518	1.7	2.768	43.18	70.31



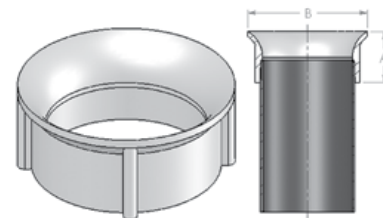
IPS XW CONDUIT BODIES



SIZE		PART NUMBER							LENGTH	WIDTH	DEPTH	LENGTH	WIDTH	DEPTH
in	mm	LB	LL	LR	T	C	TB	X		inches		millimeters		
¾	21	74-7591	74-7592	74-7593	74-7594	74-7595	74-7596	74-7597	4.27	2.19	1.92	108	56	49
1	27	74-1091	74-1092	74-1093	74-1094	74-1095	74-1096	74-1097	5.19	2.44	2.22	132	62	56
1¼	35	74-1291	74-1292	74-1293	74-1294	74-1295	74-1296	74-1297	6.09	2.84	2.63	155	72	67
1½	41	74-1591	74-1592	74-1593	74-1594	74-1595	74-1596	74-1597	7.09	3.34	2.92	180	85	74
2	53	74-2091	74-2092	74-2093	74-2094	74-2095	74-2096	74-2097	8.75	3.88	3.34	222	99	85

ID XW RADIUS BELL END

SIZE		SYMBOL	ØA	ØB	ØA	ØB
in	mm	No.	inches		millimeters	
2	53	84-2018	1.7	3.0	43.18	76.2
2½	63	84-2518	1.7	3.5	43.18	88.9
3	78	84-3018	1.7	4.0	43.18	101.6
3½	91	84-3518	1.7	4.5	43.18	114.3
4	103	84-4018	2.162	5.0	54.91	127.0
4½	116	84-4518	2.162	5.5	54.91	139.7
5	129	84-5018	2.162	6.0	54.91	152.4
6	155	84-6018	2.416	7.0	61.37	177.8



ID XW CONDUIT BODIES



SIZE		PART NUMBER							LENGTH	WIDTH	DEPTH	LENGTH	WIDTH	DEPTH
in	mm	LB	LL	LR	T	C	TB	X	inches			millimeters		
2	53	84-2091	84-2092	84-2093	84-2094	84-2095	84-2096	84-2097	8.75	3.88	3.34	222	99	85

ADHESIVE KIT

SIZE SYMBOL NO.

All	40-0161	Epoxy Kit
All	20-0163	Cold weather adhesive dual cartridge
All	20-0164	Ambient temperature adhesive double cartridge
All	20-0165	Dual Cartridge Applicator

20-0165



20-0163 / 20-0164



MECHANICAL PROPERTIES (40-0161)

Shore D Hardness	81
Tensile strength	3 060 Psi
Lap shear strength	252 Psi
Viscosity	3 700 cP
Mix ratio	2 : 1
Color	Opaque
Solid content	100%

MECHANICAL PROPERTIES (20-0163)

Shore D Hardness	72
Tensile strength	8 000 Psi
Lap shear strength	3 500 Psi
Viscosity	13 500 cP
Mix ratio	1 : 1
Color	Yellow
Solid content	100%

MECHANICAL PROPERTIES (20-0164)

Shore D Hardness	90
Tensile strength	9 900 Psi
Lap shear strength	2 600 Psi
Viscosity	40 000 cP
Mix ratio	2 : 1
Color	Opaque
Solid content	100%

JOINT CALCULATION TABLE (ADHESIVE KIT)

IPS BASED

SIZE		JOINTS MADE	PULL-OUT STRENGTH	
in	mm	per kit	lbs	kg
¾	21	28	1 700	771
1	27	26	2 000	907
1¼	35	24	2 000	907
1½	41	20	2 000	907
8	203	3	8 000	3 628

ID BASED

SIZE		JOINTS MADE	PULL-OUT STRENGTH	
in	mm	per kit	lbs	kg
2	53	18	2 000	907
2½	63	16	2 500	1 134
3	78	13	3 000	1 360
3½	91	11	3 500	1 587
4	103	10	4 000	1 814
4½	116	8	4 500	2 041
5	129	7	5 000	2 268
6	155	6	6 000	2 722

MIXER TIP

SIZE SYMBOL NO.

All	20-0162
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COLD WEATHER (ORANGE/20-0163)

SIZE SYMBOL NO.

All	20-0166
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AMBIENT TEMPERATURE (GREEN/20-0164)



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ELECTRICAL DESIGN TECHNOLOGY

The Power of One

www.edt-global.com

WIRE FILL

- Maximum allowable percentage wire fill from National Electrical Code (NEC) and Canadian Electrical Code (CEC).
- For 2-hour fire, certified installations, please consult F.H.I.T. 25C from Underwriters Laboratories (p.32) for allowable fill rates.

IPS SIZES

IMPERIAL					
TRADE SIZE IPS	INSIDE DIAMETER	TOTAL AREA 100 %	NUMBER OF CONDUCTORS PERCENT OF CROSS SECTION OF CONDUIT FOR CONDUCTORS		
			1 53 % FILL	2 31 % FILL	OVER 2 40 % FILL
	in.	in²	in²	in²	in²
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	2.074	3.395	1.836	1.159	1.411

METRIC					
TRADE SIZE IPS	INSIDE DIAMETER	TOTAL AREA 100 %	NUMBER OF CONDUCTORS PERCENT OF CROSS SECTION OF CONDUIT FOR CONDUCTORS		
			1 53 % FILL	2 31 % FILL	OVER 2 40 % FILL
	mm	mm²	mm²	mm²	mm²
21	23	427	226	132	171
27	30	709	376	220	284
35	39	1183	627	367	473
41	45	1584	839	491	634
203	213	35 711	18 927	11 070	14 284

ID SIZES

IMPERIAL					
TRADE SIZE ID	INSIDE DIAMETER	TOTAL AREA 100 %	NUMBER OF CONDUCTORS PERCENT OF CROSS SECTION OF CONDUIT FOR CONDUCTORS		
			1 53 % FILL	2 31 % FILL	OVER 2 40 % FILL
	in.	in²	in²	in²	in²
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 100 %	NUMBER OF CONDUCTORS PERCENT OF CROSS SECTION OF CONDUIT FOR CONDUCTORS		
			1 53 % FILL	2 31 % FILL	OVER 2 40 % FILL
	mm	mm²	mm²	mm²	mm²
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

SPECIFICATION

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

SECTION 1: DESCRIPTION & LISTING

1.1 Description

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

1.2 Product application & use

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

1.3 Materials

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

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

1.4 Joining Method

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

1.5 Fittings

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

SECTION 2: DIMENSIONS

2.1 Sizes & wall thicknesses

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

IPS IRON PIPE SIZE			
Diameter		Wall thickness	
in	mm	in	mm
¾	21	0.250	6.4
1	27	0.250	6.4
1 ¼	34	0.250	6.4
1 ½	41	0.250	6.4
8*	203	0.250	6.4

ID TUBULAR SIZE			
Diameter		Wall thickness	
in	mm	in	mm
2	53	0.250	6.4
2½	63	0.250	6.4
3	78	0.250	6.4
3½	91	0.250	6.4
4	103	0.250	6.4
5	129	0.250	6.4
6	155	0.250	6.4

SECTION 3: REQUIREMENTS

3.1 Workmanship

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

3.2 Marking

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

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

3.2 Specifications

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

SECTION 4: PRODUCT PROPERTIES & CHARACTERISTICS

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

SECTION 5: MANUFACTURERS

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

UL PRODUCT CATEGORY

ASSEMBLY USAGE DISCLAIMER

FHIT - Electrical Circuit Integrity Systems

See General Information for Electrical Circuit Integrity Systems

System No. 25C

October 11, 2018

Fire Rating - 2 Hr.

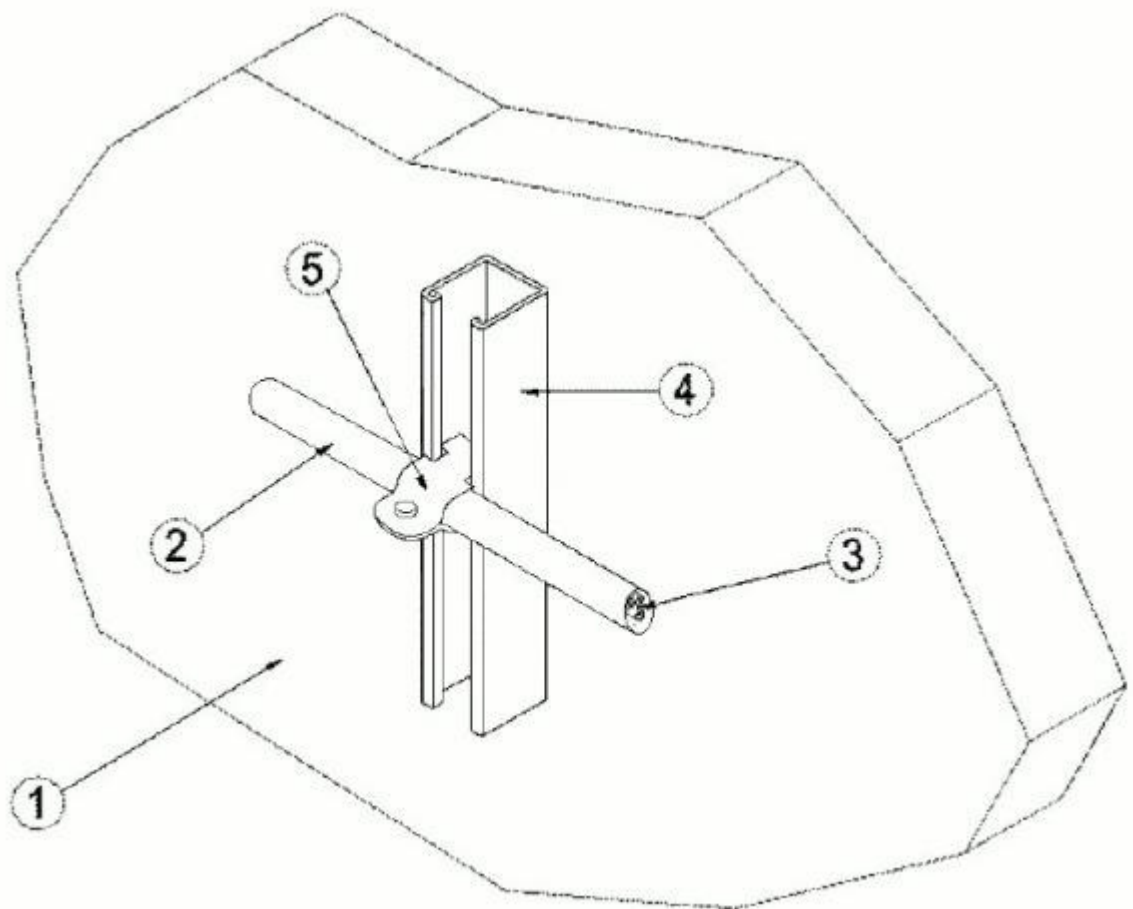


Fig. 1
Two-piece Single-bolt Pipe Clamp

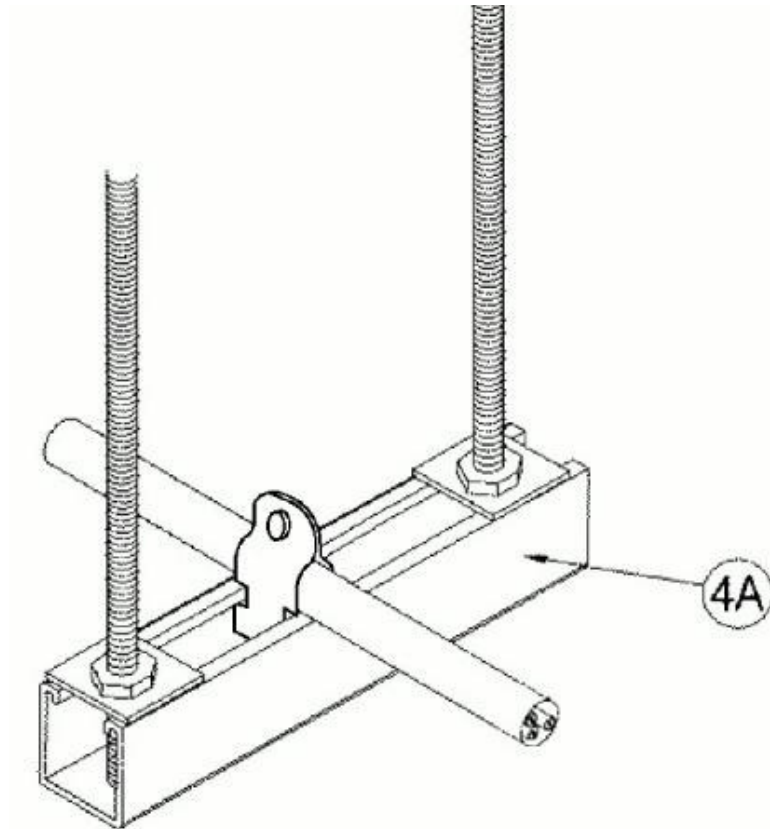


Fig. 2
Steel Strut Trapeze

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

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

2. **Raceway*** — Reinforced Thermosetting Resin Conduit. Horizontal or Vertical installation.

FRE COMPOSITES (2005) INC — BreathSaver Brand Type XW Conduit and Type XW elbows



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Cable Size, AWG/ kcmil	Minimum Raceway Trade Size, in.							
	Horizontal Installation: No. of Cables				Vertical Installation: No. of Cables			
	1	2	3	4	1	2	3	4
8	3/4	3/4	1	1	3/4	1	1-1/4	1-1/4
6	3/4	1	1-1/4	1-1/4	1	1-1/2	2-1/2	2-1/2
4	3/4	1	1-1/4	1-1/2	1-1/4	2	2-1/2	3
3	3/4	1-1/4	1-1/4	1-1/2	1-1/4	2	2-1/2	3
2	3/4	1-1/4	1-1/2	1-1/2	1-1/4	2-1/2	3	3
1	1	1-1/2	2	2-1/2	1-1/2	2-1/2	3-1/2	3-1/2
1/0	1	1-1/2	2-1/2	2-1/2	2	3	3-1/2	4
2/0	1-1/4	2	2-1/2	3	2	3	3-1/2	4
3/0	1-1/4	2	2-1/2	3	2-1/2	3-1/2	4	5
4/0	1-1/4	2-1/2	3	3	2-1/2	3-1/2	4	5
250	1-1/4	2-1/2	3	3	2-1/2	3-1/2	4	5
300	2	3	3-1/2	4	2-1/2	3-1/2	5	5
350	2	3	3-1/2	4	3	3-1/2	5	6
400	2	3	3-1/2	4	3	4	5	6
500	2-1/2	3	4	5	2-1/2	3-1/2	5	5
600	2-1/2	3-1/2	5	5	3	4	5	6
750	2-1/2	3-1/2	5	5	3	4	5	6

2A. Raceway Coupling* — (Not Shown).

FRE COMPOSITES (2005) INC — BreathSaver Brand Type XW coupling. Trade size to correspond with the raceway size

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

PRYSMIAN CABLES AND SYSTEMS USA LLC — Type RHW-2 Lifeline Brand of the following part numbers: G300 followed by 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 77, 78; or QLIFLINE followed by 300 or 400 followed by KCMIL. To be installed as described herein and in accordance with the manufacturer's installation instructions dated February 29, 2016, File R19359



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

When installing cable(s) in vertical runs, the maximum distance of cable within raceway shall be 36 ft. between terminating points.

4A. Trapeze-type Supports — (Figure 2) — The raceways shall be installed on/from trapeze-type supports. The trapeze-type supports shall be secured from the surface of the floor. The supports shall be spaced a maximum of 5 ft. OC.

5. Clamps — Steel 1-1/4 in. wide two-piece single-bolt pipe clamps. Size to correspond with the outside diameter of the raceway and as follows: Trade size 3/4-2 in. conduit, min 14-gauge; Trade size 2-1/2 in. conduit, min 12-gauge; Trade size 3 in. and larger conduit, min 11-gauge.

*Bearing the UL Classification Mark

Last Updated on 2018-10-11

Design/System/Construction/Assembly Usage Disclaimer

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

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STANDARD CONDUIT PACKAGING

IPS EXTRA HEAVY WALL (XHW)

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	meter	lb	kg	lb	kg		ft	meter		ft	meter	lb	kg	in	mm	in	mm
1	27	9.84	3	9.50	4	1 425	646	150	1 476	450	80	118 080	35 991	114 000	51 710	45	1 143	10	254
8	203	19.68	6	114.63	52	1 146	520	10	98	30	16	1 574	480	18 341	8 319	45	1 143	24	610

ID EXTRA HEAVY WALL (XHW)

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	meter	lb	kg	lb	kg		ft	meter		ft	meter	lb	kg	in	mm	in	mm
2	53	19.68	6	29.84	14	1 969	893	66	1 299	396	40	51 955	15 836	78 778	35 733	45	1 143	10	254
3	78	19.68	6	43.10	20	3 491	1 583	81	1 594	486	16	25 505	7 774	55 858	25 337	45	1 143	24	610
4	103	19.68	6	56.37	26	2 424	1 099	43	846	258	16	13 540	4 127	38 783	17 592	45	1 143	24	610
5	129	19.68	6	69.63	32	2 089	947	30	590	180	16	9 446	2 879	33 422	15 160	45	1 143	24	610
6	155	19.68	6	82.89	38	1 658	752	20	394	120	16	6 298	1 920	26 525	12 032	45	1 143	24	610

Standard Accessories Packaging

Ordering in multiple of standard packaging is highly recommended.

Product	Size		Amount	Package	Product	Size		Amount	Package	Product	Size		Amount	Package
	in	mm				in	mm				in	mm		
Coupling	2	53	20	Bag	O-Ring	2	53	10	Bag	Adapters	2	53	20	Bag
Coupling	3-5	78-129	10	Bag	O-Ring	3-5	78-129	5	Bag	Adapters	3 - 6	78-155	10	Bag
Coupling	6	155	8	Bag	Reducers			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



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GLOSSARY

BreathSaver® Conduit

Fiberglass conduit manufactured by FRE Composites, BreathSaver® is a registered trademark in Canada, United States and is a recognized and trusted name worldwide since the 1990'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 Non metallic (RTRC, PVC and HDPE) electrical conduit. This trade size has established its Outside Diameter as the constant value.

ID (Inside Diameter)

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

Conduit

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

WALL THICKNESSES

Standard Wall (SW) conduit

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

Extra heavy Wall (XW) conduit

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

KEY PRODUCTS

Split conduit (Patented design)

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

H strip

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

T strip

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

Sleeve

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

Wobble coupling

Non-watertight fitting allowing for vertical and horizontal movements ($\pm 3^\circ$) of the raceway.

Skew Wobble coupling

Non-watertight fitting allowing for vertical and horizontal movements ($\pm 7.5^\circ$) 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 watertightness 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 (ΔT°).

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.

LIMITATION OF LIABILITY

Due to the varied nature of electrical system designs, field conditions and installation techniques and practices under which FRE® Below Ground Conduit may be used, no guaranty or promise can be made regarding its performance in individual applications, since these factors are beyond the control of FRE Composites (2005) Inc. ("FRE Inc."). Therefore FRE Inc. or any of its affiliates and associates, accepts no responsibility for the performance of installed Below Ground Conduit systems.

At the written request of the engineer, architect, designer or contractor responsible for the design, installation practices or supervision, FRE Inc. may provide assistance or on-site advice based on past experience but only as a guide for successful installation. However said engineer, architect, designer and contractor shall remain solely responsible for ensuring the design, installation practices and supervision are adequate for the intended application. FRE Inc. shall not be liable in any way towards anyone by reason of such assistance or on-site advice.

In all cases, FRE Inc.'s only liability will be the replacement of conduit or fittings shown to be defective in workmanship or materials prior to installation. Under no circumstances shall FRE Inc. be liable for any claims, damages, losses (including a loss of opportunity, business or profit) or costs whether based on the fault or negligence (whether gross or not) of FRE Inc., on contractual, legal or statutory warranties, strict liability or otherwise except as expressly provided herein.

FRE® Below Ground Conduit is primarily designed for use in non-exposed direct buried (DB) or encased buried (EB) environments. Should prolonged exposure be desired, please contact us for details on special protection techniques.

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F1RST IN THE FIELD®

75 Wales Street
Saint-André-d'Argenteuil, QC Canada
J0V 1X0

60 Greenhorn Drive
Pueblo, CO
USA 81004

Electrical Design Technology, Inc.
354 Providence Mine Rd
Nevada City, Ca 95959
1 707-578-4848



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