



Do More.®



ISO 9001:2008 CERTIFIED

Champion Fiberglass, Inc. is the leading manufacturer of fiberglass conduit, strut and bridge hangers for electrical and mechanical markets.

Champion Fiberglass, began production of epoxy fiberglass conduit and fittings in 1988. The company has the most advanced production facilities for manufacturing fiberglass conduit in North America. A well-trained and highly efficient work force utilizes proprietary high-speed winding equipment and high temperature curing ovens to ensure consistent production standards to produce the highest quality fiberglass conduit on the market.

In 1989, Champion Fiberglass developed the first conduit from epoxy resins that had flame resistance and low smoke characteristics, meeting the most stringent codes and specifications. Today this conduit system has been integrated into the **CHAMPION DUCT®** system and is **UL** and **CSA** listed for both below and above ground use.

Another milestone evolved in 2006 when Champion Fiberglass completed development of a Phenolic Conduit System, **FLAME SHIELD®**. It is now the number one choice conduit for subways, including tunnels and stations. **FLAME SHIELD** conforms to the **NFPA 130** requirements, including the 2010 edition.

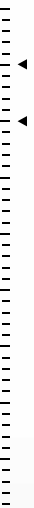
In 2008, **CHAMPION HAZ DUCT®** (XW Type fiberglass conduit) was allowed for use in **Class I Div 2** installations, per the **National Electrical Code (NEC)**. This was accomplished by Champion Fiberglass after having worked with UL and NEC on this issue for many years.

Champion Fiberglass is a **ISO 9001:2008 Certified Company**. We offer our customers innovative solutions with the highest quality products and customer service available in our industry.



CONTENTS

Features and Advantages	4-5
Joining Systems	6
Expansion Joints per NEC	7
Conduit Selection	8
Field Bending	9
Understanding Part Numbers	10-11
Straight Section	
Straight Socket Joint, Iron Pipe Size Dim. (IPS)	12
Interference Joint, Iron Pipe Size Dim. (IPS)	12
Interference Joint, Tubular Dim. (ID)	13
Straight Gasket Joint, Iron Pipe Size Dim. (IPS)	14
Interference Gasket Joint, Tubular Dim. (IPS)	14
Gasket Joint, Tubular Dim. (ID)	15
Bullet Resistant/Extra High Impact (XW)	16
Fittings	17-30
Elbows	31-44
Conduit Bodies	45-46
Accessories / Epoxy Adhesives / Support System	47-51
Engineering Information	52-61
Corrosion Resistance Guide	62
Champion Hangers	63
National Electrical Code, NEC (2011)	64
Canadian Electrical Code, CEC (2009)	64
Packaging Information	65
Limited Warranty	65
Application Photos	66

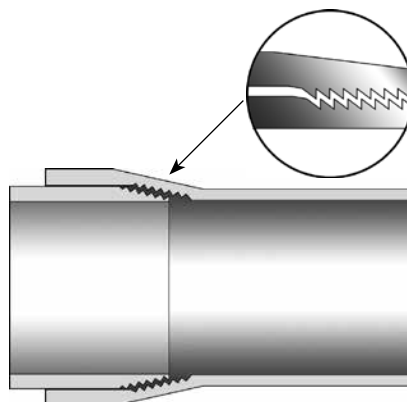


	Epoxy Fiberglass	PVC Sch 40	PVC Sch 80	Galvanized Rigid Steel	PVC Coated Steel	Aluminum
Cable Fault Fiberglass conduit will not melt or weld the wire to the inside of the conduit under fault conditions as can happen with PVC, steel and aluminum conduit.	Not Affected	Melt/ Fuse	Melt/ Fuse	Weld	Weld	Weld
Corrosion Resistance Fiberglass conduit has the broadest range of corrosion resistance of all of these conduit materials. See page 62 for further information.	Wide Range	Limited	Limited	Poor	Limited	Limited
Relative Cost, 4" Conduit (Relative for Labor and Material Cost)	1	0.75	1	4	6	3.5
Toxicity/Halogens Fiberglass conduit does not release toxic halogens (i.e. chlorine and bromine) when burning.	No	Yes	Yes	No	Yes	No
Weight Comparison (lbs. per 100 ft., approx.) Fiberglass conduit offers the lowest weight and is still very rigid. See support spacing on pages 58-61.	3/4" 27 1" 30 1 1/4" 35 1 1/2" 38 2" 40 2 1/2" 50 3" 59 3 1/2" 65 4" 78 5" 97 6" 117 8" 150	23 34 46 55 73 125 164 198 234 318 412 640	29 43 59 99 99 152 212 262 310 431 592 N/A	105 153 201 246 334 527 690 831 982 1344 1770 N/A	105 153 201 246 334 527 690 831 982 1344 1770 N/A	36 53 70 86 116 183 239 288 340 465 612 N/A
Support Spacing for 4" Conduit (ft) See Engineering Section of this catalog for further information ("Deflection" on pages 58-61).	12	7	7	20	20	15
Temperature Range (°F) Fiberglass has an excellent wide temperature range.	-60° to +250°	+40° to +150°	+40° to +150°	N/A	N/A	N/A
Handling in Low Temperatures Fiberglass conduit has been shown to retain its properties at low temperatures allowing year round installations.	Excellent	Brittle	Brittle	Excellent	Excellent	Excellent
Burn Through (Cable Pull) Fiberglass conduit is an excellent material for avoiding "burn through" when pulling cable.	No	Yes	Yes	No	No	No

	Epoxy Fiberglass	PVC Sch 40	PVC Sch 80	Galvanized Rigid Steel	PVC Coated Steel	Aluminum	
Coefficient of Friction Using PVC Jacketed Cable Fiberglass conduit offers one of the lowest coefficient of friction available today for conduit systems. It is completely resistant to any of the current pulling lubricants corrosive properties.	0.38	0.90	0.90	0.55	0.55	0.25	
Conductivity Fiberglass conduit acts as an excellent insulator.	No	No	No	Yes	Yes	Yes	
UV Stable (Sunlight Resistance) (Per UL 2515 & CSA C22.2 No. 211.3-96)	Good	Poor	Poor	Excellent	Poor	Excellent	
Coefficient of Thermal Expansion (10-5 inch/inch/°F) *The coefficient is .7 for the steel and 3.5 for the PVC layer. Because of the broad difference between the two materials, adhesion is severely affected during temperature contraction and expansion.	1.0	3.5	3.5	0.7	3.5/0.7*	3.5	
Distance Between Expansion Joints (ft)	200	50	50	200	200	50	
NECA Labor Installation Rates (Normal installation per/100 ft) (REF: 2013-2014 NECA Manual of Labor Units)	¾"	\$5.50	\$4.50	\$5.40	\$6.00	\$8.00	\$5.50
	1"	\$5.75	\$5.25	\$6.30	\$7.00	\$10.00	\$6.00
	1¼"	\$6.00	\$6.00	\$7.20	\$8.00	\$12.00	\$6.50
	1½"	\$6.35	\$7.00	\$8.40	\$9.00	\$15.00	\$7.00
	2"	\$6.75	\$8.00	\$9.60	\$11.00	\$18.00	\$8.00
	2½"	\$7.10	\$9.00	\$10.80	\$15.00	\$21.00	\$10.00
	3"	\$7.50	\$10.00	\$12.00	\$20.00	\$26.00	\$12.00
	3½"	\$7.85	\$12.00	N/A	\$25.00	\$32.00	\$15.00
	4"	\$8.25	\$14.00	\$16.80	\$30.00	\$38.00	\$19.00
	5"	\$8.60	\$18.00	\$21.60	\$38.00	\$45.00	\$24.00
6"	\$9.00	\$24.00	\$28.80	\$48.00	\$60.00	\$30.00	
Field Handling Due to its light weight, ease of cutting and integral bell, fiberglass conduit is very easy to install.	Excellent	Good	Good	Very Poor	Very Poor	Poor	
Memory Fiberglass conduit will retain its original shape after impact or compression.	Yes	No	No	No	No	No	

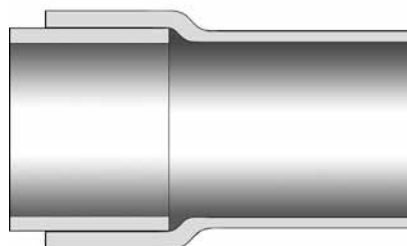
INTERFERENCE JOINT

The interference joint system consists of an integral bell and spigot. The spigot end has a buttress type, male thread for easy installation. The belled end contains the mating female threads. The tapered buttress threads make it easy to join while giving it a high pull out strength of 1,000 lbs. The joint is concrete tight but not water tight.



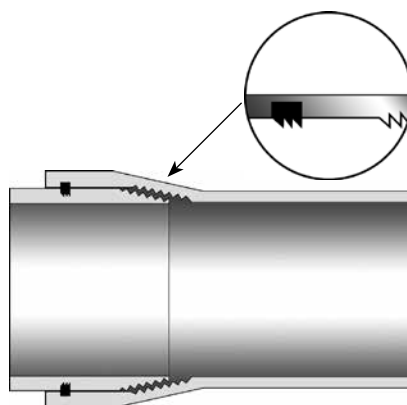
STRAIGHT SOCKET

The straight socket system consists of an integral bell and spigot where the bell is bonded on. The spigot end easily slides into the belled end. This joining system is intended for use with Champion Fiberglass epoxy adhesive, see page 47-48.



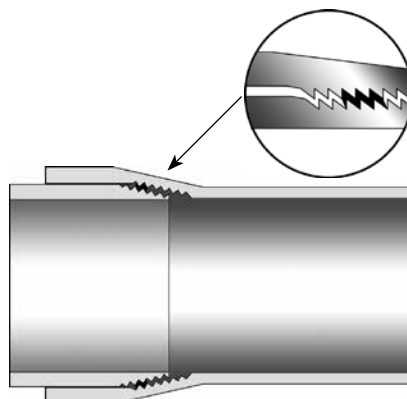
GASKET JOINT (TRIPLE SEAL)

The gasket joint system consists of an integral bell and spigot. The belled end has a triple seal gasket in addition to the interference joint. The triple seal gasket fits into a permanent groove formed during the manufacturing of the conduit. Because of this design, thermoplastic retainer rings, which often fall out during cold weather, are not necessary. The triple seal gasket provides a water tight seal. When properly installed, the triple seal gasket in combination with the interference joint has a pull out strength of 2,000 lbs. Triple seal gasket without interference joint (e.g. after a field cut) has a pull out strength of 500 lbs.



TIGHT LOCK JOINT

The Tight Lock Joint is the interference joint or the straight socket joint combined with epoxy adhesive. The adhesive is applied to the spigot end of the conduit, and after the proper set up time, the joint is as strong as the conduit itself. This type of joining method provides the best water tightness and pull out strength. For pull out strength see page 53.



SELECTION OF JOINTS FOR VARIOUS APPLICATIONS

- **Below Ground, Direct Buried, Water Tight Joint**
 - Gasketed Joint
 - Tight Lock Joint
- **Below Ground, Concrete Encased**
 - Interference Joint
 - Gasketed Joint can be used, however is not required
 - Tight Lock Joint can be used, however is not required
- **Underbridge and Above Ground installations**
 - Tight Lock Joint

Note: Never use Interference Joint without adhesive or Gasketed Joint for above ground applications. The pull-out strength is not sufficient. Experience has shown that over the service life of an installation, Interference Joint without adhesive or Gasketed Joint may fail.

EXPANSION JOINTS PER NEC

NEC 2011 Article 355.44 Expansion Fittings. "Expansion fittings for RTRC shall be provided to compensate for thermal expansion and contraction where the length change, in accordance with Tables 355.44, is expected to be 6 mm (¼ in.) or greater in a straight run between securely mounted items such as boxes, cabinets, elbows, or other conduit terminations."

Table 355.44 Expansion Characteristics of Reinforced Thermosetting Resin Conduit (RTRC)
Coefficient of Thermal Expansion = 1.5×10^{-5} in/in/°F (2.7×10^{-5} mm/mm/°C)

Temperature Change (°F)	Length Change of RTRC Conduit (in/100 ft)	Temperature Change (°F)	Length Change of RTRC Conduit (in/100 ft)	Temperature Change (°C)	Length Change of RTRC Conduit (mm/m)
5	0.09	105	1.89	5	0.14
10	0.18	110	1.98	10	0.27
15	0.27	115	2.07	15	0.41
20	0.36	120	2.16	20	0.54
25	0.45	125	2.25	25	0.68
30	0.54	130	2.34	30	0.81
35	0.63	135	2.43	35	0.95
40	0.72	140	2.52	40	1.08
45	0.81	145	2.61	45	1.22
50	0.90	150	2.70	50	1.35
55	0.99	155	2.79	55	1.49
60	1.08	160	2.88	60	1.62
65	1.17	165	2.97	65	1.76
70	1.26	170	3.06	70	1.89
75	1.35	175	3.15	75	2.03
80	1.44	180	3.24	80	2.16
85	1.53	185	3.33	85	2.30
90	1.62	190	3.42	90	2.43
95	1.71	195	3.51	95	2.57
100	1.80	200	3.60	100	2.70

DIFFERENCE BETWEEN BELOW GROUND AND ABOVE GROUND CONDUIT*

The main difference between above ground and below ground conduit is its fire resistance. Above ground has a fire resistance per UL 2515 and CSA C22.2 No. 2515, meaning that the conduit will extinguish within 15 seconds after each of 5 successive applications of a flame per the UL standard. Below ground conduit meets the UL 94 HB requirement.

Dimensions, color, physical, mechanical and electrical criteria are otherwise similar between above ground and below ground conduit. Note that conduit marked for above ground use, can also be used for below ground.

WHICH CONDUIT TO INSTALL WHERE*

Above Ground

Base the diameter of conduit on the allowable wire fill per page 56-57 in this catalog. For support distance, see pages 58-61. Normally, a mid-span deflection of $\frac{5}{8}$ " (**16mm**) should not be exceeded.

Please note that Iron Pipe Size (IPS) type of fiberglass conduit can easily be used with standard pipe clamps. Due to the smaller outside diameter of tubular (ID) type fiberglass conduit, standard pipe clamps cannot be used with this type of conduit. Furthermore, IPS Type conduit has a larger inside diameter vs. tubular (ID) type conduit, allowing for more wire fill.

Under Bridge

For proper selection of conduit, please refer to the deflection charts shown on pages 58-61 in the Engineering Section of this catalog. After determining the weight of the cable and maximum allowable deflection (typically not exceeding $\frac{5}{8}$ " (**16mm**)), use the deflection charts for selection of conduit type and support distance.

Encased in Concrete (often referred to as EB quality)

For most cases, standard wall product is sufficient. Due to its high temperature rating, fiberglass conduit holds up very well for concrete encasement. This application does not include core boring (see below). If UL listed material is required, use standard wall for $\frac{3}{4}$ " - 4" diameter, and medium wall for 5" and 6" diameter.

Direct Buried (often referred to as DB quality)

For all direct buried applications, UL listed conduit should be selected. Use standard wall for $\frac{3}{4}$ " - 4" diameter, and medium wall for 5" and 6". For very deep trenches, special soil conditions or where high rate of compacting can be expected, an even heavier wall should be selected. Please contact Champion Fiberglass for any of the above situations.

Core Boring

Because of the possibility of high pressure caused by concrete, heavy wall conduit should be used for 4" - 6" diameter conduit. It is very important that the contractor/installer observes proper procedures when pumping the concrete into the core. If excessive pressure is applied, even heavy wall conduit may fail. Please contact Champion Fiberglass for any of the above situations.

High Impact Areas, Bullet Resistant

For special applications, XWall conduit with a thickness of .25" can be used. Many of the telephone companies use this type of conduit for protection of fiber optic cables for Above Ground installations. XWall conduit has been shown to stop a .22 caliber bullet.

Disclaimer: * It is always the responsibility of the contractor/installer and or engineer to select the proper conduit for any situation. Champion Fiberglass is under no circumstances responsible for selection of conduit. Above paragraphs are strictly suggestions only.

FIELD BENDING

Fiberglass conduit may be bent in the field. Bending fiberglass conduit in the field should be done when offsets are required and factory bends are not on site. Field bending of fiberglass conduit is recommended only when absolutely necessary. It is recommended that bends be calculated in the take-off and ordered with the straight sections.

Field bending is governed by **Article 355.24** in the **2011 NEC: Bends - How Made**. Bends shall be made so that the conduit will not be damaged and the internal diameter of the conduit will not be effectively reduced. Field bends shall be made only with bending equipment identified for that purpose. The radius of the curve to the centerline of such bends shall not be less than shown in **2011 NEC Table 2 Chapter 9**.

After reviewing below data, check the Champion Fiberglass catalog page 31 to verify the specific bending radius selected. Generally, it is difficult to field bend a tighter radius than what can be done at the factory.

The process for field bending is relatively simple. The conduit is heated in a standard PVC hot box, and then bent with bending equipment identified for this purpose.

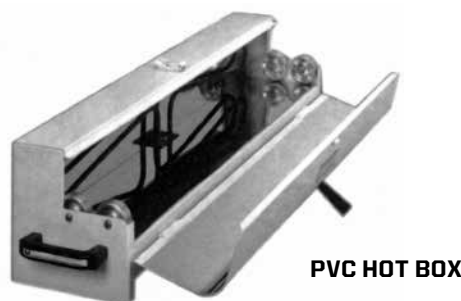
2011 NEC, Table 2, Chapter 9: Radius of Conduit and Tubing Bends

Size of Conduit		Other Bends	
Metric Designator	Trade Size	mm	in.
16	½	101.6	4
21	¾	127	5
27	1	152.4	6
35	1¼	203.2	8
41	1½	254	10
53	2	304.8	12
63	2½	381	15
78	3	457.2	18
91	3½	533.4	21
103	4	609.6	24
129	5	762	30
155	6	914.4	36

For the standard wall sizes listed below, the heating time ranges from approximately 20 seconds to 65 seconds depending on the temperature of the hot box and the size of the conduit. After heating, immediately place conduit in the bending equipment and begin to bend. It is extremely important that the proper bending equipment is used. Allow the bend to cool at the desired angle.

For other sizes and wall thicknesses, please refer to the Installation Instructions under the "Products" tab on-line at www.championfiberglass.com.

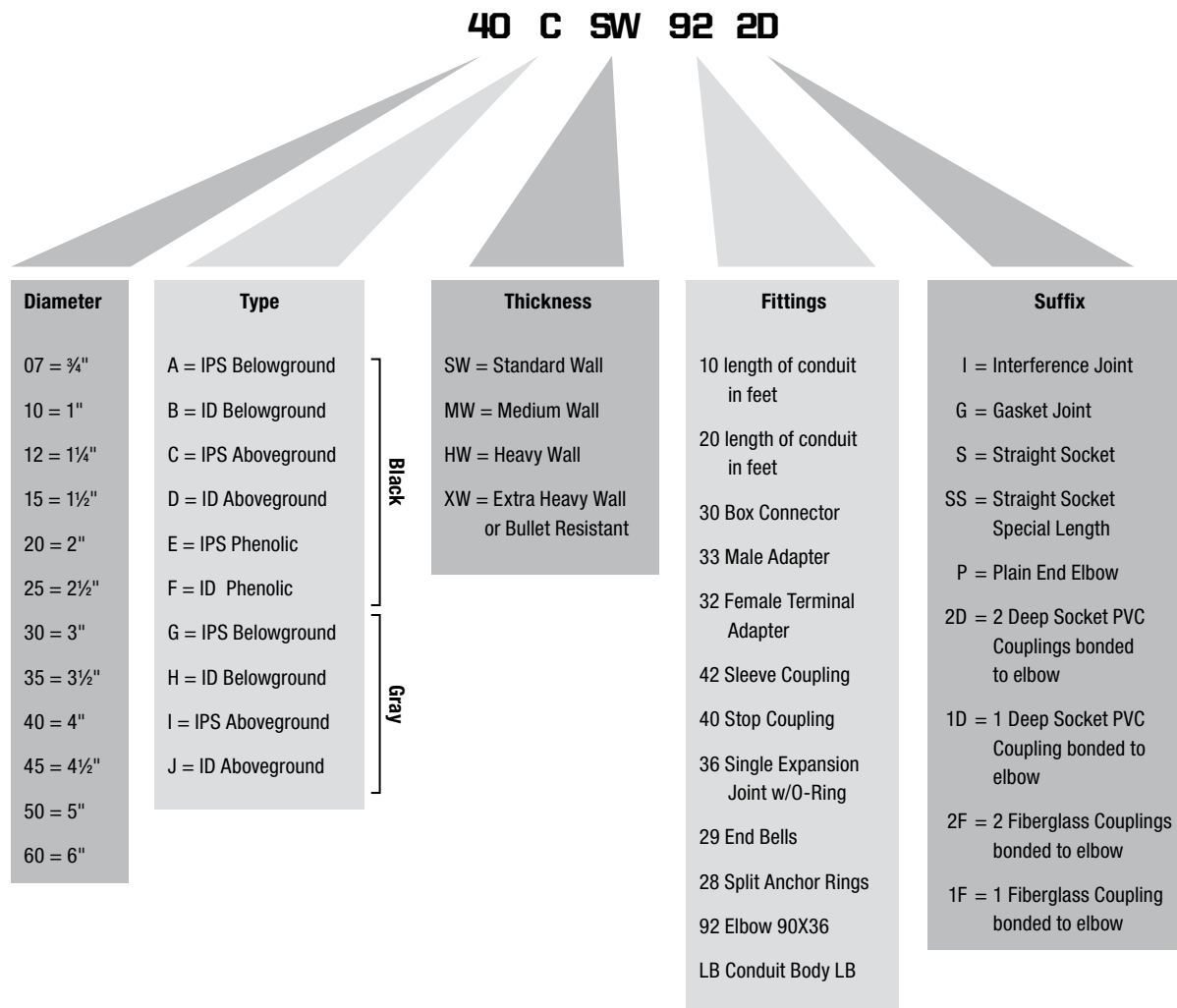
Conduit Size (in)		Time (sec) In Heater
¾	IPS	25 - 30
1	IPS	30 - 35
1¼	IPS	30 - 35
1½	IPS	35 - 40
2	IPS	40 - 60
2½	IPS	45 - 65



PVC HOT BOX

When installing field bent fiberglass conduit, the elbow or offset should immediately be installed and supported by conduit straps on both ends of the elbow and offset.

UNDERSTANDING PART NUMBERS



Note: If the first 5 characters in a part number match, then they will fit together!

EXAMPLE OF A GOOD SYSTEM

All items below are 4", IPS, SW, Aboveground

40 C SW 20 I	Conduit / Interference Joint
40 C SW 33	Male Adapter
40 C SW LB	Conduit Body LB
40 C SW 92 P	Plain End Elbow

UNDERSTANDING PART NUMBERS

When selecting Fiberglass Conduit for a job, ask yourself these questions:

1. Nominal Size

What nominal size conduit is required for the job?

¾" x 10' (Avail. IPS only)	2" x 20'	4" x 20'	6" x 20'
1" x 10' (Avail. IPS only)	2½" x 20'	4½" x 20' (Avail. ID only)	8" x 20'
1¼" x 20' (Avail. IPS only)	3" x 20'	5" x 20'	10" x 20' (Avail. ID only)
1½" x 20' (Avail. IPS only)	3½" x 20' (AVAIL ID only)		12" x 20' (Avail. ID only)

2. Type

What type of conduit is required for the job?

A = IPS Belowground (Iron Pipe Size)
 B = ID Belowground (Tubular)
 C = IPS Aboveground (Most Common)
 D = ID Aboveground
 E = IPS Phenolic (Meets NFPA 130)

F = ID Phenolic (Meets NFPA 130)
 G = IPS Belowground - Gray in Color
 H = ID Belowground - Gray in Color
 I = IPS Aboveground - Gray in Color
 J = ID Aboveground - Gray in Color

Note: Aboveground conduit can be used Belowground.

3. Thickness

What wall thickness is required for the job?

SW = Standard Wall (UL ¾" thru 4")
 (Most Common)
 MW = Medium Wall (UL 5" & 6")
 Used for more protection in 5" & 6"
 HW = Heavy Wall
 Used for increased protection in 4" - 8"
 XW = X Wall (UL ¾" thru 6")
 Highest level of physical protection
 Bullet Resistant
 Class 1 Div 2 & Class 1 Zone 2 Applications

SW Applies in Most Cases > Unless:
 1) Class 1 Div 2 then XWall is required
 2) Extra Physical Protection is required
 3) UL is required, then see catalog for
 UL listing
 4) Size of Conduit
 5) Specifications (i.e. DOT)
 6) Extreme environments

*Note: Reference Duct Catalog, page 8
 for conduit selection, pages 52-61 for
 engineering data*

4. Joint

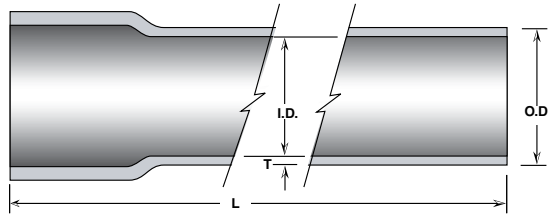
What joint type is required for the job?

Interference Joint (Most Common)
 Aboveground & Belowground
 Available in 2" - 8" IPS
 Available in 2" - 12" ID

Straight Socket
 Available in ¾" - 1½" IPS
 Available in ¾" - 12" XWALL

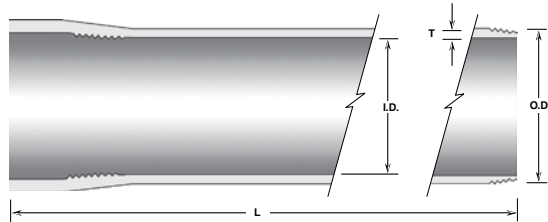
Gasket Joint
 Belowground or constant temperature environment
 Available in ¾" - 8" IPS
 Available in 2" - 6" ID

*Note: Reference Duct Catalog pages
 6, 7, 12-16*



STRAIGHT SOCKET JOINT (IPS)

Type SW (Standard Wall) Inches (Metric)										
Nominal. Size	Item No		UL/CSA Listed	Outside Diameter		Min. Inside Diameter	Nominal Wall Thickness* (T)	Length (L)	Weight	
	Belowground	Aboveground		Average	Tolerance				lbs/ft	kg/m
¾ (19)	07A-SW-10S	07C-SW-10S	Yes	1.050 (27)	+0.028 (0.7) -0.018 (0.4)	0.910 (23)	.070 (2)	10 ft (3m)	.17	(0.25)
1 (25)	10A-SW-10S	10C-SW-10S	Yes	1.315 (33)	+0.028 (0.7) -0.018 (0.4)	1.175 (30)	.070 (2)	10 ft (3m)	.19	(0.28)
1¼ (32)	12A-SW-20-S	12C-SW-20-S	Yes	1.660 (42)	+0.028 (0.7) -0.018 (0.4)	1.520 (39)	.070 (2)	20 ft (6.1m)	.23	(0.34)
1½ (38)	15A-SW-20-S	15C-SW-20-S	Yes	1.900 (48)	+0.028 (0.7) -0.018 (0.4)	1.760 (45)	.070 (2)	20 ft (6.1m)	.33	(0.49)



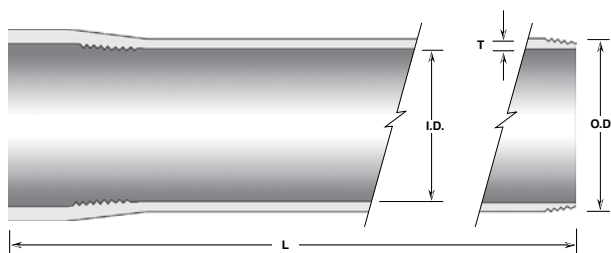
INTERFERENCE JOINT (IPS)

Type SW (Standard Wall) Inches (Metric)										
Nominal. Size	Item No		UL/CSA Listed	Outside Diameter		Min. Inside Diameter	Nominal Wall Thickness* (T)	Length (L)	Weight	
	Belowground	Aboveground		Average	Tolerance				lbs/ft	kg/m
2 (51)	20A-SW-20-I	20C-SW-20-I	Yes	2.375 (60)	+0.028 (0.7) -0.018 (0.4)	2.235 (57)	.070 (2)	20 ft (6.1m)	.38	(0.57)
2½ (64)	25A-SW-20-I	25C-SW-20-I	Yes	2.875 (73)	+0.028 (0.7) -0.018 (0.4)	2.740 (69)	.070 (2)	20 ft (6.1m)	.46	(0.68)
3 (76)	30A-SW-20-I	30C-SW-20-I	Yes	3.500 (89)	+0.028 (0.7) -0.018 (0.4)	3.360 (85)	.070 (2)	20 ft (6.1m)	.60	(0.89)
4 (102)	40A-SW-20-I	40C-SW-20-I	Yes	4.460 (113)	+0.028 (0.7) -0.018 (0.4)	4.320 (110)	.070 (2)	20 ft (6.1m)	.72	(1.07)
5 (127)	50A-SW-20-I	50C-SW-20-I	--	5.520 (140)	+0.028 (0.7) -0.018 (0.4)	5.380 (137)	.070 (2)	20 ft (6.1m)	.90	(1.34)
6 (152)	60A-SW-20-I	60C-SW-20-I	--	6.575 (167)	+0.028 (0.7) -0.018 (0.4)	6.435 (163)	.070 (2)	20 ft (6.1m)	1.00	(1.49)
8 (203)	80A-SW-20-I	80C-SW-20-I	--	8.592 (218)	+0.028 (0.7) -0.018 (0.4)	8.400 (213)	.096 (2)	20 ft (6.1m)	2.02	(3.01)

Type MW (Medium Wall) Inches (Metric)										
Nominal. Size	Item No		UL/CSA Listed	Outside Diameter		Min. Inside Diameter	Nominal Wall Thickness* (T)	Length (L)	Weight	
	Belowground	Aboveground		Average	Tolerance				lbs/ft	kg/m
5 (127)	50A-MW-20-I	50C-MW-20-I	Yes	5.572 (142)	+0.034 (0.9) -0.028 (0.7)	5.380 (137)	.096 (2)	20 ft (6.1m)	1.20	(1.79)
6 (152)	60A-MW-20-I	60C-MW-20-I	Yes	6.627 (168)	+0.034 (0.9) -0.028 (0.7)	6.435 (163)	.096 (2)	20 ft (6.1m)	1.42	(2.11)
8 (203)	80A-MW-20-I	80C-MW-20-I	--	8.620 (219)	+0.034 (0.9) -0.028 (0.7)	8.400 (213)	.110 (3)	20 ft (6.1m)	2.14	(3.20)

Type HW (Heavy Wall) Inches (Metric)										
Nominal. Size	Item No		UL/CSA Listed	Outside Diameter		Min. Inside Diameter	Nominal Wall Thickness* (T)	Length (L)	Weight	
	Belowground	Aboveground		Average	Tolerance				lbs/ft	kg/m
4 (102)	40A-HW-20-I	40C-HW-20-I	Yes	4.512 (115)	+0.028 (0.7) -0.022 (0.6)	4.320 (110)	.096 (2)	20 ft (6.1m)	0.97	(1.44)
5 (127)	50A-HW-20-I	50C-HW-20-I	Yes	5.600 (142)	+0.034 (0.9) -0.028 (0.7)	5.380 (137)	.110 (3)	20 ft (6.1m)	1.32	(1.96)
6 (152)	60A-HW-20-I	60C-HW-20-I	Yes	6.655 (169)	+0.034 (0.9) -0.028 (0.7)	6.435 (163)	.110 (3)	20 ft (6.1m)	1.63	(2.43)
8 (203)	80A-HW-20-I	80C-HW-20-I	--	8.650 (220)	+0.034 (0.9) -0.028 (0.7)	8.400 (213)	.125 (3)	20 ft (6.1m)	2.43	(3.62)

* Actual wall thickness is that required to meet the performance requirements for specifications. Other wall thicknesses are available by special request.



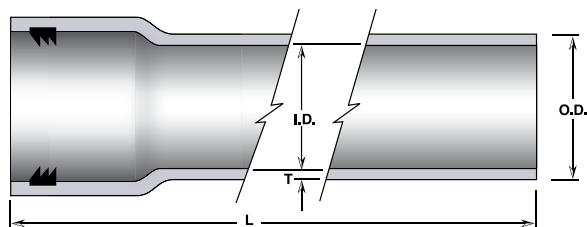
INTERFERENCE JOINT (ID)

Type SW (Standard Wall) Inches (Metric)										
Nominal Size	Item No	Belowground	Aboveground	UL/CSA Listed	Average	Outside Diameter Tolerance	Min. Inside Diameter	Nominal Wall Thickness* (T)	Length (L)	Weight lbs/ft kg/m
2 (51)	20B-SW-20-I	20D-SW-20-I		Yes	2.140 (54)	+0.028 (0.7) -0.018 (0.4)	2.000 (51)	.070 (2)	20 ft (6.1m)	0.34 (0.51)
2½ (64)	25B-SW-20-I	25D-SW-20-I		Yes	2.640 (67)	+0.028 (0.7) -0.018 (0.4)	2.500 (64)	.070 (2)	20 ft (6.1m)	0.42 (0.63)
3 (76)	30B-SW-20-I	30D-SW-20-I		Yes	3.140 (80)	+0.028 (0.7) -0.018 (0.4)	3.000 (76)	.070 (2)	20 ft (6.1m)	0.48 (0.72)
3½ (89)	35B-SW-20-I	35D-SW-20-I		Yes	3.640 (92)	+0.028 (0.7) -0.018 (0.4)	3.500 (89)	.070 (2)	20 ft (6.1m)	0.60 (0.89)
4 (102)	40B-SW-20-I	40D-SW-20-I		Yes	4.140 (105)	+0.028 (0.7) -0.018 (0.4)	4.000 (101)	.070 (2)	20 ft (6.1m)	0.69 (1.03)
4½ (114)	45B-SW-20-I	45D-SW-20-I		--	4.640 (118)	+0.028 (0.7) -0.018 (0.4)	4.500 (114)	.070 (2)	20 ft (6.1m)	0.75 (1.12)
5 (127)	50B-SW-20-I	50D-SW-20-I		--	5.140 (131)	+0.028 (0.7) -0.018 (0.4)	5.000 (127)	.070 (2)	20 ft (6.1m)	0.85 (1.27)
6 (152)	60B-SW-20-I	60D-SW-20-I		--	6.140 (156)	+0.028 (0.7) -0.018 (0.4)	6.000 (152)	.070 (2)	20 ft (6.1m)	1.02 (1.52)
8 (203)	80B-SW-20-S	80D-SW-20-S		--	8.192 (208)	+0.028 (0.7) -0.018 (0.4)	8.000 (203)	.096 (2)	20 ft (6.1m)	1.86 (2.77)
10 (254)	100B-SW-20-S	100D-SW-20-S		--	10.250 (260)	+0.028 (0.7) -0.018 (0.4)	10.000 (254)	.125 (3)	20 ft (6.1m)	3.04 (4.52)
12 (305)	120B-SW-20-S	120D-SW-20-S		--	12.250 (311)	+0.028 (0.7) -0.018 (0.4)	12.000 (305)	.125 (3)	20 ft (6.1m)	3.64 (5.42)

Type MW (Medium Wall) Inches (Metric)										
5 (127)	50B-MW-20-I	50D-MW-20-I		Yes	5.192 (131)	+0.034 (0.9) -0.028 (0.7)	5.000 (127)	.096 (2)	20 ft (6.1m)	1.13 (1.68)
6 (152)	60B-MW-20-I	60D-MW-20-I		Yes	6.192 (157)	+0.034 (0.9) -0.028 (0.7)	6.000 (152)	.096 (2)	20 ft (6.1m)	1.35 (2.01)
8 (203)	80B-MW-20-S	80D-MW-20-S		--	8.220 (209)	+0.028 (0.7) -0.018 (0.4)	8.000 (203)	.110 (3)	20 ft (6.1m)	2.13 (3.17)
10 (254)	100B-MW-20-S	100D-MW-20-S		--	10.312 (262)	+0.034 (0.9) -0.028 (0.7)	10.000 (254)	.156 (4)	20 ft (6.1m)	3.65 (5.43)
12 (305)	120B-MW-20-S	120D-MW-20-S		--	12.312 (313)	+0.034 (0.9) -0.028 (0.7)	12.000 (305)	.156 (4)	20 ft (6.1m)	4.37 (6.50)

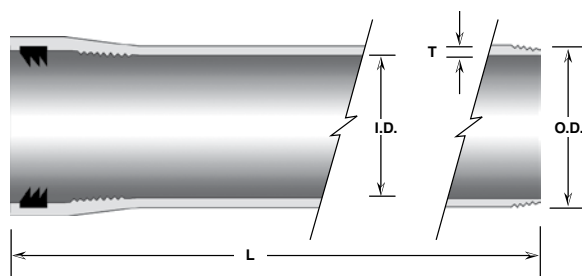
Type HW (Heavy Wall) Inches (Metric)										
4 (102)	40B-HW-20-I	40D-HW-20-I		Yes	4.192 (106)	+0.028 (0.7) -0.022 (0.6)	4.000 (101)	.096 (2)	20 ft (6.1m)	0.92 (1.37)
4½ (114)	45B-HW-20-I	45D-HW-20-I		Yes	4.692 (119)	+0.028 (0.7) -0.022 (0.6)	4.500 (114)	.096 (2)	20 ft (6.1m)	1.04 (1.55)
5 (127)	50B-HW-20-I	50D-HW-20-I		Yes	5.220 (132)	+0.034 (0.9) -0.028 (0.7)	5.000 (127)	.110 (3)	20 ft (6.1m)	1.30 (1.92)
6 (152)	60B-HW-20-I	60D-HW-20-I		Yes	6.220 (158)	+0.034 (0.9) -0.028 (0.7)	6.000 (152)	.110 (3)	20 ft (6.1m)	1.58 (2.35)
8 (203)	80B-HW-20-S	80D-HW-20-S		--	8.250 (210)	+0.028 (0.7) -0.018 (0.4)	8.000 (203)	.125 (3)	20 ft (6.1m)	2.42 (3.60)
10 (254)	100B-HW-20-S	100D-HW-20-S		--	10.376 (264)	+0.034 (0.9) -0.028 (0.7)	10.000 (254)	.188 (5)	20 ft (6.1m)	4.50 (6.70)
12 (305)	120B-HW-20-S	120D-HW-20-S		--	12.376 (314)	+0.034 (0.9) -0.028 (0.7)	12.000 (305)	.188 (5)	20 ft (6.1m)	5.38 (8.01)

* Actual wall thickness is that required to meet the performance requirements for specifications. Other wall thicknesses are available by special request.



STRAIGHT GASKET JOINT (IPS)

Type SW (Standard Wall) Inches (Metric)									
Nominal Size	Item No.		UL/CSA Listed	Outside Diameter		Min. Inside Diameter	Nominal Wall Thickness* (T)	Length (L)	Weight
	Belowground	Aboveground		Average	Tolerance				lbs/ft kg/m
¾ (19)	07A-SW-10-G	07C-SW-10-G	Yes	1.050 (27)	+0.028 (0.7) -0.018 (0.4)	0.910 (23)	.070 (2)	10 ft (3m)	.17 (0.25)
1 (25)	10A-SW-10-G	10C-SW-10-G	Yes	1.315 (33)	+0.028 (0.7) -0.018 (0.4)	1.175 (30)	.070 (2)	10 ft (3m)	.19 (0.28)
1¼ (32)	12A-SW-20-G	12C-SW-20-G	Yes	1.660 (42)	+0.028 (0.7) -0.018 (0.4)	1.520 (39)	.070 (2)	20 ft (6.1m)	.23 (0.34)
1½ (38)	15A-SW-20-G	15C-SW-20-G	Yes	1.900 (48)	+0.028 (0.7) -0.018 (0.4)	1.760 (45)	.070 (2)	20 ft (6.1m)	.33 (0.49)



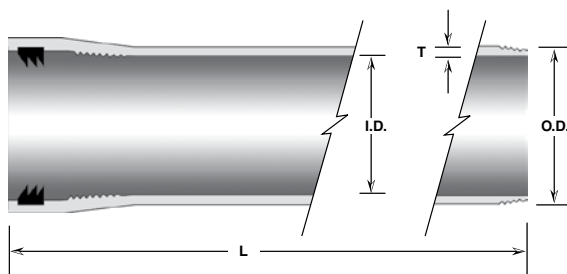
INTERFERENCE GASKET JOINT (IPS)

Type SW (Standard Wall) Inches (Metric)									
Nominal Size	Item No.		UL/CSA Listed	Outside Diameter		Min. Inside Diameter	Nominal Wall Thickness* (T)	Length (L)	Weight
	Belowground	Aboveground		Average	Tolerance				lbs/ft kg/m
2 (51)	20A-SW-20-G	20C-SW-20-G	Yes	2.375 (60)	+0.028 (0.7) -0.018 (0.4)	2.235 (57)	.070 (2)	20 ft (6.1m)	0.38 (0.57)
3 (76)	30A-SW-20-G	30C-SW-20-G	Yes	3.500 (89)	+0.028 (0.7) -0.018 (0.4)	3.360 (85)	.070 (2)	20 ft (6.1m)	0.60 (0.90)
4 (102)	40A-SW-20-G	40C-SW-20-G	Yes	4.460 (113)	+0.028 (0.7) -0.018 (0.4)	4.320 (110)	.070 (2)	20 ft (6.1m)	0.72 (1.07)
5 (127)	50A-SW-20-G	50C-SW-20-G	--	5.520 (140)	+0.028 (0.7) -0.018 (0.4)	5.380 (137)	.070 (2)	20 ft (6.1m)	0.90 (1.34)
6 (152)	60A-SW-20-G	60C-SW-20-G	--	6.575 (167)	+0.028 (0.7) -0.018 (0.4)	6.435 (163)	.070 (2)	20 ft (6.1m)	1.00 (1.49)
8 (203)	80A-SW-20-G	80C-SW-20-G	--	8.592 (218)	+0.028 (0.7) -0.018 (0.4)	8.400 (213)	.096 (2)	20 ft (6.1m)	2.02 (3.01)

Type MW (Medium Wall) Inches (Metric)									
Nominal Size	Item No.		UL/CSA Listed	Outside Diameter		Min. Inside Diameter	Nominal Wall Thickness* (T)	Length (L)	Weight
	Belowground	Aboveground		Average	Tolerance				lbs/ft kg/m
5 (127)	50A-MW-20-G	50C-MW-20-G	Yes	5.572 (142)	+0.034 (0.9) -0.028 (0.7)	5.380 (137)	.096 (2)	20 ft (6.1m)	1.20 (1.79)
6 (152)	60A-MW-20-G	60C-MW-20-G	Yes	6.627 (168)	+0.034 (0.9) -0.028 (0.7)	6.435 (163)	.096 (2)	20 ft (6.1m)	1.42 (2.11)
8 (203)	80A-MW-20-G	80C-MW-20-G	--	8.620 (219)	+0.028 (0.7) -0.018 (0.4)	8.400 (213)	.110 (3)	20 ft (6.1m)	2.14 (3.20)

Type HW (Heavy Wall) Inches (Metric)									
Nominal Size	Item No.		UL/CSA Listed	Outside Diameter		Min. Inside Diameter	Nominal Wall Thickness* (T)	Length (L)	Weight
	Belowground	Aboveground		Average	Tolerance				lbs/ft kg/m
4 (102)	40A-HW-20-G	40C-HW-20-G	Yes	4.512 (115)	+0.028 (0.7) -0.022 (0.6)	4.320 (110)	.096 (2)	20 ft (6.1m)	0.97 (1.44)
5 (127)	50A-HW-20-G	50C-HW-20-G	Yes	5.600 (142)	+0.034 (0.9) -0.028 (0.7)	5.380 (137)	.110 (3)	20 ft (6.1m)	1.32 (1.96)
6 (152)	60A-HW-20-G	60C-HW-20-G	Yes	6.655 (169)	+0.034 (0.9) -0.028 (0.7)	6.435 (163)	.110 (3)	20 ft (6.1m)	1.63 (2.43)
8 (203)	80A-HW-20-G	80C-HW-20-G	--	8.650 (220)	+0.028 (0.7) -0.018 (0.4)	8.400 (213)	.125 (3)	20 ft (6.1m)	2.43 (3.62)

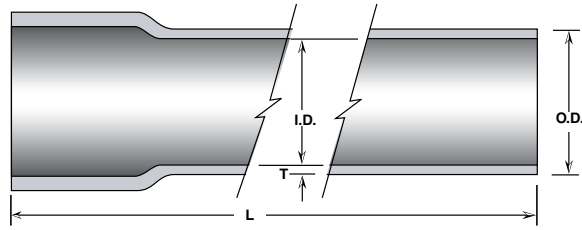
* Actual wall thickness is that required to meet the performance requirements for specifications. Other wall thicknesses are available by special request.



GASKET JOINT (ID)

Type SW (Standard Wall) Inches (Metric)										
Nominal Size	Item No.		UL/CSA Listed	Outside Diameter		Min. Inside Diameter	Nominal Wall Thickness* (T)	Length (L)	Weight	
	Belowground	Aboveground		Average	Tolerance				lbs/ft	kg/m
2 (51)	20B-SW-20-G	20D-SW-20-G	Yes	2.140 (54)	+0.028 (0.7) -0.018 (0.4)	2.000 (51)	.070 (2)	20 ft (6.1m)	0.34 (0.51)	
2½ (64)	25B-SW-20-G	25D-SW-20-G	Yes	2.640 (67)	+0.028 (0.7) -0.018 (0.4)	2.500 (64)	.070 (2)	20 ft (6.1m)	0.42 (0.63)	
3 (76)	30B-SW-20-G	30D-SW-20-G	Yes	3.140 (80)	+0.028 (0.7) -0.018 (0.4)	3.000 (76)	.070 (2)	20 ft (6.1m)	0.48 (0.71)	
3½ (89)	35B-SW-20-G	35D-SW-20-G	Yes	3.640 (92)	+0.028 (0.7) -0.018 (0.4)	3.500 (89)	.070 (2)	20 ft (6.1m)	0.60 (0.89)	
4 (102)	40B-SW-20-G	40D-SW-20-G	Yes	4.140 (105)	+0.028 (0.7) -0.018 (0.4)	4.000 (101)	.070 (2)	20 ft (6.1m)	0.79 (1.18)	
4½ (114)	45B-SW-20-G	45D-SW-20-G	Yes	4.640 (118)	+0.028 (0.7) -0.018 (0.4)	4.500 (114)	.070 (2)	20 ft (6.1m)	0.89 (1.32)	
5 (127)	50B-SW-20-G	50D-SW-20-G	--	5.140 (131)	+0.028 (0.7) -0.018 (0.4)	5.000 (127)	.070 (2)	20 ft (6.1m)	0.95 (1.41)	
6 (152)	60B-SW-20-G	60D-SW-20-G	--	6.140 (156)	+0.028 (0.7) -0.018 (0.4)	6.000 (152)	.070 (2)	20 ft (6.1m)	1.02 (1.52)	
Type MW (Medium Wall) Inches (Metric)										
5 (127)	50B-MW-20-G	50D-MW-20-G	Yes	5.192 (131)	+0.034 (0.9) -0.028 (0.7)	5.000 (127)	.096 (2)	20 ft (6.1m)	1.13 (1.68)	
6 (152)	60B-MW-20-G	60D-MW-20-G	Yes	6.192 (157)	+0.034 (0.9) -0.028 (0.7)	6.000 (152)	.096 (2)	20 ft (6.1m)	1.35 (2.01)	
Type HW (Heavy Wall) Inches (Metric)										
4 (102)	40B-HW-20-G	40D-HW-20-G	Yes	4.192 (106)	+0.028 (0.7) -0.022 (0.6)	4.000 (101)	.096 (2)	20 ft (6.1m)	0.92 (1.37)	
4½ (114)	45B-HW-20-G	45D-HW-20-G	Yes	4.692 (119)	+0.028 (0.7) -0.022 (0.6)	4.500 (114)	.096 (2)	20 ft (6.1m)	1.04 (1.55)	
5 (127)	50B-HW-20-G	50D-HW-20-G	Yes	5.220 (132)	+0.034 (0.9) -0.028 (0.7)	5.000 (127)	.110 (3)	20 ft (6.1m)	1.30 (1.92)	
6 (152)	60B-HW-20-G	60D-HW-20-G	Yes	6.220 (158)	+0.034 (0.9) -0.028 (0.7)	6.000 (152)	.110 (3)	20 ft (6.1m)	1.58 (2.35)	

* Actual wall thickness is that required to meet the performance requirements for specifications. Other wall thicknesses are available by special request.

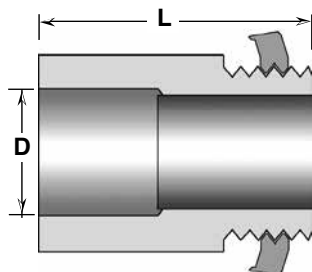


STRAIGHT SOCKET (XW)

Type XW (Xtra Wall) Inches (Metric)									
Nominal Size	Item No.		UL Listed	Outside Diameter		Min. Inside Diameter	Nominal Wall Thickness* (T)	Length (L)	Weight
	Belowground	Aboveground		Average	Tolerance				lbs/ft kg/m
¾ (19)	07A-XW-10S	07C-XW-10S	Yes	1.410 (36)	+0.056 (1.4) -0.036 (0.9)	0.910 (23)	.25 (6)	10 ft (3m)	.61 (.91)
1 (25)	10A-XW-10S	10C-XW-10S	Yes	1.675 (43)	+0.056 (1.4) -0.036 (0.9)	1.175 (30)	.25 (6)	10 ft (3m)	.68 (1.01)
1¼ (32)	12A-XW-20-S	12C-XW-20-S	Yes	2.020 (51)	+0.056 (1.4) -0.036 (0.9)	1.520 (39)	.25 (6)	20 ft (6.1m)	.82 (1.22)
1½ (38)	15A-XW-20-S	15C-XW-20-S	Yes	2.260 (57)	+0.056 (1.4) -0.036 (0.9)	1.760 (45)	.25 (6)	20 ft (6.1m)	1.18 (1.76)
2 (51)	20B-XW-20-S	20D-XW-20-S	Yes	2.500 (64)	+0.056 (1.4) -0.036 (0.9)	2.000 (51)	.25 (6)	20 ft (6.1m)	1.26 (1.88)
2½ (64)	25B-XW-20-S	25D-XW-20-S	Yes	3.000 (76)	+0.056 (1.4) -0.036 (0.9)	2.500 (64)	.25 (6)	20 ft (6.1m)	1.54 (2.29)
3 (76)	30B-XW-20-S	30D-XW-20-S	Yes	3.500 (89)	+0.056 (1.4) -0.036 (0.9)	3.000 (76)	.25 (6)	20 ft (6.1m)	1.82 (2.71)
3½ (89)	35B-XW-20-S	35D-XW-20-S	Yes	4.000 (102)	+0.056 (1.4) -0.036 (0.9)	3.500 (89)	.25 (6)	20 ft (6.1m)	2.10 (3.13)
4 (102)	40B-XW-20-S	40D-XW-20-S	Yes	4.500 (114)	+0.056 (1.4) -0.036 (0.9)	4.000 (102)	.25 (6)	20 ft (6.1m)	2.38 (3.54)
5 (127)	50B-XW-20-S	50D-XW-20-S	Yes	5.500 (140)	+0.056 (1.4) -0.036 (0.9)	5.000 (127)	.25 (6)	20 ft (6.1m)	2.94 (4.38)
6 (152)	60B-XW-20-S	60D-XW-20-S	Yes	6.500 (165)	+0.056 (1.4) -0.036 (0.9)	6.000 (152)	.25 (6)	20 ft (6.1m)	3.50 (5.21)
8** (203)	80A-XW-20-S	80C-XW-20-S	--	8.900 (226)	+0.056 (1.4) -0.036 (0.9)	8.400 (213)	.25 (6)	20 ft (6.1m)	4.80 (7.14)
10 (254)	100B-XW-20-S	100D-XW-20-S	--	10.500 (267)	+0.056 (1.4) -0.036 (0.9)	10.000 (254)	.25 (6)	20 ft (6.1m)	5.74 (8.54)
12 (305)	120B-XW-20-S	120D-XW-20-S	--	12.500 (318)	+0.056 (1.4) -0.036 (0.9)	12.000 (305)	.25 (6)	20 ft (6.1m)	6.86 (10.21)

* Actual wall thickness is that required to meet the performance requirements for specifications. Other wall thicknesses are available by special request.

** XW type conduit is also available with an inside diameter of 8.000 (203). Please contact our factory for further information.



BOX CONNECTOR

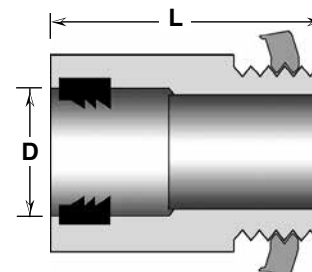
(Straight Threads)

A box connector creates a separable termination into a box. This connector has straight threads (NPS) and is supplied with a locknut. Sealing O-ring supplied by adding an EX suffix to the part number.

Nominal Size	Type	IPS Item No.		D	L	Weight	
		Belowground	Aboveground			lbs	kg
¾	SW	07A-SW-30	07C-SW-30	1.06 (27)	3 (76)	0.11	(.05)
1	SW	10A-SW-30	10C-SW-30	1.32 (34)	3 (76)	0.22	(.10)
1¼	SW	12A-SW-30	12C-SW-30	1.67 (42)	3 (76)	0.25	(.12)
1½	SW	15A-SW-30	15C-SW-30	1.91 (49)	3 (76)	0.29	(.13)
2	SW	20A-SW-30	20C-SW-30	2.40 (61)	5 (127)	0.85	(.39)
3	SW	30A-SW-30	30C-SW-30	3.52 (89)	5 (127)	1.28	(.58)
4	SW	40A-SW-30	40C-SW-30	4.47 (114)	5 (127)	2.09	(.95)
4	HW	40A-HW-30	40C-HW-30	4.52 (115)	5 (127)	2.09	(.95)
5	SW	50A-SW-30	50C-SW-30	5.54 (141)	5 (127)	2.75	(1.25)
5	MW	50A-MW-30	50C-MW-30	5.59 (142)	5 (127)	2.75	(1.25)
5	HW	50A-HW-30	50C-HW-30	5.63 (143)	5 (127)	2.75	(1.25)
6	SW	60A-SW-30	60C-SW-30	6.61 (168)	5 (127)	2.97	(1.35)
6	MW	60A-MW-30	60C-MW-30	6.66 (169)	5 (127)	2.97	(1.35)
6	HW	60A-HW-30	60C-HW-30	6.69 (170)	5 (127)	2.97	(1.35)

Nominal Size	Type	ID Item No.		D	L	Weight	
		Belowground	Aboveground			lbs	kg
2	SW	20B-SW-30	20D-SW-30	2.16 (55)	5 (127)	0.85	(.39)
2½	SW	25B-SW-30	25D-SW-30	2.66 (68)	5 (127)	0.94	(.43)
3	SW	30B-SW-30	30D-SW-30	3.16 (80)	5 (127)	1.28	(.58)
3½	SW	35B-SW-30	35D-SW-30	3.66 (93)	5 (127)	1.77	(.80)
4	SW	40B-SW-30	40D-SW-30	4.16 (106)	5 (127)	2.09	(.95)
4	HW	40B-HW-30	40D-HW-30	4.20 (107)	5 (127)	2.09	(.95)
4½	SW	45B-SW-30	45D-SW-30	4.66 (118)	5 (127)	2.40	(1.08)
4½	HW	45B-HW-30	45D-HW-30	4.70 (119)	5 (127)	2.40	(1.08)
5	SW	50B-SW-30	50D-SW-30	5.16 (131)	5 (127)	2.75	(1.25)
5	MW	50B-MW-30	50D-MW-30	5.20 (132)	5 (127)	2.75	(1.25)
5	HW	50B-HW-30	50D-HW-30	5.24 (133)	5 (127)	2.75	(1.25)
6	SW	60B-SW-30	60D-SW-30	6.16 (156)	5 (127)	2.97	(1.35)
6	MW	60B-MW-30	60D-MW-30	6.20 (157)	5 (127)	2.97	(1.35)
6	HW	60B-HW-30	60D-HW-30	6.24 (158)	5 (127)	2.97	(1.35)

Nominal Size	Type	Item No.		D	L	Weight	
		Belowground	Aboveground			lbs	kg
2	XW	20B-XW-30	20D-XW-30	2.520 (64)	5 (127)	0.85	(0.39)
2½	XW	25B-XW-30	25D-XW-30	3.025 (77)	5 (127)	0.94	(0.43)
3	XW	30B-XW-30	30D-XW-30	3.520 (89)	5 (127)	1.28	(0.58)
3½	XW	35B-XW-30	35D-XW-30	4.025 (102)	5 (127)	1.77	(0.80)
4	XW	40B-XW-30	40D-XW-30	4.520 (115)	7 (165)	2.09	(0.95)
5	XW	50B-XW-30	50D-XW-30	5.520 (140)	7 (165)	2.75	(1.25)
6	XW	60B-XW-30	60D-XW-30	6.520 (166)	7 (165)	2.97	(1.35)
8	XW	80A-XW-30	80C-XW-30	8.920 (227)	8 (203)	5.24	(2.37)



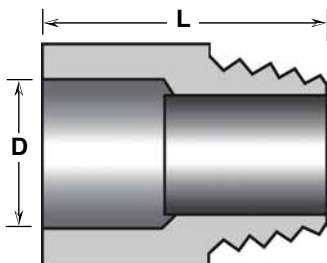
BOX CONNECTOR WITH GASKET

(Straight Threads)

A box connector creates a separable termination into a box. This connector has straight threads (NPS) and is supplied with a locknut. Sealing O-ring supplied by adding an EX suffix to the part number.

Nominal Size	Type	IPS Item No.		D	L	Weight	
		Belowground	Aboveground			lbs	kg
¾	SW	07A-SW-30-G	07C-SW-30-G	1.06 (27)	3 (102)	0.08	(.04)
1	SW	10A-SW-30-G	10C-SW-30-G	1.32 (34)	3 (102)	0.08	(.04)
1¼	SW	12A-SW-30-G	12C-SW-30-G	1.67 (42)	3 (102)	0.15	(.07)
1½	SW	15A-SW-30-G	15C-SW-30-G	1.91 (49)	3 (102)	0.15	(.07)
2	SW	20A-SW-30-G	20C-SW-30-G	2.40 (61)	5 (127)	0.83	(0.38)
3	SW	30A-SW-30-G	30C-SW-30-G	3.52 (89)	5 (127)	1.10	(0.50)
4	SW	40A-SW-30-G	40C-SW-30-G	4.47 (114)	5 (127)	1.25	(0.57)
4	HW	40A-HW-30-G	40C-HW-30-G	4.52 (115)	5 (127)	1.25	(0.57)
5	SW	50A-SW-30-G	50C-SW-30-G	5.54 (141)	5 (127)	1.70	(0.77)
5	MW	50A-MW-30-G	50C-MW-30-G	5.59 (142)	5 (127)	1.65	(0.75)
5	HW	50A-HW-30-G	50C-HW-30-G	5.63 (143)	5 (127)	1.60	(0.73)
6	SW	60A-SW-30-G	60C-SW-30-G	6.61 (168)	5 (127)	2.20	(1.00)
6	MW	60A-MW-30-G	60C-MW-30-G	6.66 (169)	5 (127)	2.00	(0.91)
6	HW	60A-HW-30-G	60C-HW-30-G	6.69 (170)	5 (127)	1.80	(0.82)

Nominal Size	Type	ID Item No.		D	L	Weight	
		Belowground	Aboveground			lbs	kg
2	SW	20B-SW-30-G	20D-SW-30-G	2.16 (55)	5 (127)	0.65	(0.30)
2½	SW	25B-SW-30-G	25D-SW-30-G	2.66 (68)	5 (127)	0.80	(0.36)
3	SW	30B-SW-30-G	30D-SW-30-G	3.16 (80)	5 (127)	0.90	(0.41)
3½	SW	35B-SW-30-G	35D-SW-30-G	3.66 (93)	5 (127)	1.00	(0.45)
4	SW	40B-SW-30-G	40D-SW-30-G	4.16 (106)	5 (127)	1.40	(0.64)
4	HW	40B-HW-30-G	40D-HW-30-G	4.20 (107)	5 (127)	1.30	(0.59)
4½	SW	45B-SW-30-G	45D-SW-30-G	4.66 (118)	5 (127)	1.60	(0.73)
4½	HW	45B-HW-30-G	45D-HW-30-G	4.70 (119)	5 (127)	1.50	(0.68)
5	SW	50B-SW-30-G	50D-SW-30-G	5.16 (131)	5 (127)	1.60	(0.73)
5	MW	50B-MW-30-G	50D-MW-30-G	5.20 (132)	5 (127)	1.40	(0.64)
5	HW	50B-HW-30-G	50D-HW-30-G	5.24 (133)	5 (127)	1.28	(0.58)
6	SW	60B-SW-30-G	60D-SW-30-G	6.16 (156)	5 (127)	2.30	(1.04)
6	MW	60B-MW-30-G	60D-MW-30-G	6.20 (157)	5 (127)	2.10	(0.95)
6	HW	60B-HW-30-G	60D-HW-30-G	6.24 (158)	5 (127)	1.90	(0.86)



MALE ADAPTER

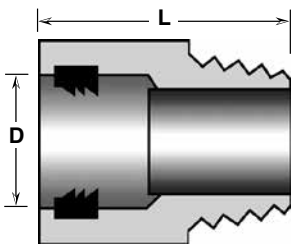
[Tapered Threads]

Male adapters with tapered threads (NPT) are generally used for joining to female threads of rigid steel, Myers type hubs or terminating into precast iron boxes with female thread entrances.

Nominal Size	Type	IPS Item No.		D	L	Weight	
		Belowground	Aboveground			lbs	kg
¾	SW	07A-SW-33	07C-SW-33	1.06 (27)	4 (102)	0.11	(0.05)
1	SW	10A-SW-33	10C-SW-33	1.32 (34)	4 (102)	0.11	(0.05)
1¼	SW	12A-SW-33	12C-SW-33	1.67 (42)	4 (102)	0.20	(0.09)
1½	SW	15A-SW-33	15C-SW-33	1.91 (49)	4 (102)	0.20	(0.09)
2	SW	20A-SW-33	20C-SW-33	2.40 (61)	6 (152)	0.53	(0.24)
3	SW	30A-SW-33	30C-SW-33	3.52 (89)	6 (152)	0.85	(0.39)
4	SW	40A-SW-33	40C-SW-33	4.47 (114)	6 (152)	1.12	(0.51)
4	HW	40A-HW-33	40C-HW-33	4.52 (115)	6 (152)	1.16	(0.53)
5	SW	50A-SW-33	50C-SW-33	5.54 (141)	6 (152)	1.74	(0.79)
5	MW	50A-MW-33	50C-MW-33	5.59 (142)	6 (152)	1.56	(0.71)
5	HW	50A-HW-33	50C-HW-33	5.63 (143)	6 (152)	1.38	(0.63)
6	SW	60A-SW-33	60C-SW-33	6.61 (168)	6 (152)	2.40	(1.10)
6	MW	60A-MW-33	60C-MW-33	6.66 (169)	6 (152)	2.04	(0.93)
6	HW	60A-HW-33	60C-HW-33	6.69 (170)	6 (152)	1.68	(0.76)

Nominal Size	Type	ID Item No.		D	L	Weight	
		Belowground	Aboveground			lbs	kg
2	SW	20B-SW-33	20D-SW-33	2.16 (55)	6 (152)	0.52	(0.24)
2½	SW	25B-SW-33	25D-SW-33	2.66 (68)	6 (152)	0.74	(0.34)
3	SW	30B-SW-33	30D-SW-33	3.16 (80)	6 (152)	0.91	(0.41)
3½	SW	35B-SW-33	35D-SW-33	3.66 (93)	6 (152)	1.03	(0.47)
4	SW	40B-SW-33	40D-SW-33	4.16 (106)	6 (152)	1.22	(0.55)
4	HW	40B-HW-33	40D-HW-33	4.20 (107)	6 (152)	1.14	(0.52)
4½	SW	45B-SW-33	45D-SW-33	4.66 (118)	6 (152)	1.46	(0.66)
4½	HW	45B-HW-33	45D-HW-33	4.70 (119)	6 (152)	1.38	(0.63)
5	SW	50B-SW-33	50D-SW-33	5.16 (131)	6 (152)	1.84	(0.83)
5	MW	50B-MW-33	50D-MW-33	5.20 (132)	6 (152)	1.56	(0.71)
5	HW	50B-HW-33	50D-HW-33	5.24 (133)	6 (152)	1.42	(0.64)
6	SW	60B-SW-33	60D-SW-33	6.16 (156)	6 (152)	2.50	(1.13)
6	MW	60B-MW-33	60D-MW-33	6.20 (157)	6 (152)	1.68	(0.76)
6	HW	60B-HW-33	60D-HW-33	6.24 (158)	6 (152)	1.56	(0.71)

Nominal Size	Type	Item No.		D	L	Weight	
		Belowground	Aboveground			lbs	kg
2	XW	20B-XW-33	20D-XW-33	2.520 (64)	5 (127)	0.69	(0.31)
2½	XW	25B-XW-33	25D-XW-33	3.025 (77)	5 (127)	0.85	(0.38)
3	XW	30B-XW-33	30D-XW-33	3.520 (89)	5 (127)	1.00	(0.45)
3½	XW	35B-XW-33	35D-XW-33	4.025 (102)	5 (127)	1.28	(0.58)
4	XW	40B-XW-33	40D-XW-33	4.520 (115)	7 (178)	1.56	(0.71)
5	XW	50B-XW-33	50D-XW-33	5.520 (140)	7 (178)	2.08	(0.94)
6	XW	60B-XW-33	60D-XW-33	6.520 (166)	7 (178)	2.47	(1.12)



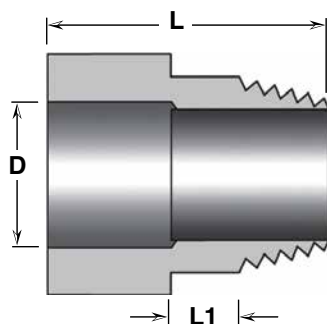
MALE ADAPTER WITH GASKET

[Tapered Threads]

Male adapters with tapered threads (NPT) are generally used for joining to female threads of rigid steel, Myers type hubs or terminating into precast iron boxes with female thread entrances.

Nominal Size	Type	IPS Item No.		D	L	Weight	
		Belowground	Aboveground			lbs	kg
¾	SW	07A-SW-33-G	07C-SW-33-G	1.06 (27)	4 (102)	0.11	(0.05)
1	SW	10A-SW-33-G	10C-SW-33-G	1.32 (34)	4 (102)	0.11	(0.05)
1¼	SW	12A-SW-33-G	12C-SW-33-G	1.67 (42)	4 (102)	0.20	(0.09)
1½	SW	15A-SW-33-G	15C-SW-33-G	1.91 (49)	4 (102)	0.20	(0.09)
2	SW	20A-SW-33-G	20C-SW-33-G	2.40 (61)	5 (127)	0.83	(0.38)
3	SW	30A-SW-33-G	30C-SW-33-G	3.52 (89)	5 (127)	1.10	(0.50)
4	SW	40A-SW-33-G	40C-SW-33-G	4.47 (114)	6 (152)	1.62	(0.73)
4	HW	40A-HW-33-G	40C-HW-33-G	4.52 (115)	6 (152)	1.50	(0.68)
5	SW	50A-SW-33-G	50C-SW-33-G	5.54 (141)	6 (152)	2.04	(0.93)
5	MW	50A-MW-33-G	50C-MW-33-G	5.59 (142)	6 (152)	1.98	(0.90)
5	HW	50A-HW-33-G	50C-HW-33-G	5.63 (143)	6 (152)	2.02	(0.92)
6	SW	60A-SW-33-G	60C-SW-33-G	6.61 (168)	6 (152)	2.64	(1.20)
6	MW	60A-MW-33-G	60C-MW-33-G	6.66 (169)	6 (152)	2.40	(1.10)
6	HW	60A-HW-33-G	60C-HW-33-G	6.69 (170)	6 (152)	2.16	(0.98)

Nominal Size	Type	ID Item No.		D	L	Weight	
		Belowground	Aboveground			lbs	kg
2	SW	20B-SW-33-G	20D-SW-33-G	2.16 (55)	5 (127)	0.65	(0.30)
2½	SW	25B-SW-33-G	25D-SW-33-G	2.66 (68)	5 (127)	0.80	(0.36)
3	SW	30B-SW-33-G	30D-SW-33-G	3.16 (80)	5 (127)	0.90	(0.41)
3½	SW	35B-SW-33-G	35D-SW-33-G	3.66 (93)	5 (127)	1.00	(0.45)
4	SW	40B-SW-33-G	40D-SW-33-G	4.16 (106)	6 (152)	1.68	(0.76)
4	HW	40B-HW-33-G	40D-HW-33-G	4.20 (107)	6 (152)	1.56	(0.71)
4½	SW	45B-SW-33-G	45D-SW-33-G	4.66 (118)	6 (152)	1.92	(0.87)
4½	HW	45B-HW-33-G	45D-HW-33-G	4.70 (119)	6 (152)	1.80	(0.82)
5	SW	50B-SW-33-G	50D-SW-33-G	5.16 (131)	6 (152)	1.92	(0.87)
5	MW	50B-MW-33-G	50D-MW-33-G	5.20 (132)	6 (152)	1.68	(0.76)
5	HW	50B-HW-33-G	50D-HW-33-G	5.24 (133)	6 (152)	1.54	(0.70)
6	SW	60B-SW-33-G	60D-SW-33-G	6.16 (156)	6 (152)	2.76	(1.25)
6	MW	60B-MW-33-G	60D-MW-33-G	6.20 (157)	6 (152)	2.52	(1.05)
6	HW	60B-HW-33-G	60D-HW-33-G	6.24 (158)	6 (152)	2.28	(1.03)



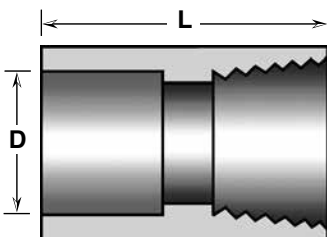
SPECIAL ADAPTER FOR PVC COATED FITTINGS

(Male Terminal Adapter)

This terminal adapter has tapered threads and a straight shoulder so it can fit under the PVC sleeve of a PVC coated steel fitting.

Nominal Size	Type	IPS Item No.		D	L	L1	Weight	
		Belowground	Aboveground				lbs	kg
¾	SW	07A-SW-24	07C-SW-24	1.06 (27)	¾ (95)	¾	0.10	(3.00)
1	SW	10A-SW-24	10C-SW-24	1.32 (34)	4 (102)	1	0.13	(3.00)
1¼	SW	12A-SW-24	12C-SW-24	1.67 (42)	4¼ (108)	1¼	0.18	(5.00)
1½	SW	15A-SW-24	15C-SW-24	1.91 (49)	4½ (114)	1½	0.18	(5.00)
2	SW	20A-SW-24	20C-SW-24	2.40 (61)	7 (178)	2	0.60	(15.00)
3	SW	30A-SW-24	30C-SW-24	3.52 (89)	7 (178)	2	0.80	(20.00)
4	SW	40A-SW-24	40C-SW-24	4.47 (114)	7 (178)	2	1.20	(30.00)
4	HW	40A-HW-24	40C-HW-24	4.52 (115)	7 (178)	2	1.30	(33.00)
5	SW	50A-SW-24	50C-SW-24	5.54 (141)	7 (178)	2	1.90	(48.00)
5	MW	50A-MW-24	50C-MW-24	5.59 (142)	7 (178)	2	1.70	(43.00)
5	HW	50A-HW-24	50C-HW-24	5.63 (143)	7 (178)	2	1.50	(38.00)
6	SW	60A-SW-24	60C-SW-24	6.61 (168)	7 (178)	2	2.60	(66.00)
6	MW	60A-MW-24	60C-MW-24	6.66 (169)	7 (178)	2	2.20	(56.00)
6	HW	60A-HW-24	60C-HW-24	6.69 (170)	7 (178)	2	1.80	(46.00)

Nominal Size	Type	Item No.		D	L	L1	Weight	
		Belowground	Aboveground				lbs	kg
2	XW	20B-XW-24	20D-XW-24	2.520 (64)	7 (178)	2 (51)	0.69	(0.31)
2½	XW	25B-XW-24	25D-XW-24	3.025 (77)	7 (178)	2 (51)	1.20	(0.45)
3	XW	30B-XW-24	30D-XW-24	3.520 (89)	7 (178)	2 (51)	1.00	(0.45)
3½	XW	35B-XW-24	35D-XW-24	4.025 (102)	7 (178)	2 (51)	1.20	(0.54)
4	XW	40B-XW-24	40D-XW-24	4.520 (115)	7 (178)	2 (51)	1.56	(0.71)
5	XW	50B-XW-24	50D-XW-24	5.520 (140)	7 (178)	2 (51)	2.08	(0.94)
6	XW	60B-XW-24	60D-XW-24	6.520 (166)	7 (178)	2 (51)	2.47	(1.12)



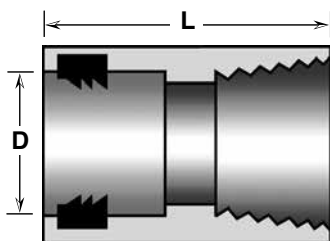
FEMALE TERMINAL ADAPTER

This adapter is generally used for joining fiberglass conduit with galvanized rigid steel (GRS) conduit. It has the same threads as GRS conduit and can easily be attached to GRS conduit.

Nominal Size	Type	IPS Item No.		D	L	Weight	
		Belowground	Aboveground			lbs	kg
¾	SW	07A-SW-32	07C-SW-32	1.06 (27)	3 (76)	0.07	(0.03)
1	SW	10A-SW-32	10C-SW-32	1.32 (34)	3 (76)	0.13	(0.06)
1¼	SW	12A-SW-32	12C-SW-32	1.67 (42)	3 (76)	0.18	(0.08)
1½	SW	15A-SW-32	15C-SW-32	1.91 (49)	3 (76)	0.21	(0.10)
2	SW	20A-SW-32	20C-SW-32	2.40 (61)	5 (127)	0.47	(0.21)
3	SW	30A-SW-32	30C-SW-32	3.52 (89)	5 (127)	0.80	(0.36)
4	SW	40A-SW-32	40C-SW-32	4.47 (114)	6 (152)	1.26	(0.57)
4	HW	40A-HW-32	40C-HW-32	4.52 (115)	6 (152)	1.20	(0.54)
5	SW	50A-SW-32	50C-SW-32	5.54 (141)	6 (152)	1.32	(0.61)
5	MW	50A-MW-32	50C-MW-32	5.59 (142)	6 (152)	1.26	(0.57)
5	HW	50A-HW-32	50C-HW-32	5.63 (143)	6 (152)	1.20	(0.54)
6	SW	60A-SW-32	60C-SW-32	6.61 (168)	6 (152)	1.38	(0.63)
6	MW	60A-MW-32	60C-MW-32	6.66 (169)	6 (152)	1.32	(0.61)
6	HW	60A-HW-32	60C-HW-32	6.69 (170)	6 (152)	1.26	(0.57)

Nominal Size	Type	ID Item No.		D	L	Weight	
		Belowground	Aboveground			lbs	kg
2	SW	20B-SW-32	20D-SW-32	2.16 (55)	5 (127)	0.75	(0.34)
2½	SW	25B-SW-32	25D-SW-32	2.66 (55)	5 (127)	1.00	(0.45)
3	SW	30B-SW-32	30D-SW-32	3.16 (80)	5 (127)	1.08	(0.49)
3½	SW	35B-SW-32	35D-SW-32	3.66 (93)	5 (127)	1.18	(0.54)
4	SW	40B-SW-32	40D-SW-32	4.16 (106)	6 (152)	1.50	(0.68)
4	HW	40B-HW-32	40D-HW-32	4.20 (107)	6 (152)	1.30	(0.59)
4½	SW	45B-SW-32	45D-SW-32	4.66 (118)	6 (152)	1.80	(0.87)
4½	HW	45B-HW-32	45D-HW-32	4.70 (119)	6 (152)	1.68	(0.75)
5	SW	50B-SW-32	50D-SW-32	5.16 (131)	6 (152)	2.28	(1.03)
5	MW	50B-MW-32	50D-MW-32	5.20 (132)	6 (152)	2.10	(0.95)
5	HW	50B-HW-32	50D-HW-32	5.24 (133)	6 (152)	1.98	(0.89)
6	SW	60B-SW-32	60D-SW-32	6.16 (156)	6 (152)	2.56	(1.16)
6	MW	60B-MW-32	60D-MW-32	6.20 (157)	6 (152)	2.40	(1.09)
6	HW	60B-HW-32	60D-HW-32	6.24 (158)	6 (152)	2.20	(0.99)

Nominal Size	Type	Item No.		D	L	Weight	
		Belowground	Aboveground			lbs	kg
2	XW	20B-XW-32	20D-XW-32	2.520 (64)	5 (127)	1.20	(0.55)
2½	XW	25B-XW-32	25D-XW-32	3.025 (77)	5 (127)	0.85	(0.38)
3	XW	30B-XW-32	30D-XW-32	3.520 (89)	5 (127)	1.40	(0.64)
3½	XW	35B-XW-32	35D-XW-32	4.025 (102)	5 (127)	1.28	(0.58)
4	XW	40B-XW-32	40D-XW-32	4.520 (115)	7 (178)	2.08	(0.94)
5	XW	50B-XW-32	50D-XW-32	5.520 (140)	7 (178)	2.60	(1.18)
6	XW	60B-XW-32	60D-XW-32	6.520 (166)	7 (178)	3.51	(1.59)

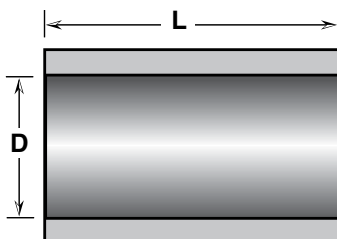


FEMALE TERMINAL ADAPTER W/GASKET

This adapter is generally used for joining fiberglass conduit with galvanized rigid steel (GRS) conduit. It has the same threads as GRS conduit and can easily be attached to GRS conduit.

Nominal Size	Type	IPS Item No.		D	L	Weight	
		Belowground	Aboveground			lbs	kg
¾	SW	07A-SW-32-G	07C-SW-32-G	1.06 (27)	3 (102)	0.07 (0.03)	
1	SW	10A-SW-32-G	10C-SW-32-G	1.32 (34)	3 (102)	0.13 (0.06)	
1¼	SW	12A-SW-32-G	12C-SW-32-G	1.67 (42)	3 (102)	0.18 (0.08)	
1½	SW	15A-SW-32-G	15C-SW-32-G	1.91 (49)	3 (102)	0.21 (0.10)	
2	SW	20A-SW-32-G	20C-SW-32-G	2.40 (61)	5 (127)	0.47 (0.21)	
3	SW	30A-SW-32-G	30C-SW-32-G	3.52 (89)	5 (127)	0.80 (0.36)	
4	SW	40A-SW-32-G	40C-SW-32-G	4.47 (114)	6 (152)	1.26 (0.57)	
4	HW	40A-HW-32-G	40C-HW-32-G	4.52 (115)	6 (152)	1.20 (0.54)	
5	SW	50A-SW-32-G	50C-SW-32-G	5.54 (141)	6 (152)	1.32 (0.59)	
5	MW	50A-MW-32-G	50C-MW-32-G	5.59 (142)	6 (152)	1.26 (0.57)	
5	HW	50A-HW-32-G	50C-HW-32-G	5.63 (143)	6 (152)	1.20 (0.54)	
6	SW	60A-SW-32-G	60C-SW-32-G	6.61 (168)	6 (152)	1.38 (0.63)	
6	MW	60A-MW-32-G	60C-MW-32-G	6.66 (169)	6 (152)	1.32 (0.61)	
6	HW	60A-HW-32-G	60C-HW-32-G	6.69 (170)	6 (152)	1.26 (0.57)	

Nominal Size	Type	ID Item No.		D	L	Weight	
		Belowground	Aboveground			lbs	kg
2	SW	20B-SW-32-G	20D-SW-32-G	2.16 (55)	5 (127)	0.75 (0.34)	
2½	SW	25B-SW-32-G	25D-SW-32-G	2.66 (68)	5 (127)	1.00 (0.45)	
3	SW	30B-SW-32-G	30D-SW-32-G	3.16 (80)	5 (127)	1.08 (0.49)	
3½	SW	35B-SW-32-G	35D-SW-32-G	3.66 (93)	5 (127)	1.18 (0.54)	
4	SW	40B-SW-32-G	40D-SW-32-G	4.16 (106)	5 (127)	1.25 (0.57)	
4	HW	40B-HW-32-G	40D-HW-32-G	4.20 (107)	5 (127)	1.08 (0.49)	
4½	SW	45B-SW-32-G	45D-SW-32-G	4.66 (118)	6 (152)	1.80 (0.82)	
4½	HW	45B-HW-32-G	45D-HW-32-G	4.70 (119)	6 (152)	1.68 (0.76)	
5	SW	50B-SW-32-G	50D-SW-32-G	5.16 (131)	6 (152)	2.28 (1.03)	
5	MW	50B-MW-32-G	50D-MW-32-G	5.20 (132)	6 (152)	2.10 (0.95)	
5	HW	50B-HW-32-G	50D-HW-32-G	5.24 (133)	6 (152)	1.98 (0.89)	
6	SW	60B-SW-32-G	60D-SW-32-G	6.16 (156)	6 (152)	2.56 (1.16)	
6	MW	60B-MW-32-G	60D-MW-32-G	6.20 (157)	6 (152)	2.40 (1.10)	
6	HW	60B-HW-32-G	60D-HW-32-G	6.24 (158)	6 (152)	2.20 (1.00)	

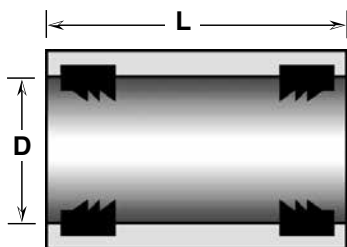


SLEEVE COUPLING

Nominal Size	Type	IPS Item No.		D	L	Weight	
		Belowground	Aboveground			lbs	kg
¾	SW	07A-SW-42	07C-SW-42	1.06 (27)	6 (152)	0.06 (0.03)	
1	SW	10A-SW-42	10C-SW-42	1.32 (34)	6 (152)	0.08 (0.04)	
1¼	SW	12A-SW-42	12C-SW-42	1.67 (42)	6 (152)	0.10 (0.05)	
1½	SW	15A-SW-42	15C-SW-42	1.91 (49)	6 (152)	0.11 (0.05)	
2	SW	20A-SW-42	20C-SW-42	2.40 (61)	6 (152)	0.20 (0.09)	
3	SW	30A-SW-42	30C-SW-42	3.52 (89)	6 (152)	0.30 (0.14)	
4	SW	40A-SW-42	40C-SW-42	4.47 (114)	7 (178)	0.42 (0.14)	
4	HW	40A-HW-42	40C-HW-42	4.52 (115)	7 (178)	0.58 (0.26)	
5	SW	50A-SW-42	50C-SW-42	5.54 (141)	8 (203)	0.60 (0.27)	
5	MW	50A-MW-42	50C-MW-42	5.59 (142)	8 (203)	0.80 (0.36)	
5	HW	50A-HW-42	50C-HW-42	5.63 (143)	8 (203)	0.93 (0.42)	
6	SW	60A-SW-42	60C-SW-42	6.61 (168)	8 (203)	0.67 (0.30)	
6	MW	60A-MW-42	60C-MW-42	6.66 (169)	8 (203)	1.07 (0.49)	
6	HW	60A-HW-42	60C-HW-42	6.69 (170)	8 (203)	1.20 (0.54)	

Nominal Size	Type	ID Item No.		D	L	Weight	
		Belowground	Aboveground			lbs	kg
2	SW	20B-SW-42	20D-SW-42	2.16 (55)	6 (152)	0.17 (0.08)	
2½	SW	25B-SW-42	25D-SW-42	2.66 (68)	6 (152)	0.21 (0.10)	
3	SW	30B-SW-42	30D-SW-42	3.16 (80)	6 (152)	0.24 (0.11)	
3½	SW	35B-SW-42	35D-SW-42	3.66 (93)	6 (152)	0.32 (0.15)	
4	SW	40B-SW-42	40D-SW-42	4.16 (106)	7 (178)	0.40 (0.18)	
4	HW	40B-HW-42	40D-HW-42	4.20 (107)	7 (178)	0.54 (0.25)	
4½	SW	45B-SW-42	45D-SW-42	4.66 (118)	8 (203)	0.51 (0.23)	
4½	HW	45B-HW-42	45D-HW-42	4.70 (119)	8 (203)	0.72 (0.33)	
5	SW	50B-SW-42	50D-SW-42	5.16 (131)	8 (203)	0.57 (0.26)	
5	MW	50B-MW-42	50D-MW-42	5.20 (132)	8 (203)	0.80 (0.36)	
5	HW	50B-HW-42	50D-HW-42	5.24 (133)	8 (203)	0.93 (0.42)	
6	SW	60B-SW-42	60D-SW-42	6.16 (156)	8 (203)	0.64 (0.29)	
6	MW	60B-MW-42	60D-MW-42	6.20 (157)	8 (203)	1.11 (0.50)	
6	HW	60B-HW-42	60D-HW-42	6.24 (158)	8 (203)	1.53 (0.69)	

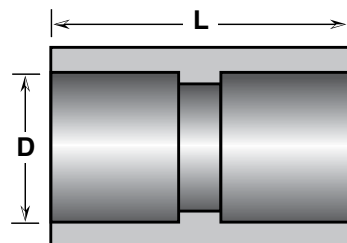
Nominal Size	Type	Item No.		D	L	Weight	
		Belowground	Aboveground			lbs	kg
2	XW	20B-XW-42	20D-XW-42	2.520 (64)	10 (254)	0.88 (0.40)	
2½	XW	25B-XW-42	25D-XW-42	3.025 (77)	10 (254)	1.28 (0.58)	
3	XW	30B-XW-42	30D-XW-42	3.520 (89)	10 (254)	1.25 (0.57)	
3½	XW	35B-XW-42	35D-XW-42	4.025 (102)	10 (254)	1.87 (0.85)	
4	XW	40B-XW-42	40D-XW-42	4.520 (115)	10 (254)	1.50 (0.68)	
5	XW	50B-XW-42	50D-XW-42	5.520 (140)	10 (254)	2.08 (0.94)	
6	XW	60B-XW-42	60D-XW-42	6.520 (166)	10 (254)	2.50 (1.13)	



SLEEVE COUPLING WITH GASKET

Nominal Size	Type	IPS Item No.		D	L	Weight	
		Belowground	Aboveground			lbs	kg
¾	SW	07A-SW-42-G	07C-SW-42-G	1.06 (27)	8 (203)	0.06 (0.03)	
1	SW	10A-SW-42-G	10C-SW-42-G	1.32 (34)	8 (203)	0.08 (0.04)	
1¼	SW	12A-SW-42-G	12C-SW-42-G	1.67 (42)	8 (203)	0.10 (0.05)	
1½	SW	15A-SW-42-G	15C-SW-42-G	1.91 (49)	8 (203)	0.11 (0.05)	
2	SW	20A-SW-42-G	20C-SW-42-G	2.40 (61)	8 (203)	0.70 (0.32)	
3	SW	30A-SW-42-G	30C-SW-42-G	3.52 (89)	8 (203)	0.95 (0.43)	
4	SW	40A-SW-42-G	40C-SW-42-G	4.47 (114)	9 (229)	1.52 (0.69)	
4	HW	40A-HW-42-G	40C-HW-42-G	4.52 (115)	9 (229)	1.58 (0.72)	
5	SW	50A-SW-42-G	50C-SW-42-G	5.54 (141)	10 (254)	2.00 (0.91)	
5	MW	50A-MW-42-G	50C-MW-42-G	5.59 (142)	10 (254)	2.25 (1.02)	
5	HW	50A-HW-42-G	50C-HW-42-G	5.63 (143)	10 (254)	2.38 (1.07)	
6	SW	60A-SW-42-G	60C-SW-42-G	6.61 (168)	10 (254)	2.54 (1.13)	
6	MW	60A-MW-42-G	60C-MW-42-G	6.66 (169)	10 (254)	2.63 (1.19)	
6	HW	60A-HW-42-G	60C-HW-42-G	6.69 (170)	10 (254)	3.00 (1.36)	

Nominal Size	Type	ID Item No.		D	L	Weight	
		Belowground	Aboveground			lbs	kg
2	SW	20B-SW-42-G	20D-SW-42-G	2.16 (55)	8 (203)	0.70 (0.32)	
2½	SW	25B-SW-42-G	25D-SW-42-G	2.66 (68)	8 (203)	0.80 (0.36)	
3	SW	30B-SW-42-G	30D-SW-42-G	3.16 (80)	8 (203)	0.95 (0.43)	
3½	SW	35B-SW-42-G	35D-SW-42-G	3.66 (93)	8 (203)	1.20 (0.55)	
4	SW	40B-SW-42-G	40D-SW-42-G	4.16 (106)	9 (229)	1.52 (0.70)	
4	HW	40B-HW-42-G	40D-HW-42-G	4.20 (107)	9 (229)	1.58 (0.72)	
4½	SW	45B-SW-42-G	45D-SW-42-G	4.66 (118)	10 (254)	1.88 (0.89)	
4½	HW	45B-HW-42-G	45D-HW-42-G	4.70 (119)	10 (254)	2.00 (0.91)	
5	SW	50B-SW-42-G	50D-SW-42-G	5.16 (131)	10 (254)	2.00 (0.91)	
5	MW	50B-MW-42-G	50D-MW-42-G	5.20 (132)	10 (254)	2.13 (0.97)	
5	HW	50B-HW-42-G	50D-HW-42-G	5.24 (133)	10 (254)	2.25 (1.02)	
6	SW	60B-SW-42-G	60D-SW-42-G	6.16 (156)	10 (254)	2.38 (1.07)	
6	MW	60B-MW-42-G	60D-MW-42-G	6.20 (157)	10 (254)	2.38 (1.07)	
6	HW	60B-HW-42-G	60D-HW-42-G	6.24 (158)	10 (254)	2.50 (1.13)	



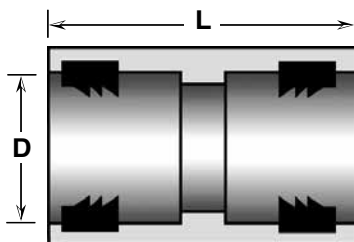
STOP COUPLING

Stop coupling is sometimes referred to as a double bell coupling.

Nominal Size	Type	IPS Item No.		D	L	Weight	
		Belowground	Aboveground			lbs	kg
¾	SW	07A-SW-40	07C-SW-40	1.06 (27)	6 (152)	0.07 (0.03)	
1	SW	10A-SW-40	10C-SW-40	1.32 (34)	6 (152)	0.08 (0.04)	
1¼	SW	12A-SW-40	12C-SW-40	1.67 (42)	6 (152)	0.09 (0.04)	
1½	SW	15A-SW-40	15C-SW-40	1.91 (49)	6 (152)	0.11 (0.05)	
2	SW	20A-SW-40	20C-SW-40	2.40 (61)	6 (152)	0.20 (0.10)	
3	SW	30A-SW-40	30C-SW-40	3.52 (89)	6 (152)	0.30 (0.14)	
4	SW	40A-SW-40	40C-SW-40	4.47 (114)	7 (178)	0.50 (0.23)	
4	HW	40A-HW-40	40C-HW-40	4.52 (115)	7 (178)	0.67 (0.30)	
5	SW	50A-SW-40	50C-SW-40	5.54 (141)	8 (203)	0.67 (0.30)	
5	MW	50A-MW-40	50C-MW-40	5.59 (142)	8 (203)	0.93 (0.42)	
5	HW	50A-HW-40	50C-HW-40	5.63 (143)	8 (203)	1.20 (0.34)	
6	SW	60A-SW-40	60C-SW-40	6.61 (168)	8 (203)	0.87 (0.40)	
6	MW	60A-MW-40	60C-MW-40	6.66 (169)	8 (203)	1.13 (0.51)	
6	HW	60A-HW-40	60C-HW-40	6.69 (170)	8 (203)	1.27 (0.58)	

Nominal Size	Type	ID Item No.		D	L	Weight	
		Belowground	Aboveground			lbs	kg
2	SW	20B-SW-40	20D-SW-40	2.16 (55)	6 (152)	0.20 (0.09)	
2½	SW	25B-SW-40	25D-SW-40	2.66 (68)	6 (152)	0.25 (0.11)	
3	SW	30B-SW-40	30D-SW-40	3.16 (80)	6 (152)	0.30 (0.14)	
3½	SW	35B-SW-40	35D-SW-40	3.66 (93)	6 (152)	0.35 (0.16)	
4	SW	40B-SW-40	40D-SW-40	4.16 (106)	7 (178)	0.46 (0.21)	
4	HW	40B-HW-40	40D-HW-40	4.20 (107)	7 (178)	0.63 (0.29)	
4½	SW	45B-SW-40	45D-SW-40	4.66 (118)	8 (203)	0.60 (0.27)	
4½	HW	45B-HW-40	45D-HW-40	4.70 (119)	8 (203)	0.80 (0.36)	
5	SW	50B-SW-40	50D-SW-40	5.16 (131)	8 (203)	0.67 (0.30)	
5	MW	50B-MW-40	50D-MW-40	5.20 (132)	8 (203)	0.91 (0.41)	
5	HW	50B-HW-40	50D-HW-40	5.24 (133)	8 (203)	1.07 (0.41)	
6	SW	60B-SW-40	60D-SW-40	6.16 (156)	8 (203)	0.80 (0.36)	
6	MW	60B-MW-40	60D-MW-40	6.20 (157)	8 (203)	1.07 (0.49)	
6	HW	60B-HW-40	60D-HW-40	6.24 (158)	8 (203)	1.23 (0.56)	

Nominal Size	Type	Item No.		D	L	Weight	
		Belowground	Aboveground			lbs	kg
2	XW	20B-XW-40	20D-XW-40	2.520 (64)	10 (254)	1.08 (0.49)	
2½	XW	25B-XW-40	25D-XW-40	3.025 (77)	10 (254)	1.28 (0.58)	
3	XW	30B-XW-40	30D-XW-40	3.520 (89)	10 (254)	1.58 (0.72)	
3½	XW	35B-XW-40	35D-XW-40	4.025 (102)	10 (254)	1.87 (0.85)	
4	XW	40B-XW-40	40D-XW-40	4.520 (115)	10 (254)	2.00 (0.91)	
5	XW	50B-XW-40	50D-XW-40	5.520 (140)	10 (254)	2.50 (1.13)	
6	XW	60B-XW-40	60D-XW-40	6.520 (166)	10 (254)	2.90 (1.32)	

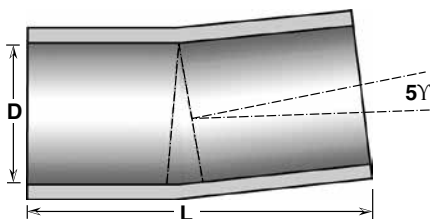


STOP COUPLING WITH GASKET

Stop coupling is sometimes referred to as a double bell coupling.

Nominal Size	Type	IPS Item No.		D	L	Weight	
		Belowground	Aboveground			lbs	kg
¾	SW	07A-SW-40-G	07C-SW-40-G	1.06 (27)	8 (203)	0.07 (0.03)	
1	SW	10A-SW-40-G	10C-SW-40-G	1.32 (34)	8 (203)	0.08 (0.04)	
1¼	SW	12A-SW-40-G	12C-SW-40-G	1.67 (42)	8 (203)	0.09 (0.04)	
1½	SW	15A-SW-40-G	15C-SW-40-G	1.91 (49)	8 (203)	0.11 (0.05)	
2	SW	20A-SW-40-G	20C-SW-40-G	2.40 (61)	8 (203)	0.70 (0.32)	
3	SW	30A-SW-40-G	30C-SW-40-G	3.52 (89)	8 (203)	0.95 (0.43)	
4	SW	40A-SW-40-G	40C-SW-40-G	4.47 (114)	9 (229)	1.46 (0.66)	
4	HW	40A-HW-40-G	40C-HW-40-G	4.52 (115)	9 (229)	1.58 (0.72)	
5	SW	50A-SW-40-G	50C-SW-40-G	5.54 (141)	10 (254)	2.00 (0.91)	
5	MW	50A-MW-40-G	50C-MW-40-G	5.59 (142)	10 (254)	2.25 (1.02)	
5	HW	50A-HW-40-G	50C-HW-40-G	5.63 (143)	10 (254)	2.38 (1.07)	
6	SW	60A-SW-40-G	60C-SW-40-G	6.61 (168)	10 (254)	2.50 (1.10)	
6	MW	60A-MW-40-G	60C-MW-40-G	6.66 (169)	10 (254)	2.63 (1.10)	
6	HW	60A-HW-40-G	60C-HW-40-G	6.69 (170)	10 (254)	3.00 (1.36)	

Nominal Size	Type	ID Item No.		D	L	Weight	
		Belowground	Aboveground			lbs	kg
2	SW	20B-SW-40-G	20D-SW-40-G	2.16 (55)	8 (203)	0.70 (0.32)	
2½	SW	25B-SW-40-G	25D-SW-40-G	2.66 (68)	8 (203)	0.80 (0.36)	
3	SW	30B-SW-40-G	30D-SW-40-G	3.16 (80)	8 (203)	0.95 (0.43)	
3½	SW	35B-SW-40-G	35D-SW-40-G	3.66 (93)	8 (203)	1.20 (0.55)	
4	SW	40B-SW-40-G	40D-SW-40-G	4.16 (106)	9 (229)	1.46 (0.66)	
4	HW	40B-HW-40-G	40D-HW-40-G	4.20 (107)	9 (229)	1.58 (0.72)	
4½	SW	45B-SW-40-G	45D-SW-40-G	4.66 (118)	10 (254)	1.88 (0.85)	
4½	HW	45B-HW-40-G	45D-HW-40-G	4.70 (119)	10 (254)	2.00 (0.91)	
5	SW	50B-SW-40-G	50D-SW-40-G	5.16 (131)	10 (254)	2.00 (0.91)	
5	MW	50B-MW-40-G	50D-MW-40-G	5.20 (132)	10 (254)	2.13 (0.97)	
5	HW	50B-HW-40-G	50D-HW-40-G	5.24 (133)	10 (254)	2.25 (1.00)	
6	SW	60B-SW-40-G	60D-SW-40-G	6.16 (156)	10 (254)	2.38 (1.07)	
6	MW	60B-MW-40-G	60D-MW-40-G	6.20 (157)	10 (254)	2.38 (1.07)	
6	HW	60B-HW-40-G	60D-HW-40-G	6.24 (158)	10 (254)	2.50 (1.13)	



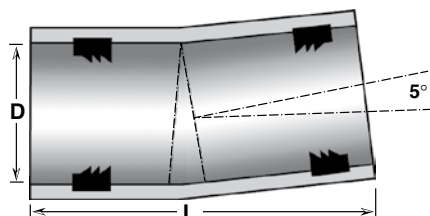
5° DOUBLE BELL COUPLING

Other angles can also be manufactured, such as 2.5° etc. Please contact factory for consultation.

Nominal Size	Type	IPS Item No.		D	L	Weight	
		Belowground	Aboveground			lbs	kg
¾	SW	07A-SW-44	07C-SW-44	1.06 (27)	6 (152)	0.07 (0.03)	
1	SW	10A-SW-44	10C-SW-44	1.32 (34)	6 (152)	0.09 (0.04)	
1¼	SW	12A-SW-44	12C-SW-44	1.67 (42)	6 (152)	0.11 (0.05)	
1½	SW	15A-SW-44	15C-SW-44	1.91 (49)	6 (165)	0.13 (0.06)	
2	SW	20A-SW-44	20C-SW-44	2.40 (61)	6 (152)	0.22 (0.10)	
3	SW	30A-SW-44	30C-SW-44	3.52 (89)	6 (152)	0.32 (0.46)	
4	SW	40A-SW-44	40C-SW-44	4.47 (114)	7 (178)	0.47 (0.21)	
4	HW	40A-HW-44	40C-HW-44	4.52 (115)	7 (178)	0.70 (0.32)	
5	SW	50A-SW-44	50C-SW-44	5.54 (141)	9 (229)	0.75 (0.34)	
5	MW	50A-MW-44	50C-MW-44	5.59 (142)	9 (229)	0.97 (0.44)	
5	HW	50A-HW-44	50C-HW-44	5.63 (143)	9 (229)	1.13 (0.97)	
6	SW	60A-SW-44	60C-SW-44	6.61 (168)	9 (229)	0.82 (0.37)	
6	MW	60A-MW-44	60C-MW-44	6.66 (169)	9 (229)	1.27 (0.58)	
6	HW	60A-HW-44	60C-HW-44	6.69 (170)	9 (229)	1.42 (0.64)	

Nominal Size	Type	ID Item No.		D	L	Weight	
		Belowground	Aboveground			lbs	kg
2	SW	20B-SW-44	20D-SW-44	2.16 (55)	6 (152)	0.18 (0.08)	
2½	SW	25B-SW-44	25D-SW-44	2.66 (68)	6 (152)	0.22 (0.10)	
3	SW	30B-SW-44	30D-SW-44	3.16 (80)	6 (152)	0.25 (0.11)	
3½	SW	35B-SW-44	35D-SW-44	3.66 (93)	6 (152)	0.32 (0.15)	
4	SW	40B-SW-44	40D-SW-44	4.16 (106)	7 (178)	0.42 (0.19)	
4	HW	40B-HW-44	40D-HW-44	4.20 (107)	7 (178)	0.56 (0.25)	
4½	SW	45B-SW-44	45D-SW-44	4.66 (118)	9 (229)	0.60 (0.27)	
4½	HW	45B-HW-44	45D-HW-44	4.70 (119)	9 (229)	0.84 (0.38)	
5	SW	50B-SW-44	50D-SW-44	5.16 (131)	9 (229)	0.68 (0.30)	
5	MW	50B-MW-44	50D-MW-44	5.20 (132)	9 (229)	0.95 (0.43)	
5	HW	50B-HW-44	50D-HW-44	5.24 (133)	9 (229)	1.09 (0.49)	
6	SW	60B-SW-44	60D-SW-44	6.16 (156)	9 (229)	0.75 (0.35)	
6	MW	60B-MW-44	60D-MW-44	6.20 (157)	9 (229)	1.27 (0.58)	
6	HW	60B-HW-44	60D-HW-44	6.24 (158)	9 (229)	1.80 (0.82)	

Nominal Size	Type	Item No.		D	L	Weight	
		Belowground	Aboveground			lbs	kg
2	XW	20B-XW-44	20D-XW-44	2.520 (64)	10 (254)	0.92 (0.42)	
2½	XW	25B-XW-44	25D-XW-44	3.025 (77)	10 (254)	1.28 (0.58)	
3	XW	30B-XW-44	30D-XW-44	3.520 (89)	10 (254)	1.48 (0.67)	
3½	XW	35B-XW-44	35D-XW-44	4.025 (102)	10 (254)	1.70 (0.77)	
4	XW	40B-XW-44	40D-XW-44	4.520 (115)	10 (254)	1.53 (0.67)	
5	XW	50B-XW-44	50D-XW-44	5.520 (140)	10 (254)	2.17 (0.98)	
6	XW	60B-XW-44	60D-XW-44	6.520 (166)	10 (254)	2.55 (1.16)	



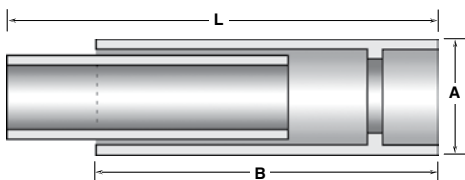
5° DOUBLE BELL COUPLING WITH GASKET

Other angles can also be manufactured, such as 2.5° etc. Please contact factory for consultation.

Nominal Size	Type	IPS Item No.		D	L	Weight	
		Belowground	Aboveground			lbs	kg
¾	SW	07A-SW-44-G	07C-SW-44-G	1.06 (27)	8 (203)	0.07 (0.03)	
1	SW	10A-SW-44-G	10C-SW-44-G	1.32 (34)	8 (203)	0.09 (0.04)	
1¼	SW	12A-SW-44-G	12C-SW-44-G	1.67 (42)	8 (203)	0.11 (0.05)	
1½	SW	15A-HW-44-G	15C-HW-44-G	1.91 (49)	8 (203)	0.13 (0.06)	
2	SW	20A-SW-44-G	20C-SW-44-G	2.40 (61)	8 (203)	0.72 (0.33)	
3	SW	30A-SW-44-G	30C-SW-44-G	3.52 (89)	8 (203)	0.99 (0.45)	
4	SW	40A-SW-44-G	40C-SW-44-G	4.47 (114)	8 (203)	1.35 (0.61)	
4	HW	40A-HW-44-G	40C-HW-44-G	4.52 (115)	8 (203)	1.45 (0.66)	
5	SW	50A-SW-44-G	50C-SW-44-G	5.54 (141)	9 (229)	1.86 (0.84)	
5	MW	50A-MW-44-G	50C-MW-44-G	5.59 (142)	9 (229)	2.08 (0.94)	
5	HW	50A-HW-44-G	50C-HW-44-G	5.63 (143)	9 (229)	2.19 (0.99)	
6	SW	60A-SW-44-G	60C-SW-44-G	6.61 (168)	9 (229)	2.31 (1.04)	
6	MW	60A-MW-44-G	60C-MW-44-G	6.66 (169)	9 (229)	2.42 (1.10)	
6	HW	60A-HW-44-G	60C-HW-44-G	6.69 (170)	9 (229)	2.76 (1.25)	

Nominal Size	Type	ID Item No.		D	L	Weight	
		Belowground	Aboveground			lbs	kg
2	SW	20B-SW-44-G	20D-SW-44-G	2.16 (55)	8 (203)	0.68 (0.31)	
2½	SW	25B-SW-44-G	25D-SW-44-G	2.66 (68)	8 (203)	0.85 (0.39)	
3	SW	30B-SW-44-G	30D-SW-44-G	3.16 (80)	8 (203)	1.00 (0.45)	
3½	SW	35B-SW-44-G	35D-SW-44-G	3.66 (93)	8 (203)	1.20 (0.55)	
4	SW	40B-SW-44-G	40D-SW-44-G	4.16 (106)	8 (203)	1.40 (0.64)	
4	HW	40B-HW-44-G	40D-HW-44-G	4.20 (107)	8 (203)	1.50 (0.68)	
4½	SW	45B-SW-44-G	45D-SW-44-G	4.66 (118)	9 (229)	1.80 (0.82)	
4½	HW	45B-HW-44-G	45D-HW-44-G	4.70 (119)	9 (229)	1.80 (0.82)	
5	SW	50B-SW-44-G	50D-SW-44-G	5.16 (131)	9 (229)	1.91 (0.87)	
5	MW	50B-MW-44-G	50D-MW-44-G	5.20 (132)	9 (229)	2.03 (0.93)	
5	HW	50B-HW-44-G	50D-HW-44-G	5.24 (133)	9 (229)	2.14 (0.97)	
6	SW	60B-SW-44-G	60D-SW-44-G	6.16 (156)	9 (229)	2.14 (0.97)	
6	MW	60B-MW-44-G	60D-MW-44-G	6.20 (157)	9 (229)	2.25 (1.02)	
6	HW	60B-HW-44-G	60D-HW-44-G	6.24 (158)	9 (229)	2.25 (1.02)	

EXPANSION JOINTS



SINGLE EXPANSION JOINT SOCKET X SPIGOT, NO O-RING

Installation of Expansion Joints:

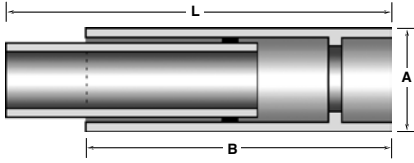
- When the duct is shorter than 50 ft., no Expansion Joint needed
- When the duct is between 50 ft. up to 200 ft., install one Expansion Joint at the mid point
- If the duct is longer than 200 ft., install one Expansion Joint every 200 ft. apart

Note: All Expansion Joints have a yellow line on the nipple end of the joint for proper installation.

Nominal Size	Type	IPS Item No.		A	B	L - Min	L - Max	Weight	
		Belowground	Aboveground					lbs	kg
¾	SW	07A-SW-34	07C-SW-34	1.20 (30)	12 (305)	15 (381)	23 (584)	0.39 (0.18)	
1	SW	10A-SW-34	10C-SW-34	1.46 (37)	12 (305)	15 (381)	23 (584)	0.44 (0.20)	
1¼	SW	12A-SW-34	12C-SW-34	1.81 (46)	12 (305)	15 (381)	23 (584)	0.53 (0.24)	
1½	SW	15A-SW-34	15C-SW-34	2.04 (52)	12 (305)	15 (381)	23 (584)	0.76 (0.35)	
2	SW	20A-SW-34	20C-SW-34	2.54 (65)	12 (305)	15 (381)	23 (584)	0.87 (0.40)	
3	SW	30A-SW-34	30C-SW-34	3.66 (93)	12 (305)	15 (381)	23 (584)	1.38 (0.63)	
4	SW	40A-SW-34	40C-SW-34	4.61 (117)	12 (305)	15 (381)	23 (584)	1.66 (0.75)	
4	HW	40A-HW-34	40C-HW-34	4.69 (119)	12 (305)	15 (381)	23 (584)	2.23 (1.01)	
5	SW	50A-SW-34	50C-SW-34	5.68 (144)	12 (305)	15 (381)	23 (584)	2.07 (0.94)	
5	MW	50A-MW-34	50C-MW-34	5.79 (147)	12 (305)	15 (381)	23 (584)	2.76 (1.25)	
5	HW	50A-HW-34	50C-HW-34	5.85 (149)	12 (305)	15 (381)	23 (584)	2.99 (1.36)	
6	SW	60A-SW-34	60C-SW-34	6.75 (171)	12 (305)	15 (381)	23 (584)	2.30 (1.04)	
6	MW	60A-MW-34	60C-MW-34	6.85 (174)	12 (305)	15 (381)	23 (584)	3.27 (1.49)	
6	HW	60A-HW-34	60C-HW-34	6.91 (176)	12 (305)	15 (381)	23 (584)	3.75 (1.70)	

Nominal Size	Type	ID Item No.		A	B	L - Min	L - Max	Weight	
		Belowground	Aboveground					lbs	kg
2	SW	20B-SW-34	20D-SW-34	2.30 (58)	12 (305)	15 (381)	23 (584)	0.78 (0.35)	
2½	SW	20B-SW-34	20D-SW-34	2.80 (71)	12 (305)	15 (381)	23 (584)	0.97 (0.44)	
3	SW	30B-SW-34	30D-SW-34	3.30 (84)	12 (305)	15 (381)	23 (584)	1.10 (0.50)	
3½	SW	35B-SW-34	35D-SW-34	3.80 (96)	12 (305)	15 (381)	23 (584)	1.38 (0.63)	
4	SW	40B-SW-34	40D-SW-34	4.30 (109)	12 (305)	15 (381)	23 (584)	1.59 (0.72)	
4	HW	40B-HW-34	40D-HW-34	4.39 (111)	12 (305)	15 (381)	23 (584)	2.12 (0.96)	
4½	SW	45B-SW-34	45D-SW-34	4.80 (122)	12 (305)	15 (381)	23 (584)	1.73 (0.79)	
4½	HW	45B-HW-34	45D-HW-34	4.89 (124)	12 (305)	15 (381)	23 (584)	2.39 (1.09)	
5	SW	50B-SW-34	50D-SW-34	5.30 (135)	12 (305)	15 (381)	23 (584)	1.96 (0.89)	
5	MW	50B-MW-34	50D-MW-34	5.39 (137)	12 (305)	15 (381)	23 (584)	2.60 (1.18)	
5	HW	50B-HW-34	50D-HW-34	5.42 (138)	12 (305)	15 (381)	23 (584)	3.04 (1.38)	
6	SW	60B-SW-34	60D-SW-34	6.30 (160)	12 (305)	15 (381)	23 (584)	2.35 (1.07)	
6	MW	60B-MW-34	60D-MW-34	6.39 (162)	12 (305)	15 (381)	23 (584)	3.11 (1.41)	
6	HW	60B-HW-34	60D-HW-34	6.42 (163)	12 (305)	15 (381)	23 (584)	3.63 (1.65)	

Nominal Size	Type	Item No.		A	B	L - Min	L - Max	Weight	
		Belowground	Aboveground					lbs	kg
2	XW	20B-XW-34	20D-XW-34	3.000 (76)	12 (305)	15 (381)	23 (584)	2.90 (1.32)	
2½	XW	25B-XW-34	25D-XW-34	3.525 (90)	12 (305)	15 (381)	23 (584)	3.56 (1.61)	
3	XW	30B-XW-34	30D-XW-34	4.000 (102)	12 (305)	15 (381)	23 (584)	4.19 (1.90)	
3½	XW	35B-XW-34	35D-XW-34	4.525 (115)	12 (305)	15 (381)	23 (584)	4.83 (2.19)	
4	XW	40B-XW-34	40D-XW-34	5.000 (127)	14 (356)	19 (482)	27 (686)	6.42 (2.92)	
5	XW	50B-XW-34	50D-XW-34	6.000 (152)	14 (356)	19 (482)	27 (686)	7.94 (3.60)	
6	XW	60B-XW-34	60D-XW-34	7.000 (178)	14 (356)	19 (482)	27 (686)	10.06 (4.57)	
8	XW	80A-XW-34	80C-XW-34	9.420 (239)	14 (356)	19 (482)	27 (686)	13.80 (6.27)	



SINGLE EXPANSION JOINT SOCKET X SPIGOT WITH O-RING

Installation of Expansion Joints:

- When the duct is shorter than 50 ft., no Expansion Joint needed
- When the duct is between 50 ft. up to 200 ft., install one Expansion Joint at the mid point
- If the duct is longer than 200 ft., install one Expansion Joint every 200 ft. apart

Note: All Expansion Joints have a yellow line on the nipple end of the joint for proper installation.

Nominal Size	Type	IPS Item No.		A	B	L - Min	L - Max	Weight	
		Belowground	Aboveground					lbs	kg
¾	SW	07A-SW-36	07C-SW-36	1.20 (30)	12 (305)	15 (381)	23 (584)	0.39 (0.18)	
1	SW	10A-SW-36	10C-SW-36	1.46 (37)	12 (305)	15 (381)	23 (584)	0.44 (0.20)	
1¼	SW	12A-SW-36	12C-SW-36	1.81 (46)	12 (305)	15 (381)	23 (584)	0.53 (0.24)	
1½	SW	15A-SW-36	15C-SW-36	2.04 (52)	12 (305)	15 (381)	23 (584)	0.76 (0.35)	
2	SW	20A-SW-36	20C-SW-36	2.54 (65)	12 (305)	15 (381)	23 (584)	0.87 (0.40)	
3	SW	30A-SW-36	30C-SW-36	3.66 (93)	12 (305)	15 (381)	23 (584)	1.38 (0.63)	
4	SW	40A-SW-36	40C-SW-36	4.61 (117)	12 (305)	15 (381)	23 (584)	1.66 (0.75)	
4	HW	40A-HW-36	40C-HW-36	4.69 (119)	12 (305)	15 (381)	23 (584)	2.23 (1.01)	
5	SW	50A-SW-36	50C-SW-36	5.68 (144)	12 (305)	15 (381)	23 (584)	2.07 (0.94)	
5	MW	50A-MW-36	50C-MW-36	5.79 (147)	12 (305)	15 (381)	23 (584)	2.76 (1.25)	
5	HW	50A-HW-36	50C-HW-36	5.85 (149)	12 (305)	15 (381)	23 (584)	2.99 (1.36)	
6	SW	60A-SW-36	60C-SW-36	6.75 (171)	12 (305)	15 (381)	23 (584)	2.30 (1.04)	
6	MW	60A-MW-36	60C-MW-36	6.85 (174)	12 (305)	15 (381)	23 (584)	3.27 (1.49)	
6	HW	60A-HW-36	60C-HW-36	6.91 (176)	12 (305)	15 (381)	23 (584)	3.75 (1.70)	

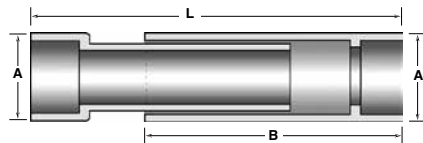
Nominal Size	Type	ID Item No.		A	B	L - Min	L - Max	Weight	
		Belowground	Aboveground					lbs	kg
2	SW	20B-SW-36	20D-SW-36	2.30 (58)	12 (305)	15 (381)	23 (584)	0.78 (0.35)	
2½	SW	25B-SW-36	25D-SW-36	2.80 (71)	12 (305)	15 (381)	23 (584)	0.97 (0.44)	
3	SW	30B-SW-36	30D-SW-36	3.30 (84)	12 (305)	15 (381)	23 (584)	1.10 (0.50)	
3½	SW	35B-SW-36	35D-SW-36	3.80 (96)	12 (305)	15 (381)	23 (584)	1.38 (0.63)	
4	SW	40B-SW-36	40D-SW-36	4.30 (109)	12 (305)	15 (381)	23 (584)	1.59 (0.72)	
4	HW	40B-HW-36	40D-HW-36	4.39 (111)	12 (305)	15 (381)	23 (584)	2.12 (0.96)	
4½	SW	45B-SW-36	45D-SW-36	4.80 (122)	12 (305)	15 (381)	23 (584)	1.73 (0.79)	
4½	HW	45B-HW-36	45D-HW-36	4.89 (124)	12 (305)	15 (381)	23 (584)	2.39 (1.09)	
5	SW	50B-SW-36	50D-SW-36	5.30 (135)	12 (305)	15 (381)	23 (584)	1.95 (0.89)	
5	MW	50B-MW-36	50D-MW-36	5.39 (137)	12 (305)	15 (381)	23 (584)	2.60 (1.18)	
5	HW	50B-HW-36	50D-HW-36	5.42 (138)	12 (305)	15 (381)	23 (584)	3.04 (1.38)	
6	SW	60B-SW-36	60D-SW-36	6.30 (160)	12 (305)	15 (381)	23 (584)	2.35 (1.07)	
6	MW	60B-MW-36	60D-MW-36	6.39 (162)	12 (305)	15 (381)	23 (584)	3.11 (1.41)	
6	HW	60B-HW-36	60D-HW-36	6.42 (163)	12 (305)	15 (381)	23 (584)	3.63 (1.65)	

Nominal Size	Type	Item No.		A	B	L - Min	L - Max	Weight	
		Belowground	Aboveground					lbs	kg
2	XW	20B-XW-36	20D-XW-36	3.000 (76)	12 (305)	15 (381)	23 (584)	2.90 (1.32)	
2½	XW	25B-XW-36	25D-XW-36	3.525 (90)	12 (305)	15 (381)	23 (584)	3.56 (1.61)	
3	XW	30B-XW-36	30D-XW-36	4.000 (102)	12 (305)	15 (381)	23 (584)	4.19 (1.90)	
3½	XW	35B-XW-36	35D-XW-36	4.525 (115)	12 (305)	15 (381)	23 (584)	4.83 (2.19)	
4	XW	40B-XW-36	40D-XW-36	5.000 (127)	14 (356)	19 (482)	27 (686)	6.42 (2.92)	
5	XW	50B-XW-36	50D-XW-36	6.000 (152)	14 (356)	19 (482)	27 (686)	7.94 (3.60)	
6	XW	60B-XW-36	60D-XW-36	7.000 (178)	14 (356)	19 (482)	27 (686)	10.06 (4.57)	

Nominal Size	Type	IPS Item No.		A	B	L - Min	L - Max	Weight	
		Belowground	Aboveground					lbs	kg
¾	SW	07A-SW-35	07C-SW-35	1.20 (30)	12 (305)	18 (457)	26 (660)	0.49 (0.22)	
1	SW	10A-SW-35	10C-SW-35	1.46 (37)	12 (305)	18 (457)	26 (660)	0.55 (0.25)	
1¼	SW	12A-SW-35	12C-SW-35	1.81 (46)	12 (305)	18 (457)	26 (660)	0.66 (0.30)	
1½	SW	15A-SW-35	15C-SW-35	2.04 (52)	12 (305)	18 (457)	26 (660)	0.76 (0.35)	
2	SW	20A-SW-35	20C-SW-35	2.54 (65)	12 (305)	18 (457)	26 (660)	1.09 (0.50)	
3	SW	30A-SW-35	30C-SW-35	3.66 (93)	12 (305)	18 (457)	26 (660)	1.73 (0.79)	
4	SW	40A-SW-35	40C-SW-35	4.61 (117)	12 (305)	18 (457)	26 (660)	2.07 (0.94)	
4	HW	40A-HW-35	40C-HW-35	4.69 (119)	12 (305)	18 (457)	26 (660)	2.79 (1.27)	
5	SW	50A-SW-35	50C-SW-35	5.68 (144)	12 (305)	18 (457)	26 (660)	2.59 (1.18)	
5	MW	50A-MW-35	50C-MW-35	5.79 (147)	12 (305)	18 (457)	26 (660)	3.45 (1.57)	
5	HW	50A-HW-35	50C-HW-35	5.85 (149)	12 (305)	18 (457)	26 (660)	3.74 (1.70)	
6	SW	60A-SW-35	60C-SW-35	6.75 (171)	12 (305)	18 (457)	26 (660)	2.88 (1.31)	
6	MW	60A-MW-35	60C-MW-35	6.85 (174)	12 (305)	18 (457)	26 (660)	4.08 (1.85)	
6	HW	60A-HW-35	60C-HW-35	6.91 (176)	12 (305)	18 (457)	26 (660)	4.69 (2.13)	

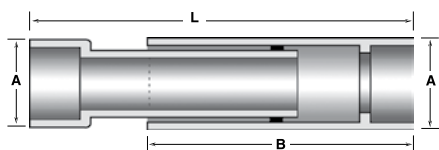
Nominal Size	Type	ID Item No.		A	B	L - Min	L - Max	Weight	
		Belowground	Aboveground					lbs	kg
2	SW	20B-SW-35	20D-SW-35	2.30 (58)	12 (305)	18 (457)	26 (660)	0.98 (0.45)	
2½	SW	25B-SW-35	25D-SW-35	2.30 (58)	12 (305)	18 (457)	26 (660)	1.21 (0.55)	
3	SW	30B-SW-35	30D-SW-35	3.30 (84)	12 (305)	18 (457)	26 (660)	1.38 (0.63)	
3½	SW	35B-SW-35	35D-SW-35	3.80 (96)	12 (305)	18 (457)	26 (660)	1.73 (0.79)	
4	SW	40B-SW-35	40D-SW-35	4.30 (109)	12 (305)	18 (457)	26 (660)	1.98 (0.90)	
4	HW	40B-HW-35	40D-HW-35	4.39 (111)	12 (305)	18 (457)	26 (660)	2.65 (1.20)	
4½	SW	45B-SW-35	45D-SW-35	4.80 (122)	12 (305)	18 (457)	26 (660)	2.16 (0.98)	
4½	HW	45B-HW-35	45D-HW-35	4.89 (124)	12 (305)	18 (457)	26 (660)	2.99 (1.36)	
5	SW	50B-SW-35	50D-SW-35	5.30 (135)	12 (305)	18 (457)	26 (660)	2.44 (1.11)	
5	MW	50B-MW-35	50D-MW-35	5.39 (137)	12 (305)	18 (457)	26 (660)	3.25 (1.48)	
5	HW	50B-HW-35	50D-HW-35	5.42 (138)	12 (305)	18 (457)	26 (660)	3.80 (1.73)	
6	SW	60B-SW-35	60D-SW-35	6.30 (160)	12 (305)	18 (457)	26 (660)	2.93 (1.33)	
6	MW	60B-MW-35	60D-MW-35	6.39 (162)	12 (305)	18 (457)	26 (660)	3.88 (1.76)	
6	HW	60B-HW-35	60D-HW-35	6.42 (163)	12 (305)	18 (457)	26 (660)	4.54 (2.07)	

Nominal Size	Type	Item No.		A	B	L - Min	L - Max	Weight	
		Belowground	Aboveground					lbs	kg
2	XW	20B-XW-35	20D-XW-35	3.000 (76)	12 (305)	18 (457)	26 (660)	3.62 (1.64)	
2½	XW	25B-XW-35	25D-XW-35	3.525 (90)	12 (305)	15 (381)	23 (584)	4.44 (2.01)	
3	XW	30B-XW-35	30D-XW-35	4.000 (102)	12 (305)	18 (457)	26 (660)	5.23 (2.37)	
3½	XW	35B-XW-35	35D-XW-35	4.525 (115)	12 (305)	15 (381)	23 (584)	6.06 (2.75)	
4	XW	40B-XW-35	40D-XW-35	5.000 (127)	14 (356)	22 (559)	32 (812)	7.89 (3.58)	
5	XW	50B-XW-35	50D-XW-35	6.000 (152)	14 (356)	22 (559)	32 (812)	9.75 (4.43)	
6	XW	60B-XW-35	60D-XW-35	7.000 (178)	14 (356)	22 (559)	32 (812)	12.08 (5.48)	



SINGLE EXPANSION JOINT SOCKET X SOCKET, NO O-RING

Same instructions & note as above



SINGLE EXPANSION JOINT SOCKET X SOCKET WITH O-RING

Installation of Expansion Joints:

- When the duct is shorter than 50 ft., no Expansion Joint needed
- When the duct is between 50 ft. up to 200 ft., install one Expansion Joint at the mid point
- If the duct is longer than 200 ft., install one Expansion Joint every 200 ft. apart

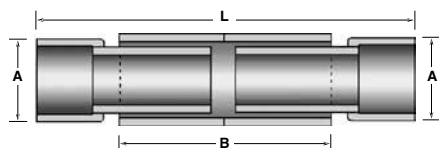
Note: All Expansion Joints have a yellow line on the nipple end of the joint for proper installation.

Nominal Size	Type	IPS Item No.		A	B	L - Min	L - Max	Weight	
		Belowground	Aboveground					lbs	kg
¾	SW	07A-SW-37	07C-SW-37	1.20 (30)	12 (305)	18 (457)	26 (660)	0.49 (0.22)	
1	SW	10A-SW-37	10C-SW-37	1.46 (37)	12 (305)	18 (457)	26 (660)	0.55 (0.25)	
1¼	SW	12A-SW-37	12C-SW-37	1.81 (46)	12 (305)	18 (457)	26 (660)	0.66 (0.30)	
1½	SW	15A-SW-37	15C-SW-37	2.04 (52)	12 (305)	18 (457)	26 (660)	0.76 (0.35)	
2	SW	20A-SW-37	20C-SW-37	2.54 (65)	12 (305)	18 (457)	26 (660)	1.09 (0.50)	
3	SW	30A-SW-37	30C-SW-37	3.66 (93)	12 (305)	18 (457)	26 (660)	1.73 (0.79)	
4	SW	40A-SW-37	40C-SW-37	4.61 (117)	12 (305)	18 (457)	26 (660)	2.07 (0.94)	
4	HW	40A-HW-37	40C-HW-37	4.69 (119)	12 (305)	18 (457)	26 (660)	2.79 (1.27)	
5	SW	50A-SW-37	50C-SW-37	5.68 (144)	12 (305)	18 (457)	26 (660)	2.59 (1.18)	
5	MW	50A-MW-37	50C-MW-37	5.79 (147)	12 (305)	18 (457)	26 (660)	3.45 (1.57)	
5	HW	50A-HW-37	50C-HW-37	5.85 (149)	12 (305)	18 (457)	26 (660)	3.74 (1.70)	
6	SW	60A-SW-37	60C-SW-37	6.75 (171)	12 (305)	18 (457)	26 (660)	2.88 (1.31)	
6	MW	60A-MW-37	60C-MW-37	6.85 (174)	12 (305)	18 (457)	26 (660)	4.08 (1.85)	
6	HW	60A-HW-37	60C-HW-37	6.91 (176)	12 (305)	18 (457)	26 (660)	4.69 (2.13)	

Nominal Size	Type	ID Item No.		A	B	L - Min	L - Max	Weight	
		Belowground	Aboveground					lbs	kg
2	SW	20B-SW-37	20D-SW-37	2.30 (58)	12 (305)	18 (457)	26 (660)	0.98 (0.45)	
2½	SW	25B-SW-37	25D-SW-37	2.80 (71)	12 (305)	18 (457)	26 (660)	1.21 (0.55)	
3	SW	30B-SW-37	30D-SW-37	3.30 (84)	12 (305)	18 (457)	26 (660)	1.38 (0.63)	
3½	SW	35B-SW-37	35D-SW-37	3.80 (96)	12 (305)	18 (457)	26 (660)	1.73 (0.79)	
4	SW	40B-SW-37	40D-SW-37	4.30 (109)	12 (305)	18 (457)	26 (660)	1.98 (0.90)	
4	HW	40B-HW-37	40D-HW-37	4.39 (111)	12 (305)	18 (457)	26 (660)	2.65 (1.20)	
4½	SW	45B-SW-37	45D-SW-37	4.80 (122)	12 (305)	18 (457)	26 (660)	2.16 (0.98)	
4½	HW	45B-HW-37	45D-HW-37	4.89 (124)	12 (305)	18 (457)	26 (660)	2.99 (1.36)	
5	SW	50B-SW-37	50D-SW-37	5.30 (135)	12 (305)	18 (457)	26 (660)	2.44 (1.11)	
5	MW	50B-MW-37	50D-MW-37	5.39 (137)	12 (305)	18 (457)	26 (660)	3.25 (1.48)	
5	HW	50B-HW-37	50D-HW-37	5.42 (138)	12 (305)	18 (457)	26 (660)	3.80 (1.73)	
6	SW	60B-SW-37	60D-SW-37	6.30 (160)	12 (305)	18 (457)	26 (660)	2.93 (1.33)	
6	MW	60B-MW-37	60D-MW-37	6.39 (162)	12 (305)	18 (457)	26 (660)	3.88 (1.76)	
6	HW	60B-HW-37	60D-HW-37	6.42 (163)	12 (305)	18 (457)	26 (660)	4.54 (2.06)	

Nominal Size	Type	Item No.		A	B	L - Min	L - Max	Weight	
		Belowground	Aboveground					lbs	kg
2	XW	20B-XW-37	20D-XW-37	3.000 (76)	12 (305)	18 (457)	26 (660)	3.62 (1.64)	
2½	XW	25B-XW-37	25D-XW-37	3.525 (90)	12 (305)	18 (457)	26 (660)	4.44 (2.01)	
3	XW	30B-XW-37	30D-XW-37	4.000 (102)	12 (305)	18 (457)	26 (660)	5.23 (2.37)	
3½	XW	35B-XW-37	35D-XW-37	4.525 (115)	12 (305)	18 (457)	26 (660)	6.06 (2.75)	
4	XW	40B-XW-37	40D-XW-37	5.000 (127)	14 (356)	22 (559)	32 (812)	7.89 (3.58)	
5	XW	50B-XW-37	50D-XW-37	6.000 (152)	14 (356)	22 (559)	32 (812)	9.75 (4.43)	
6	XW	60B-XW-37	60D-XW-37	7.000 (178)	14 (356)	22 (559)	32 (812)	12.08 (5.48)	
8	XW	80A-XW-37	80C-XW-37	9.420 (239)	14 (356)	22 (559)	32 (812)	16.56 (7.52)	

Nominal Size	Type	IPS Item No.		A	B	L - Min	L - Max	Weight	
		Belowground	Aboveground					lbs	kg
¾	SW	07A-SW-38	07C-SW-38	1.20 (30)	17 (432)	29 (737)	45 (1143)	0.84 (0.38)	
1	SW	10A-SW-38	10C-SW-38	1.46 (37)	17 (432)	29 (737)	45 (1143)	0.94 (0.43)	
1¼	SW	12A-SW-38	12C-SW-38	1.81 (46)	17 (432)	29 (737)	45 (1143)	1.14 (0.52)	
1½	SW	15A-SW-38	15C-SW-38	2.04 (52)	17 (432)	29 (737)	45 (1143)	1.63 (0.74)	
2	SW	20A-SW-38	20C-SW-38	2.54 (65)	17 (432)	29 (737)	45 (1143)	1.88 (0.85)	
3	SW	30A-SW-38	30C-SW-38	3.66 (93)	17 (432)	29 (737)	45 (1143)	2.97 (1.35)	
4	SW	40A-SW-38	40C-SW-38	4.61 (117)	17 (432)	29 (737)	45 (1143)	3.56 (1.62)	
4	HW	40A-HW-38	40C-HW-38	4.69 (119)	17 (432)	29 (737)	45 (1143)	4.80 (2.18)	
5	SW	50A-SW-38	50C-SW-38	5.68 (144)	17 (432)	29 (737)	45 (1143)	4.46 (2.03)	
5	MW	50A-MW-38	50C-MW-38	5.79 (147)	17 (432)	29 (737)	45 (1143)	5.94 (2.70)	
5	HW	50A-HW-38	50C-HW-38	5.85 (149)	17 (432)	29 (737)	45 (1143)	6.44 (2.92)	
6	SW	60A-SW-38	60C-SW-38	6.75 (171)	17 (432)	29 (737)	45 (1143)	4.95 (2.25)	
6	MW	60A-MW-38	60C-MW-38	6.85 (174)	17 (432)	29 (737)	45 (1143)	7.03 (3.19)	
6	HW	60A-HW-38	60C-HW-38	6.91 (176)	17 (432)	29 (737)	45 (1143)	8.07 (3.66)	



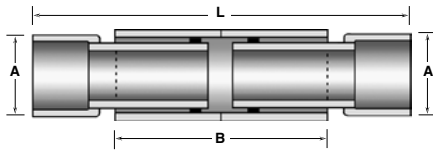
DOUBLE EXPANSION JOINT, NO O-RING

Double expansion joint is sometimes referred to as back-to-back expansion joint.

Same instructions & note as above

Nominal Size	Type	ID Item No.		A	B	L - Min	L - Max	Weight	
		Belowground	Aboveground					lbs	kg
2	SW	20B-SW-38	20D-SW-38	2.30 (58)	17 (432)	29 (737)	45 (1143)	1.68 (0.76)	
2½	SW	25B-SW-38	25D-SW-38	2.80 (71)	17 (432)	29 (737)	45 (1143)	2.08 (0.94)	
3	SW	30B-SW-38	30D-SW-38	3.30 (84)	17 (432)	29 (737)	45 (1143)	2.38 (1.08)	
3½	SW	35B-SW-38	35D-SW-38	3.80 (96)	17 (432)	29 (737)	45 (1143)	2.97 (1.35)	
4	SW	40B-SW-38	40D-SW-38	4.30 (109)	17 (432)	29 (737)	45 (1143)	3.42 (1.55)	
4	HW	40B-HW-38	40D-HW-38	4.39 (111)	17 (432)	29 (737)	45 (1143)	4.55 (2.07)	
4½	SW	45B-SW-38	45D-SW-38	4.80 (122)	17 (432)	29 (737)	45 (1143)	3.71 (1.68)	
4½	HW	45B-HW-38	45D-HW-38	4.89 (124)	17 (432)	29 (737)	45 (1143)	5.15 (2.34)	
5	SW	50B-SW-38	50D-SW-38	5.30 (135)	17 (432)	29 (737)	45 (1143)	4.21 (1.91)	
5	MW	50B-MW-38	50D-MW-38	5.39 (137)	17 (432)	29 (737)	45 (1143)	5.59 (2.54)	
5	HW	50B-HW-38	50D-HW-38	5.42 (138)	17 (432)	29 (737)	45 (1143)	6.53 (2.97)	
6	SW	60B-SW-38	60D-SW-38	6.30 (160)	17 (432)	29 (737)	45 (1143)	5.05 (2.30)	
6	MW	60B-MW-38	60D-MW-38	6.39 (162)	17 (432)	29 (737)	45 (1143)	6.68 (3.03)	
6	HW	60B-HW-38	60D-HW-38	6.42 (163)	17 (432)	29 (737)	45 (1143)	7.82 (3.55)	

Nominal Size	Type	Item No.		A	B	L - Min	L - Max	Weight	
		Belowground	Aboveground					lbs	kg
2	XW	20B-XW-38	20D-XW-38	3.000 (76)	17 (432)	29 (737)	45 (1143)	6.24 (2.83)	
2½	XW	25B-XW-38	25D-XW-38	3.525 (90)	17 (432)	29 (737)	45 (1143)	7.63 (3.46)	
3	XW	30B-XW-38	30D-XW-38	4.000 (102)	17 (432)	29 (737)	45 (1143)	9.01 (4.09)	
3½	XW	35B-XW-38	35D-XW-38	4.525 (115)	17 (432)	29 (737)	45 (1143)	10.40 (4.72)	
4	XW	40B-XW-38	40D-XW-38	5.000 (127)	17 (432)	29 (737)	45 (1143)	11.78 (5.35)	
5	XW	50B-XW-38	50D-XW-38	6.000 (152)	17 (432)	29 (737)	45 (1143)	14.55 (6.61)	
6	XW	60B-XW-38	60D-XW-38	7.000 (178)	17 (432)	29 (737)	45 (1143)	19.25 (8.74)	
8	XW	80A-XW-38	80C-XW-38	9.420 (239)	17 (432)	29 (737)	45 (1143)	26.40 (11.99)	



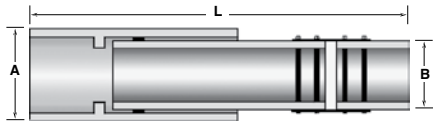
DOUBLE EXPANSION JOINT WITH O-RING

Double expansion joint is sometimes referred to as back-to-back expansion joint.

Installation of Expansion Joints:

- When the duct is shorter than 50 ft., no Expansion Joint needed
- When the duct is between 50 ft. up to 200 ft., install one Expansion Joint at the mid point
- If the duct is longer than 200 ft., install one Expansion Joint every 200 ft. apart

Note: All Expansion Joints have a yellow line on the nipple end of the joint for proper installation.



ALIGNMENT/EXPANSION FITTING, WITH O-RINGS

Alignment/Expansion fitting is sometimes referred to as an Expansion/Deflection joint.

(The clamps holding the rubber sleeve connecting the two nipples are made from stainless steel for corrosion protection.)

Same instructions & note as above

Nominal Size	Type	IPS Item No.		A	B	L - Min	L - Max	Weight	
		Belowground	Aboveground					lbs	kg
¾	SW	07A-SW-39	07C-SW-39	1.20 (30)	17 (432)	29 (737)	45 (1143)	0.84 (0.38)	
1	SW	10A-SW-39	10C-SW-39	1.46 (37)	17 (432)	29 (737)	45 (1143)	0.94 (0.43)	
1¼	SW	12A-SW-39	12C-SW-39	1.81 (46)	17 (432)	29 (737)	45 (1143)	1.14 (0.52)	
1½	SW	15A-SW-39	15C-SW-39	2.04 (52)	17 (432)	29 (737)	45 (1143)	1.63 (0.74)	
2	SW	20A-SW-39	20C-SW-39	2.54 (65)	17 (432)	29 (737)	45 (1143)	1.88 (0.85)	
3	SW	30A-SW-39	30C-SW-39	3.66 (93)	17 (432)	29 (737)	45 (1143)	2.97 (1.35)	
4	SW	40A-SW-39	40C-SW-39	4.61 (117)	17 (432)	29 (737)	45 (1143)	3.56 (1.62)	
4	HW	40A-HW-39	40C-HW-39	4.69 (119)	17 (432)	29 (737)	45 (1143)	4.80 (2.18)	
5	SW	50A-SW-39	50C-SW-39	5.68 (144)	17 (432)	29 (737)	45 (1143)	4.46 (2.03)	
5	MW	50A-MW-39	50C-MW-39	5.79 (147)	17 (432)	29 (737)	45 (1143)	5.94 (2.70)	
5	HW	50A-HW-39	50C-HW-39	5.85 (149)	17 (432)	29 (737)	45 (1143)	6.44 (2.92)	
6	SW	60A-SW-39	60C-SW-39	6.75 (171)	17 (432)	29 (737)	45 (1143)	4.95 (2.25)	
6	MW	60A-MW-39	60C-MW-39	6.85 (174)	17 (432)	29 (737)	45 (1143)	7.03 (3.19)	
6	HW	60A-HW-39	60C-HW-39	6.91 (176)	17 (432)	29 (737)	45 (1143)	8.07 (3.66)	

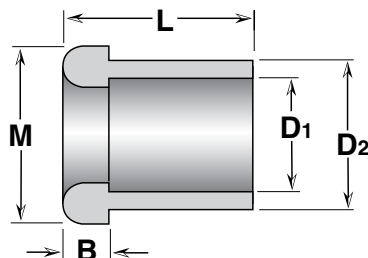
Nominal Size	Type	ID Item No.		A	B	L - Min	L - Max	Weight	
		Belowground	Aboveground					lbs	kg
2	SW	20B-SW-39	20D-SW-39	2.30 (58)	17 (432)	29 (737)	45 (1143)	1.68 (0.76)	
2½	SW	25B-SW-39	25D-SW-39	2.80 (71)	17 (432)	29 (737)	45 (1143)	2.08 (0.94)	
3	SW	30B-SW-39	30D-SW-39	3.30 (84)	17 (432)	29 (737)	45 (1143)	2.38 (1.08)	
3½	SW	35B-SW-39	35D-SW-39	3.80 (96)	17 (432)	29 (737)	45 (1143)	2.97 (1.35)	
4	SW	40B-SW-39	40D-SW-39	4.30 (109)	17 (432)	29 (737)	45 (1143)	3.42 (1.55)	
4	HW	40B-HW-39	40D-HW-39	4.39 (111)	17 (432)	29 (737)	45 (1143)	4.55 (2.07)	
4½	SW	45B-SW-39	45D-SW-39	4.80 (122)	17 (432)	29 (737)	45 (1143)	3.71 (1.68)	
4½	HW	45B-HW-39	45D-HW-39	4.89 (124)	17 (432)	29 (737)	45 (1143)	5.15 (2.34)	
5	SW	50B-SW-39	50D-SW-39	5.30 (135)	17 (432)	29 (737)	45 (1143)	4.21 (1.91)	
5	MW	50B-MW-39	50D-MW-39	5.39 (137)	17 (432)	29 (737)	45 (1143)	5.59 (2.54)	
5	HW	50B-HW-39	50D-HW-39	5.42 (138)	17 (432)	29 (737)	45 (1143)	6.53 (2.97)	
6	SW	60B-SW-39	60D-SW-39	6.30 (160)	17 (432)	29 (737)	45 (1143)	5.05 (2.29)	
6	MW	60B-MW-39	60D-MW-39	6.39 (162)	17 (432)	29 (737)	45 (1143)	6.68 (3.03)	
6	HW	60B-HW-39	60D-HW-39	6.42 (163)	17 (432)	29 (737)	45 (1143)	7.82 (3.55)	

Nominal Size	Type	Item No.		A	B	L - Min	L - Max	Weight	
		Belowground	Aboveground					lbs	kg
2	XW	20B-XW-39	20D-XW-39	3.000 (76)	17 (432)	29 (737)	45 (1143)	6.24 (2.83)	
2½	XW	25B-XW-39	25D-XW-39	3.525 (90)	17 (432)	29 (737)	45 (1143)	7.63 (3.46)	
3	XW	30B-XW-39	30D-XW-39	4.000 (102)	17 (432)	29 (737)	45 (1143)	9.01 (4.09)	
3½	XW	35B-XW-39	35D-XW-39	4.525 (115)	17 (432)	29 (737)	45 (1143)	10.42 (4.72)	
4	XW	40B-XW-39	40D-XW-39	5.000 (127)	17 (432)	29 (737)	45 (1143)	11.78 (5.35)	
5	XW	50B-XW-39	50D-XW-39	6.000 (152)	17 (432)	29 (737)	45 (1143)	14.55 (6.61)	
6	XW	60B-XW-39	60D-XW-39	7.000 (178)	17 (432)	29 (737)	45 (1143)	19.25 (8.74)	

Nominal Size	Type	IPS Item No.		A	B	L - Min	L - Max	Weight	
		Belowground	Aboveground					lbs	kg
¾	SW	07A-SW-31	07C-SW-31	1.20 (30)	1.1 (27)	37 (940)	51 (1295)	1.19 (0.54)	
1	SW	10A-SW-31	10C-SW-31	1.46 (37)	1.3 (34)	37 (940)	51 (1295)	1.33 (0.60)	
1¼	SW	12A-SW-31	12C-SW-31	1.81 (46)	1.7 (42)	37 (940)	51 (1295)	1.61 (0.73)	
1½	SW	15A-SW-31	15C-SW-31	2.04 (52)	1.9 (49)	37 (940)	51 (1295)	2.31 (1.05)	
2	SW	20A-SW-31	20C-SW-31	2.54 (65)	2.4 (61)	37 (940)	51 (1295)	2.66 (1.21)	
3	SW	30A-SW-31	30C-SW-31	3.66 (93)	3.5 (89)	37 (940)	51 (1295)	4.20 (1.91)	
4	SW	40A-SW-31	40C-SW-31	4.61 (117)	4.5 (114)	37 (940)	51 (1295)	5.04 (2.29)	
4	HW	40A-HW-31	40C-HW-31	4.69 (119)	4.5 (115)	37 (940)	51 (1295)	6.79 (3.08)	
5	SW	50A-SW-31	50C-SW-31	5.68 (144)	5.5 (141)	37 (940)	51 (1295)	6.30 (2.86)	
5	MW	50A-MW-31	50C-MW-31	5.79 (147)	5.6 (142)	37 (940)	51 (1295)	8.40 (3.81)	
5	HW	50A-HW-31	50C-HW-31	5.85 (149)	5.6 (143)	37 (940)	51 (1295)	9.10 (4.13)	
6	SW	60A-SW-31	60C-SW-31	6.75 (171)	6.5 (166)	37 (940)	51 (1295)	7.00 (3.18)	
6	MW	60A-MW-31	60C-MW-31	6.85 (174)	6.6 (167)	37 (940)	51 (1295)	9.94 (4.51)	
6	HW	60A-HW-31	60C-HW-31	6.91 (176)	6.6 (168)	37 (940)	51 (1295)	11.41 (5.18)	

Nominal Size	Type	ID Item No.		A	B	L - Min	L - Max	Weight	
		Belowground	Aboveground					lbs	kg
2	SW	20B-SW-31	20D-SW-31	2.30 (58)	2.2 (55)	37 (940)	51 (1295)	2.38 (1.08)	
2½	SW	25B-SW-31	25D-SW-31	2.80 (71)	2.7 (68)	37 (940)	51 (1295)	2.94 (1.34)	
3	SW	30B-SW-31	30D-SW-31	3.30 (84)	3.2 (80)	37 (940)	51 (1295)	3.36 (1.53)	
3½	SW	35B-SW-31	35D-SW-31	3.80 (96)	3.7 (93)	37 (940)	51 (1295)	4.20 (1.97)	
4	SW	40B-SW-31	40D-SW-31	4.30 (109)	4.2 (106)	37 (940)	51 (1295)	4.83 (2.19)	
4	HW	40B-HW-31	40D-HW-31	4.39 (111)	4.2 (107)	37 (940)	51 (1295)	6.44 (2.92)	
4½	SW	45B-SW-31	45D-SW-31	4.80 (122)	4.7 (118)	37 (940)	51 (1295)	5.25 (2.38)	
4½	HW	45B-HW-31	45D-HW-31	4.89 (124)	4.7 (119)	37 (940)	51 (1295)	7.28 (3.31)	
5	SW	50B-SW-31	50D-SW-31	5.30 (135)	5.2 (131)	37 (940)	51 (1295)	5.95 (2.70)	
5	MW	50B-MW-31	50D-MW-31	5.39 (137)	5.2 (132)	37 (940)	51 (1295)	7.91 (3.59)	
5	HW	50B-HW-31	50D-HW-31	5.42 (138)	5.2 (133)	37 (940)	51 (1295)	9.24 (4.20)	
6	SW	60B-SW-31	60D-SW-31	6.30 (160)	6.2 (156)	37 (940)	51 (1295)	7.14 (3.24)	
6	MW	60B-MW-31	60D-MW-31	6.39 (162)	6.2 (157)	37 (940)	51 (1295)	9.45 (4.29)	
6	HW	60B-HW-31	60D-HW-31	6.42 (163)	6.2 (158)	37 (940)	51 (1295)	11.06 (5.02)	

Nominal Size	Type	Item No.		A	B	L - Min	L - Max	Weight	
		Belowground	Aboveground					lbs	kg
2	XW	20B-XW-31	20D-XW-31	3.000 (76)	2.50 (64)	37 (940)	51 (1295)	8.82 (4.00)	
2½	XW	25B-XW-31	25D-XW-31	3.525 (90)	3.00 (76)	37 (940)	51 (1295)	10.78 (4.89)	
3	XW	30B-XW-31	30D-XW-31	4.000 (102)	3.50 (89)	37 (940)	51 (1295)	12.74 (5.78)	
3½	XW	35B-XW-31	35D-XW-31	4.525 (115)	4.00 (102)	37 (940)	51 (1295)	14.70 (6.67)	
4	XW	40B-XW-31	40D-XW-31	5.000 (127)	4.50 (114)	37 (940)	51 (1295)	16.66 (7.56)	
5	XW	50B-XW-31	50D-XW-31	6.000 (152)	5.50 (140)	37 (940)	51 (1295)	20.58 (9.34)	
6	XW	60B-XW-31	60D-XW-31	7.000 (178)	6.50 (165)	37 (940)	51 (1295)	24.50 (11.12)	



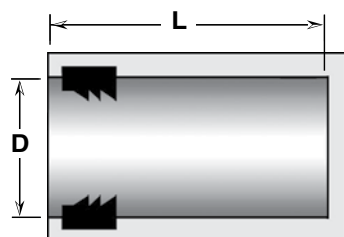
END BELLS-SOCKET TYPE

End bells are used for creating a permanent termination into a box as well as having a smooth surface that the cable can be pulled over.

Nominal Size	Type	IPS Item No.		D1	D2	L	M	B	Weight	
		Belowground	Aboveground						lbs	kg
¾	SW	07A-SW-29	07C-SW-29	1.06 (27)	1.20 (30)	1.60 (41)	1.50 (38)	0.25 (6)	0.10 (0.05)	
1	SW	10A-SW-29	10C-SW-29	1.32 (34)	1.46 (37)	1.60 (41)	2.50 (64)	0.50 (13)	0.10 (0.05)	
1¼	SW	12A-SW-29	12C-SW-29	1.67 (42)	1.81 (46)	1.60 (41)	3.00 (76)	0.50 (13)	0.15 (0.07)	
1½	SW	15A-SW-29	15C-SW-29	1.91 (49)	2.04 (52)	1.60 (41)	3.25 (83)	0.50 (13)	0.20 (0.09)	
2	SW	20A-SW-29	20C-SW-29	2.40 (61)	2.54 (61)	3.00 (76)	3.75 (95)	0.50 (13)	0.40 (0.18)	
3	SW	30A-SW-29	30C-SW-29	3.52 (89)	3.66 (93)	3.00 (76)	5.37 (137)	0.50 (13)	0.45 (0.20)	
4	SW	40A-SW-29	40C-SW-29	4.47 (114)	4.61 (117)	5.00 (127)	6.50 (165)	0.75 (19)	0.80 (0.36)	
4	HW	40A-HW-29	40C-HW-29	4.52 (115)	4.69 (119)	5.00 (127)	6.50 (165)	0.75 (19)	0.85 (0.38)	
5	SW	50A-SW-29	50C-SW-29	5.54 (141)	5.68 (144)	5.00 (127)	7.37 (187)	0.75 (19)	0.90 (0.41)	
5	MW	50A-MW-29	50C-MW-29	5.59 (142)	5.79 (147)	5.00 (127)	7.37 (187)	0.75 (19)	0.95 (0.43)	
5	HW	50A-HW-29	50C-HW-29	5.63 (143)	5.85 (149)	5.00 (127)	7.37 (187)	0.75 (19)	1.00 (0.45)	
6	SW	60A-SW-29	60C-SW-29	6.61 (168)	6.68 (170)	5.00 (127)	8.50 (216)	0.75 (19)	1.05 (0.48)	
6	MW	60A-MW-29	60C-MW-29	6.66 (169)	6.79 (172)	5.00 (127)	8.50 (216)	0.75 (19)	1.10 (0.50)	
6	HW	60A-HW-29	60C-HW-29	6.69 (170)	6.85 (174)	5.00 (127)	8.50 (216)	0.75 (19)	1.15 (0.52)	

Nominal Size	Type	ID Item No.		D1	D2	L	M	B	Weight	
		Belowground	Aboveground						lbs	kg
2	SW	20B-SW-29	20D-SW-29	2.16 (55)	2.30 (58)	3.00 (76)	3.62 (92)	0.50 (13)	0.40 (0.18)	
2½	SW	25B-SW-29	25D-SW-29	2.66 (68)	2.80 (71)	3.00 (76)	4.00 (102)	0.50 (13)	0.45 (0.20)	
3	SW	30B-SW-29	30D-SW-29	3.16 (80)	3.30 (84)	3.00 (76)	5.00 (127)	0.50 (13)	0.55 (0.25)	
3½	SW	35B-SW-29	35D-SW-29	3.66 (93)	3.80 (96)	3.00 (76)	5.50 (140)	0.50 (13)	0.60 (0.27)	
4	SW	40B-SW-29	40D-SW-29	4.16 (106)	4.30 (109)	5.00 (127)	6.00 (153)	0.75 (19)	0.78 (0.35)	
4	HW	40B-HW-29	40D-HW-29	4.20 (107)	4.39 (111)	5.00 (127)	6.00 (153)	0.75 (19)	0.95 (0.43)	
5	SW	50B-SW-29	50D-SW-29	5.16 (131)	5.30 (135)	5.00 (127)	7.00 (178)	0.75 (19)	0.80 (0.36)	
5	MW	50B-MW-29	50D-MW-29	5.20 (132)	5.39 (137)	5.00 (127)	7.00 (178)	0.75 (19)	0.85 (0.39)	
5	HW	50B-HW-29	50D-HW-29	5.24 (133)	5.42 (138)	5.00 (127)	7.00 (178)	0.75 (19)	0.87 (0.40)	
6	SW	60B-SW-29	60D-SW-29	6.16 (156)	6.30 (160)	5.00 (127)	8.00 (203)	0.75 (19)	0.95 (0.43)	
6	MW	60B-MW-29	60D-MW-29	6.20 (157)	6.39 (162)	5.00 (127)	8.00 (203)	0.75 (19)	1.15 (0.52)	
6	HW	60B-HW-29	60D-HW-29	6.24 (158)	6.42 (163)	5.00 (127)	8.00 (203)	0.75 (19)	1.25 (0.57)	

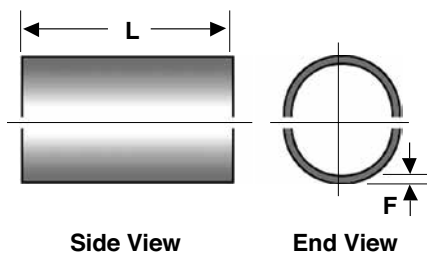
Nominal Size	Type	Item No.		D1	D2	L	M	B	Weight	
		Belowground	Aboveground						lbs	kg
2	XW	20B-XW-29	20D-XW-29	2.520 (64)	3.020 (76)	3.00 (76)	3.62 (92)	0.50 (13)	1.30 (0.59)	
2½	XW	25B-XW-29	25D-XW-29	3.025 (77)	3.525 (90)	3.00 (76)	4.00 (102)	0.50 (13)	1.59 (0.72)	
3	XW	30B-XW-29	30D-XW-29	3.520 (89)	4.020 (102)	3.00 (76)	5.00 (127)	0.50 (13)	1.90 (0.86)	
3½	XW	35B-XW-29	35D-XW-29	4.025 (102)	4.525 (115)	3.00 (76)	5.50 (140)	0.50 (13)	2.17 (0.98)	
4	XW	40B-XW-29	40D-XW-29	4.520 (115)	5.020 (128)	5.00 (127)	6.00 (153)	0.75 (19)	2.40 (1.09)	
5	XW	50B-XW-29	50D-XW-29	5.520 (140)	6.020 (153)	5.00 (127)	7.00 (178)	0.75 (19)	2.42 (1.10)	
6	XW	60B-XW-29	60D-XW-29	6.520 (166)	7.020 (178)	5.00 (127)	8.00 (203)	0.75 (19)	2.50 (1.13)	



FIBERGLASS END CAP WITH GASKET

Nominal Size	Type	IPS Item No.		D	L	Weight	
		Belowground	Aboveground			lbs	kg
2	SW	20A-SW-23-G	20C-SW-23-G	2.40 (61)	4 (102)	0.70 (0.32)	
3	SW	30A-SW-23-G	30C-SW-23-G	3.52 (89)	4 (102)	0.95 (0.43)	
4	SW	40A-SW-23-G	40C-SW-23-G	4.47 (114)	4 (102)	1.30 (0.59)	
4	HW	40A-HW-23-G	40C-HW-23-G	4.52 (115)	4 (102)	1.40 (0.64)	
5	SW	50A-SW-23-G	50C-SW-23-G	5.54 (141)	4 (102)	1.60 (0.73)	
5	MW	50A-MW-23-G	50C-MW-23-G	5.59 (142)	4 (102)	1.80 (0.82)	
5	HW	50A-HW-23-G	50C-HW-23-G	5.63 (143)	4 (102)	1.90 (0.86)	
6	SW	60A-SW-23-G	60C-SW-23-G	6.61 (168)	4 (102)	2.00 (0.91)	
6	MW	60A-MW-23-G	60C-MW-23-G	6.66 (169)	4 (102)	2.10 (0.95)	
6	HW	60A-HW-23-G	60C-HW-23-G	6.69 (170)	4 (102)	2.40 (1.09)	

Nominal Size	Type	ID Item No.		D	L	Weight	
		Belowground	Aboveground			lbs	kg
2	SW	20B-SW-23-G	20D-SW-23-G	2.16 (55)	4 (102)	0.70 (0.32)	
2½	SW	25B-SW-23-G	25D-SW-23-G	2.66 (68)	4 (102)	0.80 (0.36)	
3	SW	30B-SW-23-G	30D-SW-23-G	3.16 (80)	4 (102)	0.95 (0.43)	
3½	HW	35B-SW-23-G	35D-SW-23-G	3.66 (93)	4 (102)	1.20 (0.55)	
4	SW	40B-SW-23-G	40D-SW-23-G	4.16 (106)	4 (102)	1.30 (0.59)	
4	HW	40B-HW-23-G	40D-HW-23-G	4.20 (107)	4 (102)	1.40 (0.64)	
4½	SW	45B-SW-23-G	45D-SW-23-G	4.66 (118)	4 (102)	1.50 (0.68)	
4½	HW	45B-HW-23-G	45D-HW-23-G	4.70 (119)	4 (102)	1.60 (0.73)	
5	SW	50B-SW-23-G	50D-SW-23-G	5.16 (131)	4 (102)	1.60 (0.73)	
5	MW	50B-MW-23-G	50D-MW-23-G	5.20 (132)	4 (102)	1.70 (0.77)	
5	HW	50B-HW-23-G	50D-HW-23-G	5.24 (133)	4 (102)	1.80 (0.82)	
6	SW	60B-SW-23-G	60D-SW-23-G	6.16 (156)	4 (102)	1.90 (0.86)	
6	MW	60B-MW-23-G	60D-MW-23-G	6.20 (157)	4 (102)	1.90 (0.86)	
6	HW	60B-HW-23-G	60D-HW-23-G	6.24 (158)	4 (102)	2.00 (0.91)	

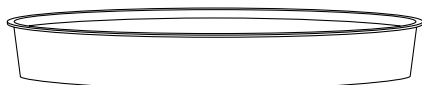


SPLIT ANCHOR RINGS

Split anchor rings are always supplied in pairs and are used for above ground installations in order to create fixed points. The split anchor rings are placed around the hanger closest to the mid point between two expansion joints. One pair of split anchor rings is placed on each side of the hanger. The split anchor rings are bonded with epoxy adhesive to the outside of the conduit. The hanger where split anchor rings are used is called an anchor hanger and is normally braced, see Champion Hanger section in this catalog.

Nominal Size	Type	IPS Item No.		ID Item No.		F	L	Weight	
		Belowground	Aboveground	Belowground	Aboveground			lbs	kg
¾	SW	07A-SW-28	07C-SW-28	—	—	0.25 (6)	3 (76)	0.18	(0.08)
1	SW	10A-SW-28	10C-SW-28	—	—	0.25 (6)	3 (76)	0.21	(0.10)
1¼	SW	12A-SW-28	12C-SW-28	—	—	0.25 (6)	3 (76)	0.26	(0.12)
1½	SW	15A-SW-28	15C-SW-28	—	—	0.25 (6)	3 (76)	0.36	(0.16)
2	SW	20A-SW-28	20C-SW-28	20B-SW-28	20D-SW-28	0.25 (6)	3 (76)	0.42	(0.19)
2½	SW	25A-SW-28	25C-SW-28	25B-SW-28	25D-SW-28	0.25 (6)	3 (76)	0.48	(0.22)
3	SW	30A-SW-28	30C-SW-28	30B-SW-28	30D-SW-28	0.25 (6)	3 (76)	0.67	(0.30)
3½	SW	—	—	35B-SW-28	35D-SW-28	0.25 (6)	3 (76)	0.76	(0.34)
4	SW	40A-SW-28	40C-SW-28	40B-SW-28	40D-SW-28	0.25 (6)	3 (76)	0.80	(0.36)
4	HW	40A-HW-28	40C-HW-28	40B-HW-28	40D-HW-28	0.25 (6)	3 (76)	0.80	(0.36)
4½	SW	45A-SW-28	45C-SW-28	45B-SW-28	45D-SW-28	0.25 (6)	3 (76)	0.91	(0.41)
4½	HW	45A-HW-28	45C-HW-28	45B-HW-28	45D-HW-28	0.25 (6)	3 (76)	0.91	(0.41)
5	SW	50A-SW-28	50C-SW-28	50B-SW-28	50D-SW-28	0.25 (6)	3 (76)	1.06	(0.48)
5	MW	50A-MW-28	50C-MW-28	50B-MW-28	50D-MW-28	0.25 (6)	3 (76)	1.06	(0.48)
5	HW	50A-HW-28	50C-HW-28	50B-HW-28	50D-HW-28	0.25 (6)	3 (76)	1.06	(0.48)
6	SW	60A-SW-28	60C-SW-28	60B-SW-28	60D-SW-28	0.25 (6)	3 (76)	1.15	(0.52)
6	MW	60A-MW-28	60C-MW-28	60B-MW-28	60D-MW-28	0.25 (6)	3 (76)	1.15	(0.52)
6	HW	60A-HW-28	60C-HW-28	60B-HW-28	60D-HW-28	0.25 (6)	3 (76)	1.15	(0.52)

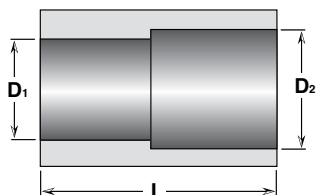
Nominal Size	Type	Item No.		F	L	Weight	
		Belowground	Aboveground			lbs	kg
2	XW	20B-XW-28	20D-XW-28	0.25 (6)	3 (76)	0.52	(0.24)
2½	XW	25B-XW-28	25D-XW-28	0.25 (6)	3 (76)	0.64	(0.29)
3	XW	30B-XW-28	30D-XW-28	0.25 (6)	3 (76)	0.80	(0.36)
3½	XW	35B-XW-28	35D-XW-28	0.25 (6)	3 (76)	0.87	(0.39)
4	XW	40B-XW-28	40D-XW-28	0.25 (6)	3 (76)	0.98	(0.44)
5	XW	50B-XW-28	50D-XW-28	0.25 (6)	3 (76)	1.15	(0.52)
6	XW	60B-XW-28	60D-XW-28	0.25 (6)	3 (76)	1.25	(0.57)



THERMOPLASTIC PLUG

Nominal Size	Type	IPS Item No.		ID Item No.		Weight	
		Belowground	Aboveground	Belowground	Aboveground	lbs	kg
¾	SW	07A-SW-26	07C-SW-26	—	—	0.01	(0.005)
1	SW	10A-SW-26	10C-SW-26	—	—	0.01	(0.005)
1¼	SW	12A-SW-26	12C-SW-26	—	—	0.01	(0.005)
1½	SW	15A-SW-26	15C-SW-26	—	—	0.01	(0.005)
2	SW	20A-SW-26	20C-SW-26	20B-SW-26	20D-SW-26	0.01	(0.005)
2½	SW	25A-SW-26	25C-SW-26	25B-SW-26	25D-SW-26	0.01	(0.005)
3	SW	30A-SW-26	30C-SW-26	30B-SW-26	30D-SW-26	0.03	(0.014)
3½	SW	—	—	35B-SW-26	35D-SW-26	0.03	(0.014)
4	SW	40A-SW-26	40C-SW-26	40B-SW-26	40D-SW-26	0.03	(0.014)
4	HW	40A-HW-26	40C-HW-26	40B-HW-26	40D-HW-26	0.03	(0.014)
4½	SW	45A-SW-26	45C-SW-26	45B-SW-26	45D-SW-26	0.05	(0.023)
4½	HW	45A-HW-26	45C-HW-26	45B-HW-26	45D-HW-26	0.05	(0.023)
5	SW	50A-SW-26	50C-SW-26	50B-SW-26	50D-SW-26	0.06	(0.027)
5	MW	50A-MW-26	50C-MW-26	50B-MW-26	50D-MW-26	0.06	(0.027)
5	HW	50A-HW-26	50C-HW-26	50B-HW-26	50D-HW-26	0.06	(0.027)
6	SW	60A-SW-26	60C-SW-26	60B-SW-26	60D-SW-26	0.07	(0.032)
6	MW	60A-MW-26	60C-MW-26	60B-MW-26	60D-MW-26	0.07	(0.032)
6	HW	60A-HW-26	60C-HW-26	60B-HW-26	60D-HW-26	0.07	(0.032)

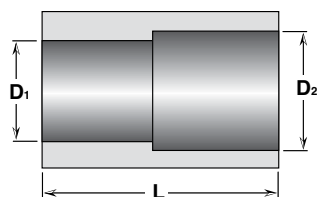
Nominal Size	Type	Item No.	Weight	
			lbs	kg
2	XW	20D-XW-26	0.01	(0.005)
2½	XW	25D-XW-26	0.01	(0.005)
3	XW	30D-XW-26	0.03	(0.014)
3½	XW	35D-XW-26	0.03	(0.014)
4	XW	40D-XW-26	0.03	(0.014)
5	XW	50D-XW-26	0.06	(0.027)
6	XW	60D-XW-26	0.07	(0.032)



REDUCING ADAPTER

Transition adapter from ID/tubular fiberglass conduit to IPS type and PVC schedule 40 and 80.

Nominal Size	Type	Item No.		D1	D2	L	Weight	
		Belowground	Aboveground				lbs	kg
2	SW	20B-SW-27	20D-SW-27	2.16 (55)	2.40 (61)	6 (152)	0.30	(0.14)
3	SW	30B-SW-27	30D-SW-27	3.16 (80)	3.52 (89)	6 (152)	0.50	(0.23)
4	SW	40B-SW-27	40D-SW-27	4.16 (106)	4.47 (114)	6 (152)	0.60	(0.27)
4	HW	40B-HW-27	40D-HW-27	4.20 (107)	4.52 (115)	6 (152)	0.70	(0.32)
5	SW	50B-SW-27	50D-SW-27	5.16 (131)	5.54 (141)	6 (152)	0.70	(0.32)
5	MW	50B-MW-27	50D-MW-27	5.20 (132)	5.59 (142)	6 (152)	0.90	(0.41)
5	HW	50B-HW-27	50D-HW-27	5.24 (133)	5.63 (143)	6 (152)	1.00	(0.45)
6	SW	60B-SW-27	60D-SW-27	6.16 (156)	6.61 (168)	6 (152)	0.80	(0.36)
6	MW	60B-MW-27	60D-MW-27	6.20 (157)	6.66 (169)	6 (152)	1.10	(0.50)
6	HW	60B-HW-27	60D-HW-27	6.24 (158)	6.69 (170)	6 (152)	1.20	(0.55)



REDUCING ADAPTER

This adapter is used for transition between different diameters of fiberglass conduit.

Nominal Size		IPS Item No.		D1	D2	L	Weight	
		Belowground	Aboveground				lbs	kg
¾ SW	- ½ SW	07A-SW-25-05A	07C-SW-25-05C	0.87 (22)	1.06 (27)	4 (101)	0.30	(0.14)
1 SW	- ½ SW	10A-SW-25-05A	10C-SW-25-05C	0.87 (22)	1.32 (34)	4 (101)	0.40	(0.18)
1 SW	- ¾ SW	10A-SW-25-07A	10C-SW-25-07C	1.06 (27)	1.32 (34)	4 (101)	0.35	(0.16)
1¼ SW	- ¾ SW	12A-SW-25-07A	12C-SW-25-07C	1.06 (27)	1.67 (42)	4 (101)	0.45	(0.20)
1¼ SW	- 1 SW	12A-SW-25-10A	12C-SW-25-10C	1.32 (34)	1.67 (42)	4 (101)	0.40	(0.18)
1½ SW	- ¾ SW	15A-SW-25-07A	15C-SW-25-07C	1.06 (27)	1.91 (48)	4 (101)	0.38	(0.17)
1½ SW	- 1 SW	15A-SW-25-10A	15C-SW-25-10C	1.32 (34)	1.91 (48)	4 (101)	0.40	(0.18)
1½ SW	- 1¼ SW	15A-SW-25-12A	15C-SW-25-12C	1.67 (42)	1.91 (48)	6 (152)	0.37	(0.17)
2 SW	- ¾ SW	20A-SW-25-07A	20C-SW-25-07C	1.06 (27)	2.40 (61)	6 (152)	0.60	(0.27)
2 SW	- 1 SW	20A-SW-25-10A	20C-SW-25-10C	1.32 (34)	2.40 (61)	6 (152)	0.55	(0.25)
2 SW	- 1¼ SW	20A-SW-25-12A	20C-SW-25-12C	1.67 (42)	2.40 (61)	6 (152)	0.50	(0.23)
2 SW	- 1½ SW	20A-SW-25-15A	20C-SW-25-15C	1.91 (48)	2.40 (61)	6 (152)	0.47	(0.21)
3 SW	- 2 SW	30A-SW-25-20A	30C-SW-25-20C	2.40 (61)	3.52 (89)	6 (152)	0.65	(0.32)
4 SW	- 2 SW	40A-SW-25-20A	40C-SW-25-20C	2.40 (61)	4.47 (113)	6 (152)	0.80	(0.36)
4 SW	- 3 SW	40A-SW-25-30A	40C-SW-25-30C	3.52 (89)	4.47 (113)	6 (152)	0.90	(0.41)
5 SW	- 3 SW	50A-SW-25-30A	50C-SW-25-30C	3.52 (89)	5.59 (142)	6 (152)	1.30	(0.59)
5 SW	- 4 SW	50A-SW-25-40A	50C-SW-25-40C	4.47 (114)	5.59 (142)	6 (152)	0.85	(0.39)
6 SW	- 4 SW	60A-SW-25-40A	60C-SW-25-40C	4.47 (114)	6.61 (166)	6 (152)	1.70	(0.77)
6 MW	- 5 SW	60A-MW-25-50A	60C-MW-25-50C	5.59 (142)	6.61 (166)	6 (152)	1.90	(0.86)

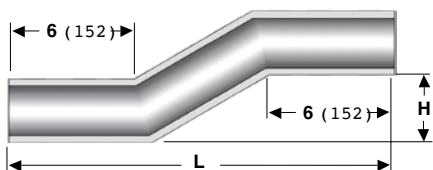
Note: These are just examples of some reducing adapters. Contact Champion Fiberglass directly for other reducers.

OFFSET BEND

When manufacturing offset bends, the vertical offset dimension, H, and the horizontal offset dimension, L, must be provided.

All offset bends are supplied with 6" (152mm) straight ends. (Item numbers for offset bends end with the suffix - 47.)

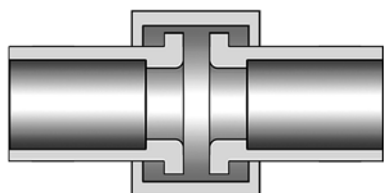
Contact your local sales representative or Champion Fiberglass for additional information.

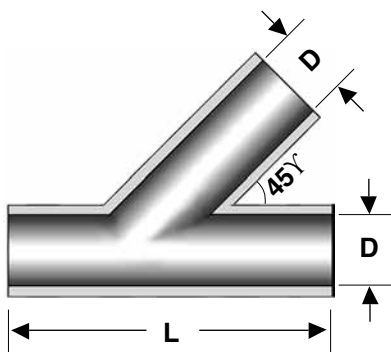


WOBBLE COUPLING

Wobble couplings are used for minor vertical and horizontal offsets for above ground installations. (Item numbers for wobble couplings end with the suffix - 48.)

For additional information regarding dimensions, etc., please contact your local sales representative or Champion Fiberglass directly.



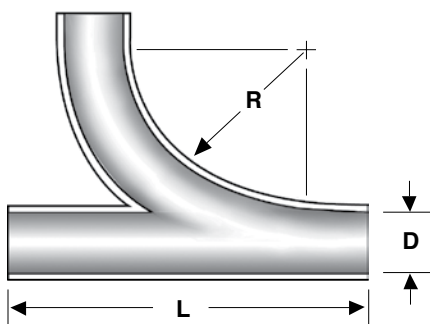


Y - FITTING

Special fitting not sold in US.

Nominal Size	Type	IPS Item No.		D	L	Weight	
		Belowground	Aboveground			lbs	kg
¾	SW	07A-SW-45	07C-SW-45	1.06 (27)	15 (381)	0.54 (0.25)	
1	SW	10A-SW-45	10C-SW-45	1.32 (34)	15 (381)	0.60 (0.27)	
1¼	SW	12A-SW-45	12C-SW-45	1.67 (42)	15 (381)	0.70 (0.32)	
1½	SW	15A-SW-45	15C-SW-45	1.91 (49)	15 (381)	0.76 (0.35)	
2	SW	20A-SW-45	20C-SW-45	2.40 (61)	18 (457)	1.06 (0.48)	
3	SW	30A-SW-45	30C-SW-45	3.52 (89)	22 (559)	1.91 (0.87)	
4	SW	40A-SW-45	40C-SW-45	4.47 (114)	26 (661)	2.90 (1.32)	
4	HW	40A-HW-45	40C-HW-45	4.52 (115)	26 (661)	3.60 (1.63)	
5	SW	50A-SW-45	50C-SW-45	5.54 (141)	30 (762)	4.20 (1.91)	
5	MW	50A-MW-45	50C-MW-45	5.59 (142)	30 (762)	5.50 (2.50)	
5	HW	50A-HW-45	50C-HW-45	5.63 (143)	30 (762)	6.40 (2.91)	
6	SW	60A-SW-45	60C-SW-45	6.61 (168)	36 (915)	6.00 (2.72)	
6	MW	60A-MW-45	60C-MW-45	6.66 (169)	36 (915)	7.70 (3.50)	
6	HW	60A-HW-45	60C-HW-45	6.69 (170)	36 (915)	8.10 (3.68)	

Nominal Size	Type	ID Item No.		D	L	Weight	
		Belowground	Aboveground			lbs	kg
2	SW	20B-SW-45	20D-SW-45	2.16 (55)	24 (609)	1.01 (0.46)	
2½	SW	25B-SW-45	25C-SW-45	2.66 (68)	24 (609)	1.20 (0.55)	
3	SW	30B-SW-45	30D-SW-45	3.16 (80)	36 (914)	1.72 (0.78)	
3½	SW	35B-SW-45	35D-SW-45	3.66 (93)	36 (914)	2.10 (0.95)	
4	SW	40B-SW-45	40D-SW-45	4.16 (106)	36 (914)	2.70 (1.23)	
4	HW	40B-HW-45	40D-HW-45	4.20 (107)	36 (914)	3.40 (1.54)	
4½	SW	45B-SW-45	45D-SW-45	4.66 (118)	36 (914)	3.30 (1.50)	
4½	HW	45B-HW-45	45D-HW-45	4.70 (119)	36 (914)	4.10 (1.86)	
5	SW	50B-SW-45	50D-SW-45	5.16 (131)	48 (1,219)	3.90 (1.77)	
5	MW	50B-MW-45	50D-MW-45	5.20 (132)	48 (1,219)	5.00 (2.27)	
5	HW	50B-HW-45	50D-HW-45	5.24 (133)	48 (1,219)	5.90 (2.70)	
6	SW	60B-SW-45	60D-SW-45	6.16 (156)	60 (1,524)	5.60 (2.54)	
6	MW	60B-MW-45	60D-MW-45	6.20 (157)	60 (1,524)	7.20 (3.27)	
6	HW	60B-HW-45	60D-HW-45	6.24 (158)	60 (1,524)	8.50 (3.86)	

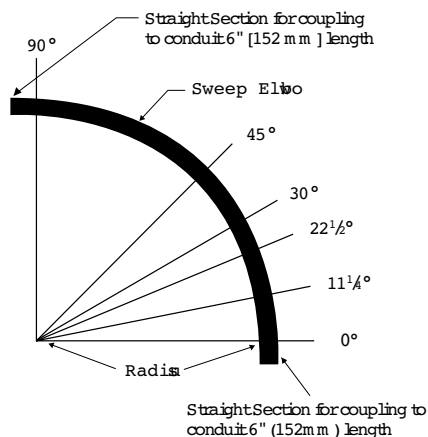


Y - ELBOW

Special fitting not sold in US.

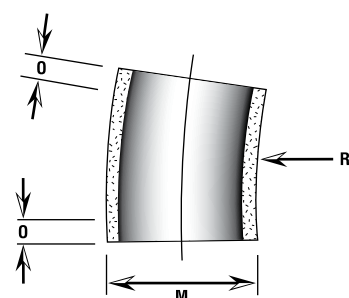
Nominal Size	Type	IPS Item No.		D	R	L	Weight	
		Belowground	Aboveground				lbs	kg
¾	SW	07A-SW-46-P	07C-SW-46-P	1.06 (27)	24 (609)	12 (305)	0.68 (0.31)	
1	SW	10A-SW-46-P	10C-SW-46-P	1.32 (34)	24 (609)	12 (305)	0.75 (0.34)	
1¼	SW	12A-SW-46-P	12C-SW-46-P	1.67 (42)	24 (609)	12 (305)	0.88 (0.40)	
1½	SW	15A-SW-46-P	15C-SW-46-P	1.91 (49)	24 (609)	12 (305)	0.95 (0.43)	
2	SW	20A-SW-46-P	20C-SW-46-P	2.40 (61)	24 (609)	24 (609)	1.30 (0.59)	
3	SW	30A-SW-46-P	30C-SW-46-P	3.52 (89)	36 (914)	36 (914)	2.40 (1.09)	
4	SW	40A-SW-46-P	40C-SW-46-P	4.47 (114)	36 (914)	36 (914)	3.60 (1.63)	
4	HW	40A-HW-46-P	40C-HW-46-P	4.52 (115)	36 (914)	36 (914)	4.50 (2.04)	
5	SW	50A-SW-46-P	50C-SW-46-P	5.54 (141)	48 (1,219)	48 (1,219)	5.20 (2.36)	
5	MW	50A-MW-46-P	50C-MW-46-P	5.59 (142)	48 (1,219)	48 (1,219)	6.90 (3.13)	
5	HW	50A-HW-46-P	50C-HW-46-P	5.63 (143)	48 (1,219)	48 (1,219)	8.00 (3.63)	
6	SW	60A-SW-46-P	60C-SW-46-P	6.61 (168)	60 (1,524)	60 (1,524)	7.50 (3.41)	
6	MW	60A-MW-46-P	60C-MW-46-P	6.66 (169)	60 (1,524)	60 (1,524)	9.60 (4.36)	
6	HW	60A-HW-46-P	60C-HW-46-P	6.69 (170)	60 (1,524)	60 (1,524)	10.10 (4.58)	

Nominal Size	Type	ID Item No.		D	R	L	Weight	
		Belowground	Aboveground				lbs	kg
2	SW	20B-SW-46-P	20D-SW-46-P	2.16 (55)	24 (609)	24 (609)	1.25 (0.57)	
2½	SW	25B-SW-46-P	25D-SW-46-P	2.66 (68)	24 (609)	24 (609)	1.50 (0.68)	
3	SW	30B-SW-46-P	30D-SW-46-P	3.16 (80)	36 (914)	36 (914)	2.10 (0.95)	
3½	SW	35B-SW-46-P	35D-SW-46-P	3.66 (93)	36 (914)	36 (914)	2.60 (1.18)	
4	SW	40B-SW-46-P	40D-SW-46-P	4.16 (106)	36 (914)	36 (914)	3.40 (1.54)	
4	HW	40B-HW-46-P	40D-HW-46-P	4.20 (107)	36 (914)	36 (914)	4.20 (1.91)	
4½	SW	45B-SW-46-P	45D-SW-46-P	4.66 (118)	36 (914)	36 (914)	4.10 (1.86)	
4½	HW	45B-HW-46-P	45D-HW-46-P	4.70 (119)	36 (914)	36 (914)	5.10 (2.32)	
5	SW	50B-SW-46-P	50D-SW-46-P	5.16 (131)	48 (1,219)	48 (1,219)	4.90 (2.23)	
5	MW	50B-MW-46-P	50D-MW-46-P	5.20 (132)	48 (1,219)	48 (1,219)	6.20 (2.82)	
5	HW	50B-HW-46-P	50D-HW-46-P	5.24 (133)	48 (1,219)	48 (1,219)	7.40 (3.36)	
6	SW	60B-SW-46-P	60D-SW-46-P	6.16 (156)	60 (1,524)	60 (1,524)	7.00 (3.18)	
6	MW	60B-MW-46-P	60D-MW-46-P	6.20 (157)	60 (1,524)	60 (1,524)	9.00 (4.09)	
6	HW	60B-HW-46-P	60D-HW-46-P	6.24 (158)	60 (1,524)	60 (1,524)	10.60 (4.81)	

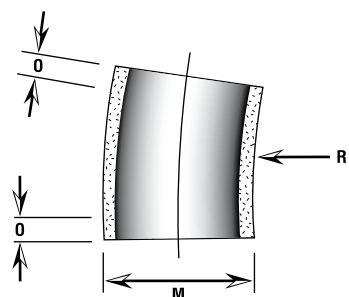


ELBOWS

Radii listed are available and larger radii can be supplied. Contact your local representative or Champion Fiberglass for additional information. All elbows are supplied with plain ends. For installations with other conduit systems, we offer an assortment of transition and termination fittings that can be installed on our elbows. Please see page 44 for a selection of elbows with PVC couplings.



11 1/4" X 12"



11 1/4" X 24"

Nominal Size	Type	IPS Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
3/4	SW	07A-SW-50-P	07C-SW-50-P	1.05 (27)	6 (152)	12 (305)	0.20	(0.09)
1	SW	10A-SW-50-P	10C-SW-50-P	1.32 (33)	6 (152)	12 (305)	0.22	(0.10)
1 1/4	SW	12A-SW-50-P	12C-SW-50-P	1.66 (42)	6 (152)	12 (305)	0.27	(0.12)
1 1/2	SW	15A-SW-50-P	15C-SW-50-P	1.90 (48)	6 (152)	12 (305)	0.39	(0.18)
2	SW	20A-SW-50-P	20C-SW-50-P	2.37 (60)	6 (152)	12 (305)	0.44	(0.20)
2 1/2	SW	25A-SW-50-P	25C-SW-50-P	2.88 (73)	6 (152)	12 (305)	0.54	(0.25)

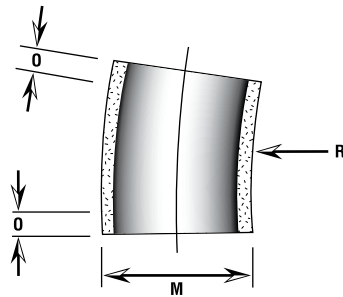
Nominal Size	Type	ID Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	SW	20B-SW-50-P	20D-SW-50-P	2.14 (54)	6 (152)	12 (305)	0.40	(0.18)
2 1/2	SW	25B-SW-50-P	25D-SW-50-P	2.64 (67)	6 (152)	12 (305)	0.49	(0.22)

Nominal Size	Type	Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	XW	20B-XW-50-P	20D-XW-50-P	2.50 (63)	6 (152)	12 (305)	1.47	(0.67)
2 1/2	XW	25B-XW-50-P	25D-XW-50-P	3.00 (76)	6 (152)	12 (305)	1.80	(0.82)
3	XW	30B-XW-50-P	30D-XW-50-P	4.00 (102)	6 (152)	12 (305)	2.45	(1.11)

Nominal Size	Type	IPS Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
3/4	SW	07A-SW-51-P	07C-SW-51-P	1.05 (27)	6 (152)	24 (610)	0.24	(0.11)
1	SW	10A-SW-51-P	10C-SW-51-P	1.32 (33)	6 (152)	24 (610)	0.27	(0.12)
1 1/4	SW	12A-SW-51-P	12C-SW-51-P	1.66 (42)	6 (152)	24 (610)	0.33	(0.15)
1 1/2	SW	15A-SW-51-P	15C-SW-51-P	1.90 (48)	6 (152)	24 (610)	0.47	(0.21)
2	SW	20A-SW-51-P	20C-SW-51-P	2.37 (60)	6 (152)	24 (610)	0.54	(0.25)
2 1/2	SW	25A-SW-51-P	25C-SW-51-P	2.88 (73)	6 (152)	24 (610)	0.65	(0.30)
3	SW	30A-SW-51-P	30C-SW-51-P	3.50 (89)	6 (152)	24 (610)	0.85	(0.38)
4	SW	40A-SW-51-P	40C-SW-51-P	4.46 (113)	6 (152)	24 (610)	1.02	(0.46)
4	HW	40A-HW-51-P	40C-HW-51-P	4.51 (114)	6 (152)	24 (610)	1.37	(0.61)

Nominal Size	Type	ID Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	SW	20B-SW-51-P	20D-SW-51-P	2.14 (54)	6 (152)	24 (610)	0.48	(0.22)
2 1/2	SW	25B-SW-51-P	25D-SW-51-P	2.64 (67)	6 (152)	24 (610)	0.60	(0.27)
3	SW	30B-SW-51-P	30D-SW-51-P	3.14 (80)	6 (152)	24 (610)	0.68	(0.25)
3 1/2	SW	35B-SW-51-P	35D-SW-51-P	3.64 (92)	6 (152)	24 (610)	0.86	(0.39)
4	SW	40B-SW-51-P	40D-SW-51-P	4.14 (105)	6 (152)	24 (610)	0.98	(0.45)
4	HW	40B-HW-51-P	40D-HW-51-P	4.19 (106)	6 (152)	24 (610)	1.48	(0.67)

Nominal Size	Type	Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	XW	20B-XW-51-P	20D-XW-51-P	2.50 (63)	6 (152)	24 (610)	1.79	(0.81)
2 1/2	XW	25B-XW-51-P	25D-XW-51-P	3.00 (76)	6 (152)	24 (610)	2.19	(0.99)
3	XW	30B-XW-51-P	30D-XW-51-P	3.50 (89)	6 (152)	24 (610)	2.58	(1.17)
3 1/2	XW	35B-XW-51-P	35D-XW-51-P	4.00 (102)	6 (152)	24 (610)	2.98	(1.35)
4	XW	40B-XW-51-P	40D-XW-51-P	4.50 (114)	6 (152)	24 (610)	3.38	(1.53)

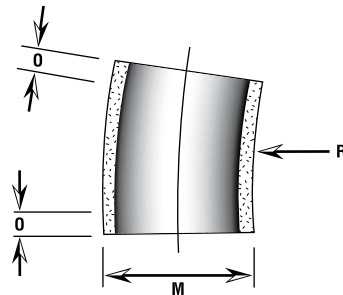


11¼° X 36"

Nominal Size	Type	IPS Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
¾	SW	07A-SW-52-P	07C-SW-52-P	1.05 (27)	6 (152)	36 (914)	0.27 (0.12)	
1	SW	10A-SW-52-P	10C-SW-52-P	1.32 (33)	6 (152)	36 (914)	0.30 (0.14)	
1¼	SW	12A-SW-52-P	12C-SW-52-P	1.66 (42)	6 (152)	36 (914)	0.36 (0.16)	
1½	SW	15A-SW-52-P	15C-SW-52-P	1.90 (48)	6 (152)	36 (914)	0.52 (0.24)	
2	SW	20A-SW-52-P	20C-SW-52-P	2.37 (60)	6 (152)	36 (914)	0.60 (0.27)	
2½	SW	25A-SW-52-P	25C-SW-52-P	2.88 (73)	6 (152)	36 (914)	0.73 (0.33)	
3	SW	30A-SW-52-P	30C-SW-52-P	3.50 (89)	6 (152)	36 (914)	0.95 (0.43)	
4	SW	40A-SW-52-P	40C-SW-52-P	4.46 (113)	6 (152)	36 (914)	1.14 (0.52)	
4	HW	40A-HW-52-P	40C-HW-52-P	4.51 (114)	6 (152)	36 (914)	1.54 (0.70)	
5	SW	50A-SW-52-P	50C-SW-52-P	5.52 (140)	6 (152)	36 (914)	1.43 (0.65)	
5	MW	50A-MW-52-P	50C-MW-52-P	5.57 (141)	6 (152)	36 (914)	1.90 (0.86)	
5	HW	50A-HW-52-P	50C-HW-52-P	5.60 (152)	6 (152)	36 (914)	2.10 (0.95)	
6	SW	60A-SW-52-P	60C-SW-52-P	6.58 (167)	6 (152)	36 (914)	1.59 (0.72)	
6	MW	60A-MW-52-P	60C-MW-52-P	6.63 (168)	6 (152)	36 (914)	2.25 (1.02)	
6	HW	60A-HW-52-P	60C-HW-52-P	6.66 (169)	6 (152)	36 (914)	2.59 (1.17)	

Nominal Size	Type	ID Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	SW	20B-SW-52-P	20D-SW-52-P	2.14 (54)	6 (152)	36 (914)	0.54 (0.25)	
2½	SW	25B-SW-52-P	25D-SW-52-P	2.64 (67)	6 (152)	36 (914)	0.67 (0.30)	
3	SW	30B-SW-52-P	30D-SW-52-P	3.14 (80)	6 (152)	36 (914)	0.76 (0.35)	
3½	SW	35B-SW-52-P	35D-SW-52-P	3.64 (92)	6 (152)	36 (914)	0.95 (0.43)	
4	SW	40B-SW-52-P	40D-SW-52-P	4.14 (105)	6 (152)	36 (914)	1.09 (0.50)	
4	HW	40B-HW-52-P	40D-HW-52-P	4.19 (106)	6 (152)	36 (914)	1.46 (0.66)	
4½	SW	45B-SW-52-P	45D-SW-52-P	4.64 (117)	6 (152)	36 (914)	1.19 (0.54)	
4½	HW	45B-HW-52-P	45D-HW-52-P	4.69 (118)	6 (152)	36 (914)	1.65 (0.75)	
5	SW	50B-SW-52-P	50D-SW-52-P	5.14 (131)	6 (152)	36 (914)	1.34 (0.61)	
5	MW	50B-MW-52-P	50D-MW-52-P	5.19 (132)	6 (152)	36 (914)	1.78 (0.81)	
5	HW	50B-HW-52-P	50D-HW-52-P	5.22 (132)	6 (152)	36 (914)	2.05 (0.93)	
6	SW	60B-SW-52-P	60D-SW-52-P	6.14 (156)	6 (152)	36 (914)	1.61 (0.73)	
6	MW	60B-MW-52-P	60D-MW-52-P	6.19 (157)	6 (152)	36 (914)	2.13 (0.97)	
6	HW	60B-HW-52-P	60D-HW-52-P	6.22 (158)	6 (152)	36 (914)	2.50 (1.00)	

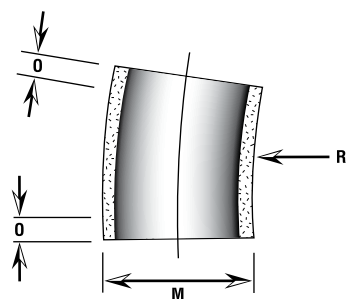
Nominal Size	Type	IPS Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	XW	20B-XW-52-P	20D-XW-52-P	2.50 (64)	6 (152)	36 (914)	2.00 (0.91)	
2½	XW	25B-XW-52-P	25D-XW-52-P	3.00 (76)	6 (152)	36 (914)	2.44 (1.11)	
3	XW	30B-XW-52-P	30D-XW-52-P	3.50 (89)	6 (152)	36 (914)	2.88 (1.31)	
3½	XW	35B-XW-52-P	35D-XW-52-P	4.00 (102)	6 (152)	36 (914)	3.33 (1.51)	
4	XW	40B-XW-52-P	40D-XW-52-P	4.50 (114)	6 (152)	36 (914)	3.77 (3.77)	
5	XW	50B-XW-52-P	50D-XW-52-P	5.50 (140)	6 (152)	36 (914)	4.64 (2.11)	
6	XW	60B-XW-52-P	60D-XW-52-P	6.50 (165)	6 (152)	36 (914)	5.53 (2.51)	



11¼° X 48"

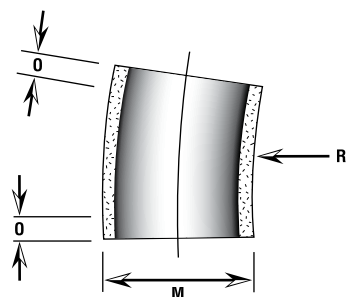
Nominal Size	Type	IPS Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
¾	SW	07A-SW-53-P	07C-SW-53-P	1.05 (27)	6 (152)	48 (1,219)	0.31 (0.14)	
1	SW	10A-SW-53-P	10C-SW-53-P	1.32 (33)	6 (152)	48 (1,219)	0.35 (0.16)	
1¼	SW	12A-SW-53-P	12C-SW-53-P	1.66 (42)	6 (152)	48 (1,219)	0.42 (0.19)	
1½	SW	15A-SW-53-P	15C-SW-53-P	1.90 (48)	6 (152)	48 (1,219)	0.61 (0.28)	
2	SW	20A-SW-53-P	20C-SW-53-P	2.37 (60)	6 (152)	48 (1,219)	0.70 (0.32)	
2½	SW	25A-SW-53-P	25C-SW-53-P	2.88 (73)	6 (152)	48 (1,219)	0.84 (0.38)	
3	SW	30A-SW-53-P	30C-SW-53-P	3.50 (89)	6 (152)	48 (1,219)	1.10 (0.50)	
4	SW	40A-SW-53-P	40C-SW-53-P	4.46 (113)	6 (152)	48 (1,219)	1.32 (0.60)	
4	HW	40A-HW-53-P	40C-HW-53-P	4.51 (114)	6 (152)	48 (1,219)	1.78 (0.81)	
5	SW	50A-SW-53-P	50C-SW-53-P	5.52 (140)	6 (152)	48 (1,219)	1.65 (0.75)	
5	MW	50A-MW-53-P	50C-MW-53-P	5.57 (141)	6 (152)	48 (1,219)	2.20 (1.00)	
5	HW	50A-HW-53-P	50C-HW-53-P	5.60 (142)	6 (152)	48 (1,219)	2.38 (1.08)	
6	SW	60A-SW-53-P	60C-SW-53-P	6.58 (167)	6 (152)	60 (1,524)	1.83 (0.83)	
6	MW	60A-MW-53-P	60C-MW-53-P	6.63 (168)	6 (152)	60 (1,524)	2.60 (1.18)	
6	HW	60A-HW-53-P	60C-HW-53-P	6.66 (169)	6 (152)	60 (1,524)	2.98 (1.35)	

Nominal Size	Type	ID Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	SW	20B-SW-53-P	20D-SW-53-P	2.14 (54)	6 (152)	48 (1,219)	0.62 (0.36)	
2½	SW	25B-SW-53-P	25D-SW-53-P	2.64 (67)	6 (152)	48 (1,219)	0.77 (0.45)	
3	SW	30B-SW-53-P	30D-SW-53-P	3.14 (80)	6 (152)	48 (1,219)	0.88 (0.55)	
3½	SW	35B-SW-53-P	35D-SW-53-P	3.64 (92)	6 (152)	48 (1,219)	1.10 (0.55)	
4	SW	40B-SW-53-P	40D-SW-53-P	4.14 (105)	6 (152)	48 (1,219)	1.27 (0.64)	
4	HW	40B-HW-53-P	40D-HW-53-P	4.19 (106)	6 (152)	48 (1,219)	1.69 (0.86)	
4½	SW	45B-SW-53-P	45D-SW-53-P	4.64 (117)	6 (152)	48 (1,219)	1.38 (0.73)	
4½	HW	45B-HW-53-P	45D-HW-53-P	4.69 (118)	6 (152)	48 (1,219)	1.91 (0.95)	
5	SW	50B-SW-53-P	50D-SW-53-P	5.14 (131)	6 (152)	48 (1,219)	1.56 (0.86)	
5	MW	50B-MW-53-P	50D-MW-53-P	5.19 (132)	6 (152)	48 (1,219)	2.07 (1.14)	
5	HW	50B-HW-53-P	50D-HW-53-P	5.22 (133)	6 (152)	48 (1,219)	2.42 (1.27)	
6	SW	60B-SW-53-P	60D-SW-53-P	6.14 (156)	6 (152)	48 (1,219)	2.31 (1.05)	
6	MW	60B-MW-53-P	60D-MW-53-P	6.19 (157)	6 (152)	48 (1,219)	3.34 (1.52)	
6	HW	60B-HW-53-P	60D-HW-53-P	6.22 (158)	6 (152)	48 (1,219)	4.36 (1.98)	



11 1/4° X 48"

Nominal Size	Type	Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	XW	20B-XW-53-P	20D-XW-53-P	2.50 (64)	6 (152)	48 (1,219)	2.29	(1.04)
2 1/2	XW	25B-XW-53-P	25D-XW-53-P	3.00 (76)	6 (152)	48 (1,219)	2.83	(1.29)
3	XW	30B-XW-53-P	30D-XW-53-P	3.50 (89)	6 (152)	48 (1,219)	3.34	(1.51)
3 1/2	XW	35B-XW-53-P	35D-XW-53-P	4.00 (102)	6 (152)	48 (1,219)	3.86	(1.75)
4	XW	40B-XW-53-P	40D-XW-53-P	4.50 (114)	6 (152)	48 (1,219)	4.38	(1.99)
5	XW	50B-XW-53-P	50D-XW-53-P	5.50 (140)	6 (152)	48 (1,219)	5.41	(2.46)
6	XW	60B-XW-53-P	60D-XW-53-P	6.50 (165)	6 (152)	48 (1,219)	6.44	(2.92)

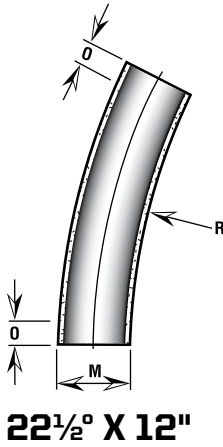


11 1/4° X 60"

Nominal Size	Type	IPS Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
3/4	SW	07A-SW-54-P	07C-SW-54-P	1.05 (27)	6 (152)	60 (1,524)	0.34	(0.15)
1	SW	10A-SW-54-P	10C-SW-54-P	1.32 (33)	6 (152)	60 (1,524)	0.38	(0.17)
1 1/4	SW	12A-SW-54-P	12C-SW-54-P	1.66 (42)	6 (152)	60 (1,524)	0.46	(0.21)
1 1/2	SW	15A-SW-54-P	15C-SW-54-P	1.90 (48)	6 (152)	60 (1,524)	0.66	(0.30)
2	SW	20A-SW-54-P	20C-SW-54-P	2.37 (60)	6 (152)	60 (1,524)	0.76	(0.35)
2 1/2	SW	25A-SW-54-P	25C-SW-54-P	2.88 (73)	6 (152)	60 (1,524)	0.92	(0.42)
3	SW	30A-SW-54-P	30C-SW-54-P	3.50 (89)	6 (152)	60 (1,524)	1.20	(0.55)
4	SW	40A-SW-54-P	40C-SW-54-P	4.46 (113)	6 (152)	60 (1,524)	1.44	(0.65)
4	HW	40A-HW-54-P	40C-HW-54-P	4.51 (115)	6 (152)	60 (1,524)	1.94	(0.88)
5	SW	50A-SW-54-P	50C-SW-54-P	5.52 (140)	6 (152)	60 (1,524)	1.80	(0.82)
5	MW	50A-MW-54-P	50C-MW-54-P	5.57 (141)	6 (152)	60 (1,524)	2.40	(1.09)
5	HW	50A-HW-54-P	50C-HW-54-P	5.60 (142)	6 (152)	60 (1,524)	2.60	(1.18)
6	SW	60A-SW-54-P	60C-SW-54-P	6.58 (167)	6 (152)	60 (1,524)	2.00	(0.91)
6	MW	60A-MW-54-P	60C-MW-54-P	6.63 (168)	6 (152)	60 (1,524)	2.84	(1.29)
6	HW	60A-HW-54-P	60C-HW-54-P	6.66 (169)	6 (152)	60 (1,524)	3.26	(1.48)

Nominal Size	Type	ID Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	SW	20B-SW-54-P	20D-SW-54-P	2.14 (54)	6 (152)	60 (1,524)	0.68	(0.31)
2 1/2	SW	25B-SW-54-P	25D-SW-54-P	2.64 (67)	6 (152)	60 (1,524)	0.84	(0.38)
3	SW	30B-SW-54-P	30D-SW-54-P	3.14 (80)	6 (152)	60 (1,524)	0.96	(0.44)
3 1/2	SW	35B-SW-54-P	35D-SW-54-P	3.64 (92)	6 (152)	60 (1,524)	1.20	(0.55)
4	SW	40B-SW-54-P	40D-SW-54-P	4.14 (105)	6 (152)	60 (1,524)	1.38	(0.63)
4	HW	40B-HW-54-P	40D-HW-54-P	4.19 (106)	6 (152)	60 (1,524)	1.84	(0.83)
4 1/2	SW	45B-SW-54-P	45D-SW-54-P	4.64 (117)	6 (152)	60 (1,524)	1.50	(0.68)
4 1/2	HW	45B-HW-54-P	45D-HW-54-P	4.69 (118)	6 (152)	60 (1,524)	2.08	(0.94)
5	SW	50B-SW-54-P	50D-SW-54-P	5.14 (131)	6 (152)	60 (1,524)	1.70	(0.77)
5	MW	50B-MW-54-P	50D-MW-54-P	5.19 (132)	6 (152)	60 (1,524)	2.26	(1.03)
5	HW	50B-HW-54-P	50D-HW-54-P	5.22 (132)	6 (152)	60 (1,524)	2.64	(1.20)
6	SW	60B-SW-54-P	60D-SW-54-P	6.14 (156)	6 (152)	60 (1,524)	2.04	(0.93)
6	MW	60B-MW-54-P	60D-MW-54-P	6.19 (157)	6 (152)	60 (1,524)	2.70	(1.23)
6	HW	60B-HW-54-P	60D-HW-54-P	6.22 (158)	6 (152)	60 (1,524)	3.16	(1.44)

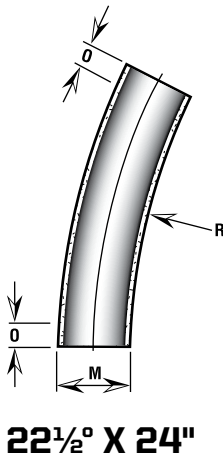
Nominal Size	Type	Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	XW	20B-XW-54-P	20D-XW-54-P	2.50 (65)	6 (152)	60 (1,524)	2.52	(1.14)
2 1/2	XW	25B-XW-54-P	25D-XW-54-P	3.00 (76)	6 (152)	60 (1,524)	3.08	(1.40)
3	XW	30B-XW-54-P	30D-XW-54-P	3.50 (89)	6 (152)	60 (1,524)	3.64	(1.65)
3 1/2	XW	35B-XW-54-P	35D-XW-54-P	4.00 (102)	6 (152)	60 (1,524)	4.20	(1.91)
4	XW	40B-XW-54-P	40D-XW-54-P	4.50 (114)	6 (152)	60 (1,524)	4.76	(2.16)
5	XW	50B-XW-54-P	50D-XW-54-P	5.50 (140)	6 (152)	60 (1,524)	5.88	(2.67)
6	XW	60B-XW-54-P	60D-XW-54-P	6.50 (165)	6 (152)	60 (1,524)	7.00	(3.18)



Nominal Size	Type	IPS Item No.		M	O-Tangent (min)	R-Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
3/4	SW	07A-SW-60-P	07C-SW-60-P	1.05 (27)	6 (152)	12 (305)	0.24	(0.11)
1	SW	10A-SW-60-P	10C-SW-60-P	1.32 (33)	6 (152)	12 (305)	0.27	(0.12)
1 1/4	SW	12A-SW-60-P	12C-SW-60-P	1.66 (42)	6 (152)	12 (305)	0.33	(0.15)
1 1/2	SW	15A-SW-60-P	15C-SW-60-P	1.90 (48)	6 (152)	12 (305)	0.47	(0.21)
2	SW	20A-SW-60-P	20C-SW-60-P	2.37 (60)	6 (152)	12 (305)	0.54	(0.25)
2 1/2	SW	25A-SW-60-P	25C-SW-60-P	2.88 (73)	6 (152)	12 (305)	0.65	(0.30)

Nominal Size	Type	ID Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	SW	20B-SW-60-P	20D-SW-60-P	2.14 (54)	6 (152)	12 (305)	0.48	(0.22)
2 1/2	SW	25B-SW-60-P	25D-SW-60-P	2.64 (67)	6 (152)	12 (305)	0.60	(0.27)

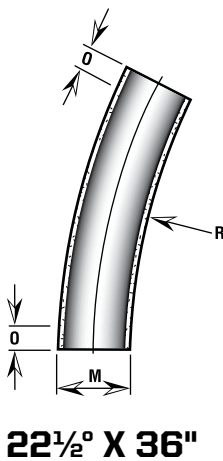
Nominal Size	Type	Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	XW	20B-XW-60-P	20D-XW-60-P	2.50 (63)	6 (152)	12 (305)	1.79	(0.81)
2 1/2	XW	25B-XW-60-P	25D-XW-60-P	3.00 (76)	6 (152)	12 (305)	2.19	(0.99)
3	XW	30B-XW-60-P	30D-XW-60-P	3.50 (89)	6 (152)	12 (305)	2.58	(1.17)
3 1/2	XW	35B-XW-60-P	35D-XW-60-P	4.00 (102)	6 (152)	12 (305)	2.98	(1.35)



Nominal Size	Type	IPS Item No.		M	O-Tangent (min)	R-Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
3/4	SW	07A-SW-61-P	07C-SW-61-P	1.05 (27)	6 (152)	24 (610)	0.30	(0.14)
1	SW	10A-SW-61-P	10C-SW-61-P	1.32 (33)	6 (152)	24 (610)	0.33	(0.15)
1 1/4	SW	12A-SW-61-P	12C-SW-61-P	1.66 (42)	6 (152)	24 (610)	0.40	(0.18)
1 1/2	SW	15A-SW-61-P	15C-SW-61-P	1.90 (48)	6 (152)	24 (610)	0.58	(0.26)
2	SW	20A-SW-61-P	20C-SW-61-P	2.37 (60)	6 (152)	24 (610)	0.67	(0.30)
2 1/2	SW	25A-SW-61-P	25C-SW-61-P	2.88 (73)	6 (152)	24 (610)	0.81	(0.37)
3	SW	30A-SW-61-P	30C-SW-61-P	3.50 (89)	6 (152)	24 (610)	1.06	(0.48)
4	SW	40A-SW-61-P	40C-SW-61-P	4.46 (113)	6 (152)	24 (610)	1.27	(0.58)
4	HW	40A-HW-61-P	40C-HW-61-P	4.51 (114)	6 (152)	24 (610)	1.71	(0.78)

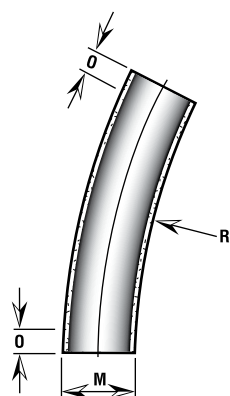
Nominal Size	Type	ID Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	SW	20B-SW-61-P	20D-SW-61-P	2.14 (54)	6 (152)	24 (610)	0.60	(0.27)
2 1/2	SW	25B-SW-61-P	25D-SW-61-P	2.64 (67)	6 (152)	24 (610)	0.74	(0.34)
3	SW	30B-SW-61-P	30D-SW-61-P	3.14 (80)	6 (152)	24 (610)	0.85	(0.38)
3 1/2	SW	35B-SW-61-P	35D-SW-61-P	3.64 (92)	6 (152)	24 (610)	1.06	(0.48)
4	SW	40B-SW-61-P	40D-SW-61-P	4.14 (105)	6 (152)	24 (610)	1.22	(0.55)
4	HW	40B-HW-61-P	40D-HW-61-P	4.19 (106)	6 (152)	24 (610)	1.62	(0.74)

Nominal Size	Type	Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	XW	20B-XW-61-P	20D-XW-61-P	2.50 (65)	6 (152)	24 (610)	2.21	(1.00)
2 1/2	XW	25B-XW-61-P	25D-XW-61-P	3.00 (76)	6 (152)	24 (610)	2.70	(1.23)
3	XW	30B-XW-61-P	30D-XW-61-P	3.50 (89)	6 (152)	24 (610)	3.32	(1.51)
3 1/2	XW	35B-XW-61-P	35D-XW-61-P	4.00 (102)	6 (152)	24 (610)	3.83	(1.74)
4	XW	40B-XW-61-P	40D-XW-61-P	4.50 (114)	6 (152)	24 (610)	4.34	(1.97)



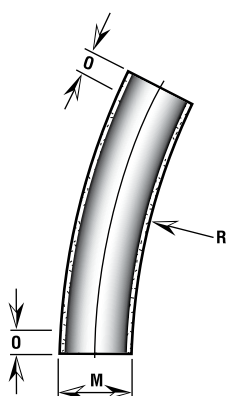
Nominal Size	Type	IPS Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
3/4	SW	07A-SW-62-P	07C-SW-62-P	1.05 (27)	6 (152)	36 (914)	0.35	(0.16)
1	SW	10A-SW-62-P	10C-SW-62-P	1.32 (33)	6 (152)	36 (914)	0.40	(0.18)
1 1/4	SW	12A-SW-62-P	12C-SW-62-P	1.66 (42)	6 (152)	36 (914)	0.48	(0.22)
1 1/2	SW	15A-SW-62-P	15C-SW-62-P	1.90 (48)	6 (152)	36 (914)	0.69	(0.31)
2	SW	20A-SW-62-P	20C-SW-62-P	2.37 (60)	6 (152)	36 (914)	0.79	(0.36)
2 1/2	SW	25A-SW-62-P	25C-SW-62-P	2.88 (73)	6 (152)	36 (914)	0.96	(0.44)
3	SW	30A-SW-62-P	30C-SW-62-P	3.50 (89)	6 (152)	36 (914)	1.25	(0.57)
4	SW	40A-SW-62-P	40C-SW-62-P	4.46 (113)	6 (152)	36 (914)	1.50	(0.68)
4	HW	40A-HW-62-P	40C-HW-62-P	4.51 (114)	6 (152)	36 (914)	2.02	(0.91)
5	SW	50A-SW-62-P	50C-SW-62-P	5.52 (140)	6 (152)	36 (914)	1.88	(0.85)
5	MW	50A-MW-62-P	50C-MW-62-P	5.57 (141)	6 (152)	36 (914)	2.50	(1.14)
5	HW	50A-HW-62-P	50C-HW-62-P	5.60 (152)	6 (152)	36 (914)	2.75	(1.25)
6	SW	60A-SW-62-P	60C-SW-62-P	6.58 (167)	6 (152)	36 (914)	2.08	(0.94)
6	MW	60A-MW-62-P	60C-MW-62-P	6.63 (168)	6 (152)	36 (914)	2.96	(1.34)
6	HW	60A-HW-62-P	60C-HW-62-P	6.66 (169)	6 (152)	36 (914)	3.40	(1.54)

Nominal Size	Type	ID Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	SW	20B-SW-62-P	20D-SW-62-P	2.14 (54)	6 (152)	36 (914)	0.71	(0.32)
2 1/2	SW	25B-SW-62-P	25D-SW-62-P	2.64 (67)	6 (152)	36 (914)	0.88	(0.40)
3	SW	30B-SW-62-P	30D-SW-62-P	3.14 (80)	6 (152)	36 (914)	1.00	(0.45)
3 1/2	SW	35B-SW-62-P	35D-SW-62-P	3.64 (92)	6 (152)	36 (914)	1.25	(0.57)
4	SW	40B-SW-62-P	40D-SW-62-P	4.14 (105)	6 (152)	36 (914)	1.44	(0.65)
4	HW	40B-HW-62-P	40D-HW-62-P	4.19 (106)	6 (152)	36 (914)	1.92	(0.87)
4 1/2	SW	45B-SW-62-P	45D-SW-62-P	4.64 (117)	6 (152)	36 (914)	1.56	(0.71)
4 1/2	HW	45B-HW-62-P	45D-HW-62-P	4.69 (118)	6 (152)	36 (914)	2.17	(0.99)
5	SW	50B-SW-62-P	50D-SW-62-P	5.14 (131)	6 (152)	36 (914)	1.77	(0.80)
5	MW	50B-MW-62-P	50D-MW-62-P	5.19 (132)	6 (152)	36 (914)	2.36	(1.07)
5	HW	50B-HW-62-P	50D-HW-62-P	5.22 (132)	6 (152)	36 (914)	2.71	(1.23)
6	SW	60B-SW-62-P	60D-SW-62-P	6.14 (156)	6 (152)	36 (914)	2.13	(0.97)
6	MW	60B-MW-62-P	60D-MW-62-P	6.19 (157)	6 (152)	36 (914)	2.82	(1.28)
6	HW	60B-HW-62-P	60D-HW-62-P	6.22 (158)	6 (152)	36 (914)	3.30	(1.50)



22 1/2° X 36"

Nominal Size Type	Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
	Belowground	Aboveground				lbs	kg
2 XW	20B-XW-62-P	20D-XW-62-P	2.50 (65)	6 (152)	36 (914)	2.63	(1.19)
2 1/2 XW	25B-XW-62-P	25D-XW-62-P	3.00 (76)	6 (152)	36 (914)	3.21	(1.46)
3 XW	30B-XW-62-P	30D-XW-62-P	3.50 (89)	6 (152)	36 (914)	3.79	(1.72)
3 1/2 XW	35B-XW-62-P	35D-XW-62-P	4.00 (102)	6 (152)	36 (914)	4.38	(1.99)
4 XW	40B-XW-62-P	40D-XW-62-P	4.50 (114)	6 (152)	36 (914)	4.96	(2.25)
5 XW	50B-XW-62-P	50D-XW-62-P	5.50 (140)	6 (152)	36 (914)	6.13	(2.78)
6 XW	60B-XW-62-P	60D-XW-62-P	6.50 (165)	6 (152)	36 (914)	7.29	(3.31)

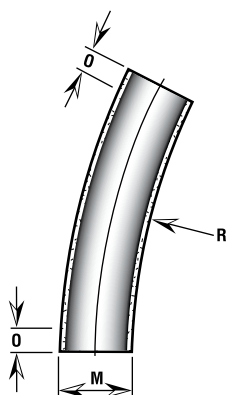


22 1/2° X 48"

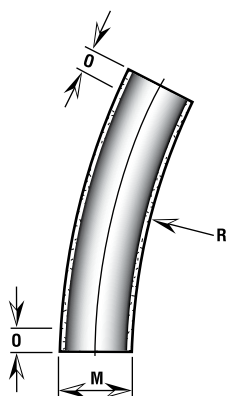
Nominal Size Type	IPS Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
	Belowground	Aboveground				lbs	kg
3/4 SW	07A-SW-63-P	07C-SW-63-P	1.05 (27)	6 (152)	48 (1,219)	0.43	(0.20)
1 SW	10A-SW-63-P	10C-SW-63-P	1.32 (33)	6 (152)	48 (1,219)	0.48	(0.22)
1 1/4 SW	12A-SW-63-P	12C-SW-63-P	1.66 (42)	6 (152)	48 (1,219)	0.58	(0.26)
1 1/2 SW	15A-SW-63-P	15C-SW-63-P	1.90 (48)	6 (152)	48 (1,219)	0.83	(0.38)
2 SW	20A-SW-63-P	20C-SW-63-P	2.37 (60)	6 (152)	48 (1,219)	0.95	(0.43)
2 1/2 SW	25A-SW-63-P	25C-SW-63-P	2.88 (73)	6 (152)	48 (1,219)	1.15	(0.52)
3 SW	30A-SW-63-P	30C-SW-63-P	3.50 (89)	6 (152)	48 (1,219)	1.50	(0.68)
4 SW	40A-SW-63-P	40C-SW-63-P	4.46 (113)	6 (152)	48 (1,219)	1.80	(0.82)
4 HW	40A-HW-63-P	40C-HW-63-P	4.51 (114)	6 (152)	48 (1,219)	2.43	(1.10)
5 SW	50A-SW-63-P	50C-SW-63-P	5.52 (140)	6 (152)	48 (1,219)	2.25	(1.02)
5 MW	50A-MW-63-P	50C-MW-63-P	5.57 (141)	6 (152)	48 (1,219)	3.00	(1.36)
5 HW	50A-HW-63-P	50C-HW-63-P	5.60 (142)	6 (152)	48 (1,219)	3.25	(1.48)
6 SW	60A-SW-63-P	60C-SW-63-P	6.58 (167)	6 (152)	48 (1,219)	2.00	(0.91)
6 MW	60A-MW-63-P	60C-MW-63-P	6.63 (168)	6 (152)	48 (1,219)	2.84	(1.29)
6 HW	60A-HW-63-P	60C-HW-63-P	6.66 (170)	6 (152)	48 (1,219)	3.26	(1.48)

Nominal Size Type	ID Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
	Belowground	Aboveground				lbs	kg
2 SW	20B-SW-63-P	20D-SW-63-P	2.14 (54)	6 (152)	48 (1,219)	0.85	(0.50)
2 1/2 SW	25B-SW-63-P	25D-SW-63-P	2.64 (67)	6 (152)	48 (1,219)	1.05	(0.64)
3 SW	30B-SW-63-P	30D-SW-63-P	3.14 (80)	6 (152)	48 (1,219)	1.20	(0.77)
3 1/2 SW	35B-SW-63-P	35D-SW-63-P	3.64 (92)	6 (152)	48 (1,219)	1.50	(0.77)
4 SW	40B-SW-63-P	40D-SW-63-P	4.14 (105)	6 (152)	48 (1,219)	1.73	(0.95)
4 HW	40B-HW-63-P	40D-HW-63-P	4.19 (106)	6 (152)	48 (1,219)	2.30	(1.23)
4 1/2 SW	45B-SW-63-P	45D-SW-63-P	4.64 (117)	6 (152)	48 (1,219)	1.88	(1.73)
4 1/2 HW	45B-HW-63-P	45D-HW-63-P	4.69 (118)	6 (152)	48 (1,219)	2.60	(2.00)
5 SW	50B-SW-63-P	50D-SW-63-P	5.14 (131)	6 (152)	48 (1,219)	2.13	(1.23)
5 MW	50B-MW-63-P	50D-MW-63-P	5.19 (132)	6 (152)	48 (1,219)	2.83	(1.59)
5 HW	50B-HW-63-P	50D-HW-63-P	5.22 (133)	6 (152)	48 (1,219)	3.30	(1.86)
6 SW	60B-SW-63-P	60D-SW-63-P	6.14 (156)	6 (152)	48 (1,219)	2.00	(0.91)
6 MW	60B-MW-63-P	60D-MW-63-P	6.19 (157)	6 (152)	48 (1,219)	2.84	(1.29)
6 HW	60B-HW-63-P	60D-HW-63-P	6.22 (158)	6 (152)	48 (1,219)	3.26	(1.48)

Nominal Size Type	Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
	Belowground	Aboveground				lbs	kg
2 XW	20B-XW-63-P	20D-XW-63-P	2.50 (65)	6 (152)	48 (1,219)	3.15	(1.43)
2 1/2 XW	25B-XW-63-P	25D-XW-63-P	3.00 (76)	6 (152)	48 (1,219)	3.85	(1.75)
3 XW	30B-XW-63-P	30D-XW-63-P	3.50 (89)	6 (152)	48 (1,219)	4.55	(2.07)
3 1/2 XW	35B-XW-63-P	35D-XW-63-P	4.00 (102)	6 (152)	48 (1,219)	5.25	(2.38)
4 XW	40B-XW-63-P	40D-XW-63-P	4.50 (114)	6 (152)	48 (1,219)	5.95	(2.70)
5 XW	50B-XW-63-P	50D-XW-63-P	5.50 (140)	6 (152)	48 (1,219)	7.35	(3.34)
6 XW	60B-XW-63-P	60D-XW-63-P	6.50 (165)	6 (152)	48 (1,219)	8.75	(3.97)



22 1/2° X 60"



30° X 12"

Nominal Size	Type	IPS Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
3/4	SW	07A-SW-64-P	07C-SW-64-P	1.05 (27)	6 (152)	60 (1,524)	0.50 (0.23)	
1	SW	10A-SW-64-P	10C-SW-64-P	1.32 (33)	6 (152)	60 (1,524)	0.55 (0.25)	
1 1/4	SW	12A-SW-64-P	12C-SW-64-P	1.66 (42)	6 (152)	60 (1,524)	0.67 (0.30)	
1 1/2	SW	15A-SW-64-P	15C-SW-64-P	1.90 (48)	6 (152)	60 (1,524)	0.96 (0.44)	
2	SW	20A-SW-64-P	20C-SW-64-P	2.37 (60)	6 (152)	60 (1,524)	1.11 (0.50)	
2 1/2	SW	25A-SW-64-P	25C-SW-64-P	2.88 (73)	6 (152)	60 (1,524)	1.34 (0.61)	
3	SW	30A-SW-64-P	30C-SW-64-P	3.50 (89)	6 (152)	60 (1,524)	1.75 (0.80)	
4	SW	40A-SW-64-P	40C-SW-64-P	4.46 (113)	6 (152)	60 (1,524)	2.10 (0.95)	
4	HW	40A-HW-64-P	40C-HW-64-P	4.51 (115)	6 (152)	60 (1,524)	2.83 (1.29)	
5	SW	50A-SW-64-P	50C-SW-64-P	5.52 (140)	6 (152)	60 (1,524)	2.63 (1.19)	
5	MW	50A-MW-64-P	50C-MW-64-P	5.57 (141)	6 (152)	60 (1,524)	3.50 (1.59)	
5	HW	50A-HW-64-P	50C-HW-64-P	5.60 (142)	6 (152)	60 (1,524)	3.79 (1.72)	
6	SW	60A-SW-64-P	60C-SW-64-P	6.58 (167)	6 (152)	60 (1,524)	2.92 (1.33)	
6	MW	60A-MW-64-P	60C-MW-64-P	6.63 (168)	6 (152)	60 (1,524)	4.14 (1.88)	
6	HW	60A-HW-64-P	60C-HW-64-P	6.66 (170)	6 (152)	60 (1,524)	4.75 (2.16)	

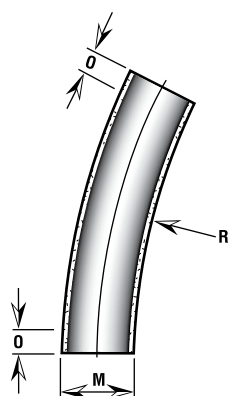
Nominal Size	Type	ID Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	SW	20B-SW-64-P	20D-SW-64-P	2.14 (54)	6 (152)	60 (1,524)	0.99 (0.45)	
2 1/2	SW	25B-SW-64-P	25D-SW-64-P	2.64 (67)	6 (152)	60 (1,524)	1.23 (0.56)	
3	SW	30B-SW-64-P	30D-SW-64-P	3.14 (80)	6 (152)	60 (1,524)	1.40 (0.64)	
3 1/2	SW	35B-SW-64-P	35D-SW-64-P	3.64 (92)	6 (152)	60 (1,524)	1.75 (0.80)	
4	SW	40B-SW-64-P	40D-SW-64-P	4.14 (105)	6 (152)	60 (1,524)	2.01 (0.91)	
4	HW	40B-HW-64-P	40D-HW-64-P	4.19 (106)	6 (152)	60 (1,524)	2.68 (1.22)	
4 1/2	SW	45B-SW-64-P	45D-SW-64-P	4.64 (117)	6 (152)	60 (1,524)	2.19 (0.99)	
4 1/2	HW	45B-HW-64-P	45D-HW-64-P	4.69 (118)	6 (152)	60 (1,524)	3.03 (1.38)	
5	SW	50B-SW-64-P	50D-SW-64-P	5.14 (131)	6 (152)	60 (1,524)	2.48 (1.13)	
5	MW	50B-MW-64-P	50D-MW-64-P	5.19 (132)	6 (152)	60 (1,524)	3.30 (1.50)	
5	HW	50B-HW-64-P	50D-HW-64-P	5.22 (132)	6 (152)	60 (1,524)	3.85 (1.75)	
6	SW	60B-SW-64-P	60D-SW-64-P	6.14 (156)	6 (152)	60 (1,524)	2.98 (1.35)	
6	MW	60B-MW-64-P	60D-MW-64-P	6.19 (157)	6 (152)	60 (1,524)	3.94 (1.79)	
6	HW	60B-HW-64-P	60D-HW-64-P	6.22 (158)	6 (152)	60 (1,524)	4.61 (2.09)	

Nominal Size	Type	Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	XW	20B-XW-64-P	20D-XW-64-P	2.50 (65)	6 (152)	60 (1,524)	3.68 (1.67)	
2 1/2	XW	25B-XW-64-P	25D-XW-64-P	3.00 (76)	6 (152)	60 (1,524)	4.50 (2.04)	
3	XW	30B-XW-64-P	30D-XW-64-P	3.50 (89)	6 (152)	60 (1,524)	5.31 (2.41)	
3 1/2	XW	35B-XW-64-P	35D-XW-64-P	4.00 (102)	6 (152)	60 (1,524)	6.13 (2.78)	
4 1/2	XW	40B-XW-64-P	40D-XW-64-P	4.50 (114)	6 (152)	60 (1,524)	6.94 (3.15)	
5	XW	50B-XW-64-P	50D-XW-64-P	5.50 (140)	6 (152)	60 (1,524)	8.58 (3.90)	
6	XW	60B-XW-64-P	60D-XW-64-P	6.50 (165)	6 (152)	60 (1,524)	10.21 (4.64)	

Nominal Size	Type	IPS Item No.		M	O-Tangent (min)	R-Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
3/4	SW	07A-SW-70-P	07C-SW-70-P	1.05 (27)	6 (152)	12 (305)	0.27 (0.12)	
1	SW	10A-SW-70-P	10C-SW-70-P	1.32 (33)	6 (152)	12 (305)	0.30 (0.14)	
1 1/4	SW	12A-SW-70-P	12C-SW-70-P	1.66 (42)	6 (152)	12 (305)	0.36 (0.16)	
1 1/2	SW	15A-SW-70-P	15C-SW-70-P	1.90 (48)	6 (152)	12 (305)	0.52 (0.24)	
2	SW	20A-SW-70-P	20C-SW-70-P	2.37 (60)	6 (152)	12 (305)	0.60 (0.27)	
2 1/2	SW	25A-SW-70-P	25C-SW-70-P	2.88 (73)	6 (152)	12 (305)	0.73 (0.33)	

Nominal Size	Type	IPS Item No.		M	O-Tangent (min)	R-Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	SW	20B-SW-70-P	20D-SW-70-P	2.14 (54)	6 (152)	12 (305)	0.54 (0.25)	
2 1/2	SW	25B-SW-70-P	25D-SW-70-P	2.64 (67)	6 (152)	12 (305)	0.67 (0.30)	

Nominal Size	Type	IPS Item No.		M	O-Tangent (min)	R-Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	XW	20B-XW-70-P	20D-XW-70-P	2.50 (63)	6 (152)	12 (305)	2.00 (0.91)	
2 1/2	XW	25B-XW-70-P	25D-XW-70-P	3.00 (76)	6 (152)	12 (305)	2.44 (1.11)	
3	XW	30B-XW-70-P	30D-XW-70-P	3.50 (89)	6 (152)	12 (305)	2.89 (1.31)	
3 1/2	XW	35B-XW-70-P	35D-XW-70-P	4.00 (102)	6 (152)	12 (305)	3.33 (1.51)	

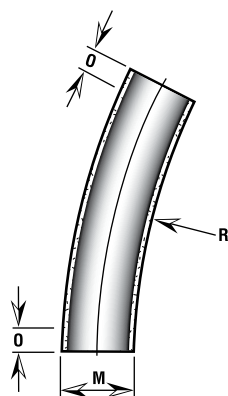


30° X 24"

Nominal Size	Type	IPS Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
¾	SW	07A-SW-71-P	07C-SW-71-P	1.05 (27)	6 (152)	24 (610)	0.34	(0.15)
1	SW	10A-SW-71-P	10C-SW-71-P	1.32 (33)	6 (152)	24 (610)	0.38	(0.17)
1¼	SW	12A-SW-71-P	12C-SW-71-P	1.66 (42)	6 (152)	24 (610)	0.46	(0.21)
1½	SW	15A-SW-71-P	15C-SW-71-P	1.90 (48)	6 (152)	24 (610)	0.66	(0.30)
2	SW	20A-SW-71-P	20C-SW-71-P	2.37 (60)	6 (152)	24 (610)	0.76	(0.35)
2½	SW	25A-SW-71-P	25C-SW-71-P	2.88 (73)	6 (152)	24 (610)	0.92	(0.42)
3	SW	30A-SW-71-P	30C-SW-71-P	3.50 (89)	6 (152)	24 (610)	1.20	(0.54)
4	SW	40A-SW-71-P	40C-SW-71-P	4.46 (113)	6 (152)	24 (610)	1.44	(0.65)
4	HW	40A-HW-71-P	40C-HW-71-P	4.51 (114)	6 (152)	24 (610)	1.94	(0.88)

Nominal Size	Type	ID Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	SW	20B-SW-71-P	20D-SW-71-P	2.14 (54)	6 (152)	24 (610)	0.68	(0.31)
2½	SW	25B-SW-71-P	25D-SW-71-P	2.64 (67)	6 (152)	24 (610)	0.84	(0.38)
3	SW	30B-SW-71-P	30D-SW-71-P	3.14 (80)	6 (152)	24 (610)	0.96	(0.44)
3½	SW	35B-SW-71-P	35D-SW-71-P	3.64 (92)	6 (152)	24 (610)	1.20	(0.54)
4	SW	40B-SW-71-P	40D-SW-71-P	4.14 (105)	6 (152)	24 (610)	1.38	(0.63)
4	HW	40B-HW-71-P	40D-HW-71-P	4.19 (106)	6 (152)	24 (610)	1.84	(0.84)

Nominal Size	Type	IPS Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	XW	20B-XW-71-P	20D-XW-71-P	2.50 (65)	6 (152)	24 (610)	2.52	(1.14)
2½	XW	25B-XW-71-P	25D-XW-71-P	3.00 (76)	6 (152)	24 (610)	3.08	(1.40)
3	XW	30B-XW-71-P	30D-XW-71-P	3.50 (89)	6 (152)	24 (610)	3.72	(1.69)
3½	XW	35B-XW-71-P	35D-XW-71-P	4.00 (102)	6 (152)	24 (610)	4.30	(1.95)
4	XW	40B-XW-71-P	40D-XW-71-P	4.50 (114)	6 (152)	24 (610)	4.87	(2.21)

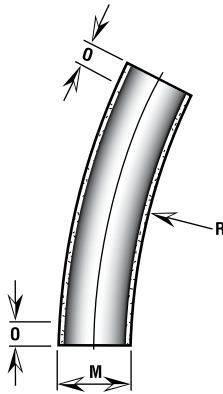


30° X 36"

Nominal Size	Type	IPS Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
¾	SW	07A-SW-72-P	07C-SW-72-P	1.05 (27)	6 (152)	36 (914)	0.43	(0.15)
1	SW	10A-SW-72-P	10C-SW-72-P	1.32 (33)	6 (152)	36 (914)	0.48	(0.17)
1¼	SW	12A-SW-72-P	12C-SW-72-P	1.66 (42)	6 (152)	36 (914)	0.58	(0.21)
1½	SW	15A-SW-72-P	15C-SW-72-P	1.90 (48)	6 (152)	36 (914)	0.83	(0.30)
2	SW	20A-SW-72-P	20C-SW-72-P	2.37 (60)	6 (152)	36 (914)	0.95	(0.50)
2½	SW	25A-SW-72-P	25C-SW-72-P	2.88 (73)	6 (152)	36 (914)	1.15	(0.42)
3	SW	30A-SW-72-P	30C-SW-72-P	3.50 (89)	6 (152)	36 (914)	1.50	(0.77)
4	SW	40A-SW-72-P	40C-SW-72-P	4.46 (113)	6 (152)	36 (914)	1.80	(0.77)
4	HW	40A-HW-72-P	40C-HW-72-P	4.51 (115)	6 (152)	36 (914)	2.43	(0.95)
5	SW	50A-SW-72-P	50C-SW-72-P	5.52 (140)	6 (152)	36 (914)	2.25	(1.02)
5	MW	50A-MW-72-P	50C-MW-72-P	5.57 (141)	6 (152)	36 (914)	3.00	(1.36)
5	HW	50A-HW-72-P	50C-HW-72-P	5.60 (152)	6 (152)	36 (914)	3.31	(1.50)
6	SW	60A-SW-72-P	60C-SW-72-P	6.58 (167)	6 (152)	36 (914)	2.50	(1.14)
6	MW	60A-MW-72-P	60C-MW-72-P	6.63 (168)	6 (152)	36 (914)	3.56	(1.62)
6	HW	60A-HW-72-P	60C-HW-72-P	6.66 (169)	6 (152)	36 (914)	4.08	(1.85)

Nominal Size	Type	ID Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	SW	20B-SW-72-P	20D-SW-72-P	2.14 (54)	6 (152)	36 (914)	0.85	(0.39)
2½	SW	25B-SW-72-P	25D-SW-72-P	2.64 (67)	6 (152)	36 (914)	1.05	(0.48)
3	SW	30B-SW-72-P	30D-SW-72-P	3.14 (80)	6 (152)	36 (914)	1.20	(0.55)
3½	SW	35B-SW-72-P	35D-SW-72-P	3.64 (92)	6 (152)	36 (914)	1.50	(0.68)
4	SW	40B-SW-72-P	40D-SW-72-P	4.14 (105)	6 (152)	36 (914)	1.73	(0.79)
4	HW	40B-HW-72-P	40D-HW-72-P	4.19 (106)	6 (152)	36 (914)	2.30	(1.04)
4½	SW	45B-SW-72-P	45D-SW-72-P	4.64 (117)	6 (152)	36 (914)	1.88	(0.85)
4½	HW	45B-HW-72-P	45D-HW-72-P	4.69 (118)	6 (152)	36 (914)	2.60	(1.18)
5	SW	50B-SW-72-P	50D-SW-72-P	5.14 (131)	6 (152)	36 (914)	2.13	(0.97)
5	MW	50B-MW-72-P	50D-MW-72-P	5.19 (132)	6 (152)	36 (914)	2.83	(1.28)
5	HW	50B-HW-72-P	50D-HW-72-P	5.22 (132)	6 (152)	36 (914)	3.25	(1.48)
6	SW	60B-SW-72-P	60D-SW-72-P	6.14 (156)	6 (152)	36 (914)	2.56	(1.16)
6	MW	60B-MW-72-P	60D-MW-72-P	6.19 (157)	6 (152)	36 (914)	3.38	(1.54)
6	HW	60B-HW-72-P	60D-HW-72-P	6.22 (158)	6 (152)	36 (914)	3.96	(1.80)

Nominal Size	Type	Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	XW	20B-XW-72-P	20D-XW-72-P	2.50 (65)	6 (152)	36 (914)	3.15	(1.43)
2½	XW	25B-XW-72-P	25D-XW-72-P	3.00 (76)	6 (152)	36 (914)	3.85	(1.75)
3	XW	30B-XW-72-P	30D-XW-72-P	3.50 (89)	6 (152)	36 (914)	4.55	(2.07)
3½	XW	35B-XW-72-P	35D-XW-72-P	4.00 (102)	6 (152)	36 (914)	5.25	(2.38)
4	XW	40B-XW-72-P	40D-XW-72-P	4.50 (114)	6 (152)	36 (914)	5.95	(2.70)
5	XW	50B-XW-72-P	50D-XW-72-P	5.50 (140)	6 (152)	36 (914)	7.35	(3.34)
6	XW	60B-XW-72-P	60D-XW-72-P	6.50 (165)	6 (152)	36 (914)	8.75	(3.97)

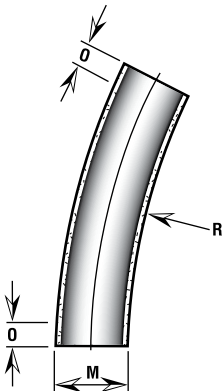


30° X 48°

Nominal Size	Type	IPS Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
¾	SW	07A-SW-73-P	07C-SW-73-P	1.05 (27)	6 (152)	48 (1,219)	0.52 (0.24)	
1	SW	10A-SW-73-P	10C-SW-73-P	1.32 (33)	6 (152)	48 (1,219)	0.59 (0.27)	
1¼	SW	12A-SW-73-P	12C-SW-73-P	1.66 (42)	6 (152)	48 (1,219)	0.71 (0.32)	
1½	SW	15A-SW-73-P	15C-SW-73-P	1.90 (48)	6 (152)	48 (1,219)	1.02 (0.46)	
2	SW	20A-SW-73-P	20C-SW-73-P	2.37 (60)	6 (152)	48 (1,219)	1.17 (0.53)	
2½	SW	25A-SW-73-P	25C-SW-73-P	2.88 (73)	6 (152)	48 (1,219)	1.42 (0.65)	
3	SW	30A-SW-73-P	30C-SW-73-P	3.50 (89)	6 (152)	48 (1,219)	1.85 (0.84)	
4	SW	40A-SW-73-P	40C-SW-73-P	4.46 (113)	6 (152)	48 (1,219)	2.22 (1.01)	
4	HW	40A-HW-73-P	40C-HW-73-P	4.51 (114)	6 (152)	48 (1,219)	2.99 (1.36)	
5	SW	50A-SW-73-P	50C-SW-73-P	5.52 (140)	6 (152)	48 (1,219)	2.78 (1.26)	
5	MW	50A-MW-73-P	50C-MW-73-P	5.57 (141)	6 (152)	48 (1,219)	3.70 (1.68)	
5	HW	50A-HW-73-P	50C-HW-73-P	5.60 (142)	6 (152)	48 (1,219)	4.01 (1.82)	
6	SW	60A-SW-73-P	60C-SW-73-P	6.58 (167)	6 (152)	48 (1,219)	3.09 (1.40)	
6	MW	60A-MW-73-P	60C-MW-73-P	6.63 (168)	6 (152)	48 (1,219)	4.38 (1.99)	
6	HW	60A-HW-73-P	60C-HW-73-P	6.66 (169)	6 (152)	48 (1,219)	5.03 (2.28)	

Nominal Size	Type	IPS Item No.		M	O-Tangent (min)	R-Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	SW	20B-SW-73-P	20D-SW-73-P	2.14 (54)	6 (152)	48 (1,219)	1.05 (0.48)	
2½	SW	25B-SW-73-P	25D-SW-73-P	2.64 (67)	6 (152)	48 (1,219)	1.30 (0.59)	
3	SW	30B-SW-73-P	30D-SW-73-P	3.14 (80)	6 (152)	48 (1,219)	1.48 (0.67)	
3½	SW	35B-SW-73-P	35D-SW-73-P	3.64 (92)	6 (152)	48 (1,219)	1.85 (0.84)	
4	SW	40B-SW-73-P	40D-SW-73-P	4.14 (105)	6 (152)	48 (1,219)	2.13 (0.97)	
4	HW	40B-HW-73-P	40D-HW-73-P	4.19 (106)	6 (152)	48 (1,219)	2.84 (1.29)	
4½	SW	45B-SW-73-P	45D-SW-73-P	4.64 (117)	6 (152)	48 (1,219)	2.31 (1.05)	
4½	HW	45B-HW-73-P	45D-HW-73-P	4.69 (118)	6 (152)	48 (1,219)	3.21 (1.46)	
5	SW	50B-SW-73-P	50D-SW-73-P	5.14 (131)	6 (152)	48 (1,219)	2.62 (1.19)	
5	MW	50B-MW-73-P	50D-MW-73-P	5.19 (132)	6 (152)	48 (1,219)	3.48 (1.58)	
5	HW	50B-HW-73-P	50D-HW-73-P	5.22 (133)	6 (152)	48 (1,219)	4.07 (1.85)	
6	SW	60B-SW-73-P	60D-SW-73-P	6.14 (156)	6 (152)	48 (1,219)	3.14 (1.42)	
6	MW	60B-MW-73-P	60D-MW-73-P	6.19 (157)	6 (152)	48 (1,219)	4.16 (1.89)	
6	HW	60B-HW-73-P	60D-HW-73-P	6.22 (158)	6 (152)	48 (1,219)	4.87 (2.21)	

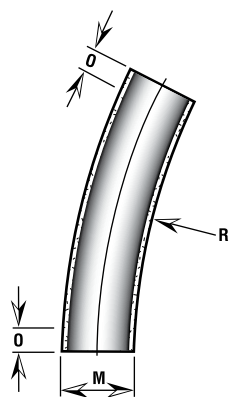
Nominal Size	Type	IPS Item No.		M	O-Tangent (min)	R-Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	XW	20B-XW-73-P	20D-XW-73-P	2.50 (65)	6 (152)	48 (1,219)	3.89 (1.77)	
2½	XW	25B-XW-73-P	25D-XW-73-P	3.00 (76)	6 (152)	48 (1,219)	4.75 (2.16)	
3	XW	30B-XW-73-P	30D-XW-73-P	3.50 (89)	6 (152)	48 (1,219)	5.61 (2.55)	
3½	XW	35B-XW-73-P	35D-XW-73-P	4.00 (102)	6 (152)	48 (1,219)	6.47 (2.94)	
4½	XW	40B-XW-73-P	40D-XW-73-P	4.50 (114)	6 (152)	48 (1,219)	7.34 (3.33)	
5	XW	50B-XW-73-P	50D-XW-73-P	5.50 (140)	6 (152)	48 (1,219)	9.07 (4.12)	
6	XW	60B-XW-73-P	60D-XW-73-P	6.50 (165)	6 (152)	48 (1,219)	10.79 (4.90)	



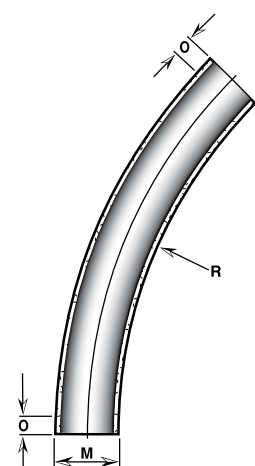
30° X 60°

Nominal Size	Type	IPS Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
¾	SW	07A-SW-74-P	07C-SW-74-P	1.05 (27)	6 (152)	60 (1,524)	0.61 (0.28)	
1	SW	10A-SW-74-P	10C-SW-74-P	1.32 (33)	6 (152)	60 (1,524)	0.68 (0.31)	
1¼	SW	12A-SW-74-P	12C-SW-74-P	1.66 (42)	6 (152)	60 (1,524)	0.82 (0.37)	
1½	SW	15A-SW-74-P	15C-SW-74-P	1.90 (48)	6 (152)	60 (1,524)	1.18 (0.54)	
2	SW	20A-SW-74-P	20C-SW-74-P	2.37 (60)	6 (152)	60 (1,524)	1.36 (0.62)	
2½	SW	25A-SW-74-P	25C-SW-74-P	2.88 (73)	6 (152)	60 (1,524)	1.65 (0.75)	
3	SW	30A-SW-74-P	30C-SW-74-P	3.50 (89)	6 (152)	60 (1,524)	2.15 (0.98)	
4	SW	40A-SW-74-P	40C-SW-74-P	4.46 (113)	6 (152)	60 (1,524)	2.58 (1.17)	
4	HW	40A-HW-74-P	40C-HW-74-P	4.51 (115)	6 (152)	60 (1,524)	3.48 (1.58)	
5	SW	50A-SW-74-P	50C-SW-74-P	5.52 (140)	6 (152)	60 (1,524)	3.23 (1.47)	
5	MW	50A-MW-74-P	50C-MW-74-P	5.57 (141)	6 (152)	60 (1,524)	4.30 (1.95)	
5	HW	50A-HW-74-P	50C-HW-74-P	5.60 (142)	6 (152)	60 (1,524)	4.66 (2.12)	
6	SW	60A-SW-74-P	60C-SW-74-P	6.58 (167)	6 (152)	60 (1,524)	3.58 (1.63)	
6	MW	60A-MW-74-P	60C-MW-74-P	6.63 (168)	6 (152)	60 (1,524)	5.09 (2.31)	
6	HW	60A-HW-74-P	60C-HW-74-P	6.66 (169)	6 (152)	60 (1,524)	5.84 (2.65)	

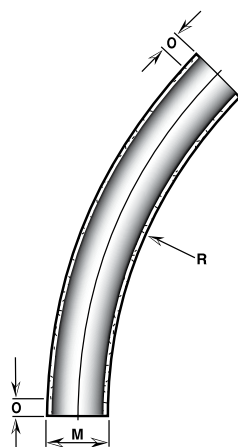
Nominal Size	Type	ID Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	SW	20B-SW-74-P	20D-SW-74-P	2.14 (54)	6 (152)	60 (1,524)	1.22 (0.55)	
2½	SW	25B-SW-74-P	25D-SW-74-P	2.64 (67)	6 (152)	60 (1,524)	1.51 (0.69)	
3	SW	30B-SW-74-P	30D-SW-74-P	3.14 (80)	6 (152)	60 (1,524)	1.72 (0.78)	
3½	SW	35B-SW-74-P	35D-SW-74-P	3.64 (92)	6 (152)	60 (1,524)	2.15 (0.98)	
4	SW	40B-SW-74-P	40D-SW-74-P	4.14 (105)	6 (152)	60 (1,524)	2.47 (1.12)	
4	HW	40B-HW-74-P	40D-HW-74-P	4.19 (106)	6 (152)	60 (1,524)	3.30 (1.50)	
4½	SW	45B-SW-74-P	45D-SW-74-P	4.64 (117)	6 (152)	60 (1,524)	2.69 (1.22)	
4½	HW	45B-HW-74-P	45D-HW-74-P	4.69 (118)	6 (152)	60 (1,524)	3.73 (1.69)	
5	SW	50B-SW-74-P	50D-SW-74-P	5.14 (131)	6 (152)	60 (1,524)	3.05 (1.39)	
5	MW	50B-MW-74-P	50D-MW-74-P	5.19 (132)	6 (152)	60 (1,524)	4.05 (1.84)	
5	HW	50B-HW-74-P	50D-HW-74-P	5.22 (132)	6 (152)	60 (1,524)	4.73 (2.15)	
6	SW	60B-SW-74-P	60D-SW-74-P	6.14 (156)	6 (152)	60 (1,524)	3.66 (1.66)	
6	MW	60B-MW-74-P	60D-MW-74-P	6.19 (157)	6 (152)	60 (1,524)	4.84 (2.20)	
6	HW	60B-HW-74-P	60D-HW-74-P	6.22 (158)	6 (152)	60 (1,524)	5.66 (2.57)	



30° X 60"



45° X 12"



45° X 24"

Nominal Size	Type	Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	XW	20B-XW-74-P	20D-XW-74-P	2.50 (65)	6 (152)	60 (1,524)	4.52	(2.05)
2½	XW	25B-XW-74-P	25D-XW-74-P	3.00 (76)	6 (152)	60 (1,524)	5.52	(2.51)
3	XW	30B-XW-74-P	30D-XW-74-P	3.50 (89)	6 (152)	60 (1,524)	6.52	(2.96)
3½	XW	35B-XW-74-P	35D-XW-74-P	4.00 (102)	6 (152)	60 (1,524)	7.53	(3.42)
4	XW	40B-XW-74-P	40D-XW-74-P	4.50 (114)	6 (152)	60 (1,524)	8.53	(3.87)
5	XW	50B-XW-74-P	50D-XW-74-P	5.50 (140)	6 (152)	60 (1,524)	10.54	(4.79)
6	XW	60B-XW-74-P	60D-XW-74-P	6.50 (165)	6 (152)	60 (1,524)	12.55	(5.70)

Nominal Size	Type	IPS Item No.		M	O-Tangent (min)	R-Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
¾	SW	07A-SW-80-P	07C-SW-80-P	1.05 (27)	6 (152)	12 (305)	0.30	(0.14)
1	SW	10A-SW-80-P	10C-SW-80-P	1.32 (33)	6 (152)	12 (305)	0.33	(0.15)
1¼	SW	12A-SW-80-P	12C-SW-80-P	1.66 (42)	6 (152)	12 (305)	0.40	(0.18)
1½	SW	15A-SW-80-P	15C-SW-80-P	1.90 (48)	6 (152)	12 (305)	0.58	(0.26)
2	SW	20A-SW-80-P	20C-SW-80-P	2.37 (60)	6 (152)	12 (305)	0.67	(0.30)
2½	SW	25A-SW-80-P	25C-SW-80-P	2.88 (73)	6 (152)	12 (305)	0.81	(0.37)

Nominal Size	Type	ID Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	SW	20B-SW-80-P	20D-SW-80-P	2.14 (54)	6 (152)	12 (305)	0.60	(0.27)
2½	SW	25B-SW-80-P	25D-SW-80-P	2.64 (67)	6 (152)	12 (305)	0.74	(0.34)

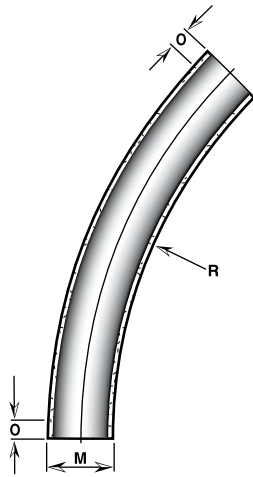
Nominal Size	Type	Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	XW	20B-XW-80-P	20D-XW-80-P	2.50 (63)	6 (152)	12 (305)	2.21	(1.00)
2½	XW	25B-XW-80-P	25D-XW-80-P	3.00 (76)	6 (152)	12 (305)	2.70	(1.22)
3	XW	30B-XW-80-P	30D-XW-80-P	3.50 (89)	6 (152)	12 (305)	2.89	(1.31)
3½	XW	35B-XW-80-P	35D-XW-80-P	4.00 (102)	6 (152)	12 (305)	3.68	(1.67)

Nominal Size	Type	IPS Item No.		M	O-Tangent (min)	R-Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
¾	SW	07A-SW-81-P	07C-SW-81-P	1.05 (27)	6 (152)	24 (610)	0.43	(0.20)
1	SW	10A-SW-81-P	10C-SW-81-P	1.32 (33)	6 (152)	24 (610)	0.48	(0.22)
1¼	SW	12A-SW-81-P	12C-SW-81-P	1.66 (42)	6 (152)	24 (610)	0.58	(0.26)
1½	SW	15A-SW-81-P	15C-SW-81-P	1.90 (48)	6 (152)	24 (610)	0.83	(0.38)
2	SW	20A-SW-81-P	20C-SW-81-P	2.37 (60)	6 (152)	24 (610)	0.95	(0.43)
2½	SW	25A-SW-81-P	25C-SW-81-P	2.88 (73)	6 (152)	24 (610)	1.15	(0.52)
3	SW	30A-SW-81-P	30C-SW-81-P	3.50 (89)	6 (152)	24 (610)	1.96	(0.89)
4	SW	40A-SW-81-P	40C-SW-81-P	4.46 (113)	6 (152)	24 (610)	2.35	(1.07)
4	HW	40A-HW-81-P	40C-HW-81-P	4.51 (114)	6 (152)	24 (610)	3.17	(1.44)

Nominal Size	Type	ID Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	SW	20B-SW-81-P	20D-SW-81-P	2.14 (54)	6 (152)	24 (610)	0.85	(0.39)
2½	SW	25B-SW-81-P	25D-SW-81-P	2.64 (67)	6 (152)	24 (610)	1.05	(0.48)
3	SW	30B-SW-81-P	30D-SW-81-P	3.14 (80)	6 (152)	24 (610)	1.57	(0.71)
3½	SW	35B-SW-81-P	35D-SW-81-P	3.64 (92)	6 (152)	24 (610)	1.96	(0.89)
4	SW	40B-SW-81-P	40D-SW-81-P	4.14 (105)	6 (152)	24 (610)	2.25	(1.02)
4	HW	40B-HW-81-P	40D-HW-81-P	4.19 (106)	6 (152)	24 (610)	3.00	(1.36)

Nominal Size	Type	Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	XW	20B-XW-81-P	20D-XW-81-P	2.50 (65)	6 (152)	24 (610)	3.15	(1.43)
2½	XW	25B-XW-81-P	25D-XW-81-P	3.00 (76)	6 (152)	24 (610)	3.85	(1.75)
3	XW	30B-XW-81-P	30D-XW-81-P	3.50 (89)	6 (152)	24 (610)	4.55	(2.07)
3½	XW	35B-XW-81-P	35D-XW-81-P	4.00 (102)	6 (152)	24 (610)	5.24	(2.38)
4	XW	40B-XW-81-P	40D-XW-81-P	4.50 (114)	6 (152)	24 (610)	5.95	(2.70)

ELBOWS

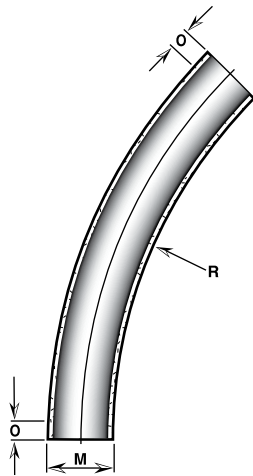


45° X 36"

Nominal Size	Type	IPS Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
¾	SW	07A-SW-82-P	07C-SW-82-P	1.05 (27)	6 (152)	36 (914)	0.57 (0.26)	
1	SW	10A-SW-82-P	10C-SW-82-P	1.32 (33)	6 (152)	36 (914)	0.63 (0.29)	
1¼	SW	12A-SW-82-P	12C-SW-82-P	1.66 (42)	6 (152)	36 (914)	0.77 (0.35)	
1½	SW	15A-SW-82-P	15C-SW-82-P	1.90 (48)	6 (152)	36 (914)	1.10 (0.50)	
2	SW	20A-SW-82-P	20C-SW-82-P	2.37 (60)	6 (152)	36 (914)	1.27 (0.58)	
2½	SW	25A-SW-82-P	25C-SW-82-P	2.88 (73)	6 (152)	36 (914)	1.53 (0.7)	
3	SW	30A-SW-82-P	30C-SW-82-P	3.50 (89)	6 (152)	36 (914)	2.00 (0.91)	
4	SW	40A-SW-82-P	40C-SW-82-P	4.46 (113)	6 (152)	36 (914)	2.40 (1.09)	
4	HW	40A-HW-82-P	40C-HW-82-P	4.50 (114)	6 (152)	36 (914)	3.23 (1.47)	
5	SW	50A-SW-82-P	50C-SW-82-P	5.52 (140)	6 (152)	36 (914)	3.00 (1.36)	
5	MW	50A-MW-82-P	50C-MW-82-P	5.57 (141)	6 (152)	36 (914)	4.00 (1.81)	
5	HW	50A-HW-82-P	50C-HW-82-P	5.60 (152)	6 (152)	36 (914)	4.39 (2.00)	
6	SW	60A-SW-82-P	60C-SW-82-P	6.58 (167)	6 (152)	36 (914)	3.33 (1.51)	
6	MW	60A-MW-82-P	60C-MW-82-P	6.63 (168)	6 (152)	36 (914)	4.73 (2.15)	
6	HW	60A-HW-82-P	60C-HW-82-P	6.66 (169)	6 (152)	36 (914)	5.43 (2.46)	

Nominal Size	Type	ID Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	SW	20B-SW-82-P	20D-SW-82-P	2.14 (54)	6 (152)	36 (914)	1.13 (0.51)	
2½	SW	25B-SW-82-P	25D-SW-82-P	2.64 (67)	6 (152)	36 (914)	1.40 (0.64)	
3	SW	30B-SW-82-P	30D-SW-82-P	3.14 (80)	6 (152)	36 (914)	1.60 (0.73)	
3½	SW	35B-SW-82-P	35D-SW-82-P	3.64 (92)	6 (152)	36 (914)	2.00 (0.91)	
4	SW	40B-SW-82-P	40D-SW-82-P	4.14 (105)	6 (152)	36 (914)	2.30 (1.04)	
4	HW	40B-HW-82-P	40D-HW-82-P	4.19 (106)	6 (152)	36 (914)	3.07 (1.39)	
4½	SW	45B-SW-82-P	45D-SW-82-P	4.64 (117)	6 (152)	36 (914)	3.65 (1.66)	
4½	HW	45B-HW-82-P	45D-HW-82-P	4.69 (118)	6 (152)	36 (914)	4.00 (1.82)	
5	SW	50B-SW-82-P	50D-SW-82-P	5.14 (131)	6 (152)	36 (914)	2.83 (1.28)	
5	MW	50B-MW-82-P	50D-MW-82-P	5.19 (132)	6 (152)	36 (914)	3.76 (1.71)	
5	HW	50B-HW-82-P	50D-HW-82-P	5.22 (132)	6 (152)	36 (914)	4.33 (1.96)	
6	SW	60B-SW-82-P	60D-SW-82-P	6.14 (156)	6 (152)	36 (914)	3.40 (1.54)	
6	MW	60B-MW-82-P	60D-MW-82-P	6.19 (157)	6 (152)	36 (914)	4.50 (2.04)	
6	HW	60B-HW-82-P	60D-HW-82-P	6.22 (158)	6 (152)	36 (914)	5.26 (2.39)	

Nominal Size	Type	Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	XW	20B-XW-82-P	20D-XW-82-P	2.50 (65)	6 (152)	36 (914)	4.20 (1.91)	
2½	XW	25B-XW-82-P	25D-XW-82-P	3.00 (76)	6 (152)	36 (914)	5.13 (2.33)	
3	XW	30B-XW-82-P	30D-XW-82-P	3.50 (89)	6 (152)	36 (914)	6.07 (2.76)	
3½	XW	35B-XW-82-P	35D-XW-82-P	4.00 (102)	6 (152)	36 (914)	6.99 (3.18)	
4	XW	40B-XW-82-P	40D-XW-82-P	4.59 (114)	6 (152)	36 (914)	7.93 (3.60)	
5	XW	50B-XW-82-P	50D-XW-82-P	5.50 (140)	6 (152)	36 (914)	9.79 (4.44)	
6	XW	60B-XW-82-P	60D-XW-82-P	6.50 (165)	6 (152)	36 (914)	11.65 (5.29)	

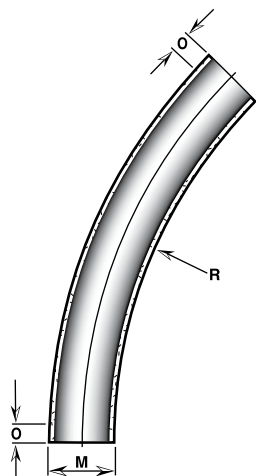


45° X 48"

Nominal Size	Type	IPS Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
¾	SW	07A-SW-83-P	07C-SW-83-P	1.05 (27)	6 (152)	48 (1,219)	0.69 (0.31)	
1	SW	10A-SW-83-P	10C-SW-83-P	1.32 (33)	6 (152)	48 (1,219)	0.78 (0.35)	
1¼	SW	12A-SW-83-P	12C-SW-83-P	1.66 (42)	6 (152)	48 (1,219)	0.94 (0.43)	
1½	SW	15A-SW-83-P	15C-SW-83-P	1.90 (48)	6 (152)	48 (1,219)	1.35 (0.61)	
2	SW	20A-SW-83-P	20C-SW-83-P	2.37 (60)	6 (152)	48 (1,219)	1.55 (0.70)	
2½	SW	25A-SW-83-P	25C-SW-83-P	2.88 (73)	6 (152)	48 (1,219)	1.88 (0.85)	
3	SW	30A-SW-83-P	30C-SW-83-P	3.50 (89)	6 (152)	48 (1,219)	2.45 (1.11)	
4	SW	40A-SW-83-P	40C-SW-83-P	4.46 (113)	6 (152)	48 (1,219)	2.94 (1.34)	
4	HW	40A-HW-83-P	40C-HW-83-P	4.51 (114)	6 (152)	48 (1,219)	3.96 (1.80)	
5	SW	50A-SW-83-P	50C-SW-83-P	5.52 (140)	6 (152)	48 (1,219)	3.68 (1.67)	
5	MW	50A-MW-83-P	50C-MW-83-P	5.57 (141)	6 (152)	48 (1,219)	4.90 (2.23)	
5	HW	50A-HW-83-P	50C-HW-83-P	5.60 (142)	6 (152)	48 (1,219)	5.31 (2.41)	
6	SW	60A-SW-83-P	60C-SW-83-P	6.58 (167)	6 (152)	48 (1,219)	4.09 (1.86)	
6	MW	60A-MW-83-P	60C-MW-83-P	6.63 (168)	6 (152)	48 (1,219)	5.80 (2.63)	
6	HW	60A-HW-83-P	60C-HW-83-P	6.66 (169)	6 (152)	48 (1,219)	6.66 (3.02)	

Nominal Size	Type	ID Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	SW	20B-SW-83-P	20D-SW-83-P	2.14 (54)	6 (152)	48 (1,219)	1.39 (0.63)	
2½	SW	25B-SW-83-P	25D-SW-83-P	2.64 (67)	6 (152)	48 (1,219)	1.72 (0.78)	
3	SW	30B-SW-83-P	30D-SW-83-P	3.14 (80)	6 (152)	48 (1,219)	1.96 (0.89)	
3½	SW	35B-SW-83-P	35D-SW-83-P	3.64 (92)	6 (152)	48 (1,219)	2.45 (1.11)	
4	SW	40B-SW-83-P	40D-SW-83-P	4.14 (105)	6 (152)	48 (1,219)	2.82 (1.28)	
4	HW	40B-HW-83-P	40D-HW-83-P	4.19 (106)	6 (152)	48 (1,219)	3.76 (1.71)	
4½	SW	45B-SW-83-P	45D-SW-83-P	4.64 (117)	6 (152)	48 (1,219)	3.06 (1.39)	
4½	HW	45B-HW-83-P	45D-HW-83-P	4.69 (118)	6 (152)	48 (1,219)	4.25 (1.93)	
5	SW	50B-SW-83-P	50D-SW-83-P	5.14 (131)	6 (152)	48 (1,219)	3.47 (1.58)	
5	MW	50B-MW-83-P	50D-MW-83-P	5.19 (132)	6 (152)	48 (1,219)	4.61 (2.09)	
5	HW	50B-HW-83-P	50D-HW-83-P	5.22 (133)	6 (152)	48 (1,219)	5.39 (2.45)	
6	SW	60B-SW-83-P	60D-SW-83-P	6.14 (156)	6 (152)	48 (1,219)	4.16 (1.89)	
6	MW	60B-MW-83-P	60D-MW-83-P	6.19 (157)	6 (152)	48 (1,219)	5.51 (2.50)	
6	HW	60B-HW-83-P	60D-HW-83-P	6.22 (158)	6 (152)	48 (1,219)	6.45 (2.93)	

Nominal Size	Type	Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	XW	20B-XW-83-P	20D-XW-83-P	2.50 (65)	6 (152)	48 (1,219)	5.15 (2.34)	
2½	XW	25B-XW-83-P	25D-XW-83-P	3.00 (76)	6 (152)	48 (1,219)	6.29 (2.85)	
3	XW	30B-XW-83-P	30D-XW-83-P	3.50 (89)	6 (152)	48 (1,219)	7.43 (3.37)	
3½	XW	35B-XW-83-P	35D-XW-83-P	4.00 (102)	6 (152)	48 (1,219)	8.57 (3.89)	
4	XW	40B-XW-83-P	40D-XW-83-P	4.50 (114)	6 (152)	48 (1,219)	9.72 (4.41)	
5	XW	50B-XW-83-P	50D-XW-83-P	5.50 (140)	6 (152)	48 (1,219)	12.01 (5.45)	
6	XW	60B-XW-83-P	60D-XW-83-P	6.50 (165)	6 (152)	48 (1,219)	14.29 (6.49)	

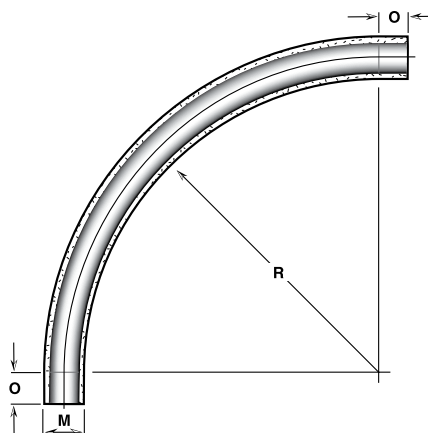


45° X 60"

Nominal Size	Type	IPS Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
¾	SW	07A-SW-84-P	07C-SW-84-P	1.05 (27)	6 (152)	60 (1,524)	0.85	(0.39)
1	SW	10A-SW-84-P	10C-SW-84-P	1.32 (33)	6 (152)	60 (1,524)	0.95	(0.43)
1¼	SW	12A-SW-84-P	12C-SW-84-P	1.66 (42)	6 (152)	60 (1,524)	1.15	(0.52)
1½	SW	15A-SW-84-P	15C-SW-84-P	1.90 (48)	6 (152)	60 (1,524)	1.65	(0.75)
2	SW	20A-SW-84-P	20C-SW-84-P	2.37 (60)	6 (152)	60 (1,524)	1.90	(0.86)
2½	SW	25A-SW-84-P	25C-SW-84-P	2.88 (73)	6 (152)	60 (1,524)	2.30	(1.04)
3	SW	30A-SW-84-P	30C-SW-84-P	3.50 (89)	6 (152)	60 (1,524)	3.00	(1.36)
4	SW	40A-SW-84-P	40C-SW-84-P	4.46 (113)	6 (152)	60 (1,524)	3.60	(1.63)
4	HW	40A-HW-84-P	40C-HW-84-P	4.51 (115)	6 (152)	60 (1,524)	4.85	(2.20)
5	SW	50A-SW-84-P	50C-SW-84-P	5.52 (140)	6 (152)	60 (1,524)	4.50	(2.04)
5	MW	50A-MW-84-P	50C-MW-84-P	5.57 (141)	6 (152)	60 (1,524)	6.00	(2.72)
5	HW	50A-HW-84-P	50C-HW-84-P	5.60 (142)	6 (152)	60 (1,524)	6.50	(2.95)
6	SW	60A-SW-84-P	60C-SW-84-P	6.58 (167)	6 (152)	60 (1,524)	5.00	(2.27)
6	MW	60A-MW-84-P	60C-MW-84-P	6.63 (168)	6 (152)	60 (1,524)	7.10	(3.22)
6	HW	60A-HW-84-P	60C-HW-84-P	6.66 (169)	6 (152)	60 (1,524)	8.15	(3.70)

Nominal Size	Type	ID Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	SW	20B-SW-84-P	20D-SW-84-P	2.14 (54)	6 (152)	60 (1,524)	1.70	(0.77)
2½	SW	25B-SW-84-P	25D-SW-84-P	2.64 (67)	6 (152)	60 (1,524)	2.10	(0.95)
3	SW	30B-SW-84-P	30D-SW-84-P	3.14 (80)	6 (152)	60 (1,524)	2.40	(1.09)
3½	SW	35B-SW-84-P	35D-SW-84-P	3.64 (92)	6 (152)	60 (1,524)	3.00	(1.36)
4	SW	40B-SW-84-P	40D-SW-84-P	4.14 (105)	6 (152)	60 (1,524)	3.45	(1.57)
4	HW	40B-HW-84-P	40D-HW-84-P	4.19 (106)	6 (152)	60 (1,524)	4.60	(2.09)
4½	SW	45B-SW-84-P	45D-SW-84-P	4.64 (117)	6 (152)	60 (1,524)	3.75	(1.70)
4½	HW	45B-HW-84-P	45D-HW-84-P	4.69 (118)	6 (152)	60 (1,524)	5.20	(2.36)
5	SW	50B-SW-84-P	50D-SW-84-P	5.14 (131)	6 (152)	60 (1,524)	4.25	(1.93)
5	MW	50B-MW-84-P	50D-MW-84-P	5.19 (132)	6 (152)	60 (1,524)	5.65	(2.57)
5	HW	50B-HW-84-P	50D-HW-84-P	5.22 (132)	6 (152)	60 (1,524)	6.60	(3.00)
6	SW	60B-SW-84-P	60D-SW-84-P	6.14 (156)	6 (152)	60 (1,524)	5.10	(2.32)
6	MW	60B-MW-84-P	60D-MW-84-P	6.19 (157)	6 (152)	60 (1,524)	6.75	(3.07)
6	HW	60B-HW-84-P	60D-HW-84-P	6.22 (158)	6 (152)	60 (1,524)	7.90	(3.59)

Nominal Size	Type	Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	XW	20B-XW-84-P	20D-XW-84-P	2.50 (65)	6 (152)	60 (1,524)	6.30	(2.86)
2½	XW	25B-XW-84-P	25D-XW-84-P	3.00 (76)	6 (152)	60 (1,524)	7.70	(3.50)
3	XW	30B-XW-84-P	30D-XW-84-P	3.50 (89)	6 (152)	60 (1,524)	9.10	(4.13)
3½	XW	35B-XW-84-P	35D-XW-84-P	4.00 (102)	6 (152)	60 (1,524)	10.50	(4.77)
4	XW	40B-XW-84-P	40D-XW-84-P	4.50 (114)	6 (152)	60 (1,524)	11.90	(5.40)
5	XW	50B-XW-84-P	50D-XW-84-P	5.50 (140)	6 (152)	60 (1,524)	14.70	(6.67)
6	XW	60B-XW-84-P	60D-XW-84-P	6.50 (165)	6 (152)	60 (1,524)	17.50	(7.94)



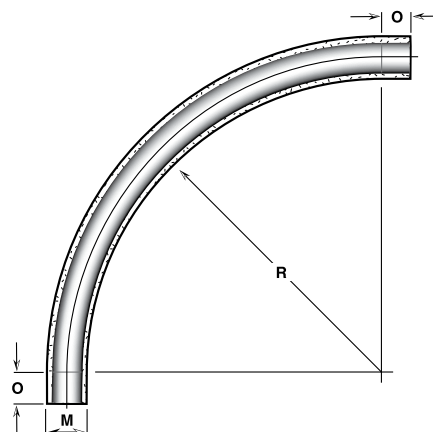
90° X 12"

Nominal Size	Type	IPS Item No.		M	O-Tangent (min)	R-Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
¾	SW	07A-SW-90-P	07C-SW-90-P	1.05 (27)	6 (152)	12 (305)	0.43	(0.20)
1	SW	10A-SW-90-P	10C-SW-90-P	1.32 (33)	6 (152)	12 (305)	0.48	(0.22)
1¼	SW	12A-SW-90-P	12C-SW-90-P	1.66 (42)	6 (152)	12 (305)	0.58	(0.26)
1½	SW	15A-SW-90-P	15C-SW-90-P	1.90 (48)	6 (152)	12 (305)	0.83	(0.38)
2	SW	20A-SW-90-P	20C-SW-90-P	2.37 (60)	6 (152)	12 (305)	0.95	(0.43)
2½	SW	25A-SW-90-P	25C-SW-90-P	2.88 (73)	6 (152)	12 (305)	1.15	(0.52)

Nominal Size	Type	ID Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	SW	20B-SW-90-P	20D-SW-90-P	2.14 (54)	6 (152)	12 (305)	0.85	(0.39)
2½	SW	25B-SW-90-P	25D-SW-90-P	2.64 (67)	6 (152)	12 (305)	1.05	(0.48)

Nominal Size	Type	Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	XW	20B-XW-90-P	20D-XW-90-P	2.50 (63)	6 (152)	12 (305)	3.15	(1.43)
2½	XW	25B-XW-90-P	25D-XW-90-P	3.00 (76)	6 (152)	12 (305)	3.85	(1.75)
3	XW	30B-XW-90-P	30D-XW-90-P	3.50 (89)	6 (152)	12 (305)	4.55	(2.06)
3½	XW	35B-XW-90-P	35D-XW-90-P	4.00 (102)	6 (152)	12 (305)	5.25	(2.38)

ELBOWS

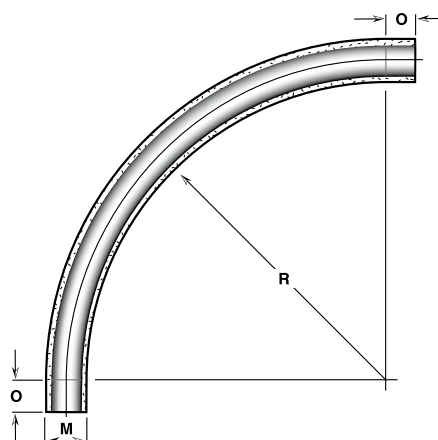


90° X 24"

Nominal Size	Type	IPS Item No.		M	O-Tangent (min)	R-Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
¾	SW	07A-SW-91-P	07C-SW-91-P	1.05 (27)	6 (152)	24 (610)	0.71	(0.32)
1	SW	10A-SW-91-P	10C-SW-91-P	1.32 (33)	6 (152)	24 (610)	0.79	(0.36)
1¼	SW	12A-SW-91-P	12C-SW-91-P	1.66 (42)	6 (152)	24 (610)	0.96	(0.44)
1½	SW	15A-SW-91-P	15C-SW-91-P	1.90 (48)	6 (152)	24 (610)	1.38	(0.63)
2	SW	20A-SW-91-P	20C-SW-91-P	2.37 (60)	6 (152)	24 (610)	1.58	(0.72)
2½	SW	25A-SW-91-P	25C-SW-91-P	2.88 (73)	6 (152)	24 (610)	1.92	(0.87)
3	SW	30A-SW-91-P	30C-SW-91-P	3.50 (89)	6 (152)	24 (610)	2.50	(1.14)
4	SW	40A-SW-91-P	40C-SW-91-P	4.46 (113)	6 (152)	24 (610)	3.00	(1.36)
4	HW	40A-HW-91-P	40C-HW-91-P	4.51 (115)	6 (152)	24 (610)	4.04	(1.83)

Nominal Size	Type	ID Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	SW	20B-SW-91-P	20D-SW-91-P	2.14 (54)	6 (152)	24 (610)	1.42	(0.65)
2½	SW	25B-SW-91-P	25D-SW-91-P	2.64 (67)	6 (152)	24 (610)	1.75	(0.80)
3	SW	30B-SW-91-P	30D-SW-91-P	3.14 (80)	6 (152)	24 (610)	2.00	(0.91)
4	SW	40B-SW-91-P	40D-SW-91-P	4.14 (105)	6 (152)	24 (610)	2.88	(1.30)
4	HW	40A-HW-91-P	40C-HW-91-P	4.19 (106)	6 (152)	24 (610)	3.84	(1.74)

Nominal Size	Type	Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	XW	20B-XW-91-P	20D-XW-91-P	2.50 (65)	6 (152)	24 (610)	5.25	(2.38)
2½	XW	25B-XW-91-P	25D-XW-91-P	3.00 (76)	6 (152)	24 (610)	6.42	(2.92)
3	XW	30B-XW-91-P	30D-XW-91-P	3.50 (89)	6 (152)	24 (610)	7.58	(3.44)
3½	XW	35B-XW-91-P	35D-XW-91-P	4.00 (102)	6 (152)	24 (610)	8.76	(3.98)
4	XW	40B-XW-91-P	40D-XW-91-P	4.50 (114)	6 (152)	24 (610)	9.92	(4.50)

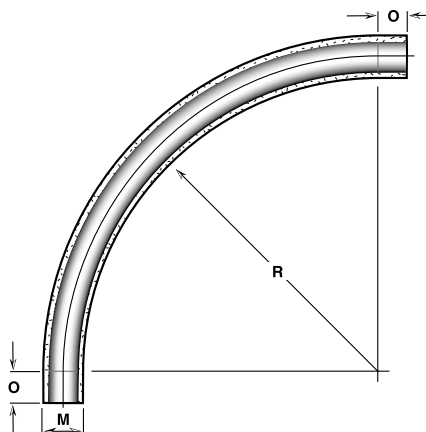


90° X 36"

Nominal Size	Type	IPS Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
¾	SW	07A-SW-92-P	07C-SW-92-P	1.05 (27)	6 (152)	36 (914)	0.96	(0.44)
1	SW	10A-SW-92-P	10C-SW-92-P	1.32 (33)	6 (152)	36 (914)	1.08	(0.49)
1¼	SW	12A-SW-92-P	12C-SW-92-P	1.66 (42)	6 (152)	36 (914)	1.30	(0.59)
1½	SW	15A-SW-92-P	15C-SW-92-P	1.90 (48)	6 (152)	36 (914)	1.87	(0.85)
2	SW	20A-SW-92-P	20C-SW-92-P	2.37 (60)	6 (152)	36 (914)	2.15	(0.98)
2½	SW	25A-SW-92-P	25C-SW-92-P	2.88 (73)	6 (152)	36 (914)	2.61	(1.19)
3	SW	30A-SW-92-P	30C-SW-92-P	3.50 (89)	6 (152)	36 (914)	3.40	(1.54)
4	SW	40A-SW-92-P	40C-SW-92-P	4.46 (113)	6 (152)	36 (914)	4.08	(1.85)
4	HW	40A-HW-92-P	40C-HW-92-P	4.51 (115)	6 (152)	36 (914)	5.50	(2.50)
5	SW	50A-SW-92-P	50C-SW-92-P	5.52 (140)	6 (152)	36 (914)	5.14	(2.34)
5	MW	50A-MW-92-P	50C-MW-92-P	5.57 (141)	6 (152)	36 (914)	6.85	(3.08)
5	HW	50A-HW-92-P	50C-HW-92-P	5.60 (142)	6 (152)	36 (914)	7.54	(3.42)
6	SW	60A-SW-92-P	60C-SW-92-P	6.58 (167)	6 (152)	36 (914)	5.71	(2.57)
6	MW	60A-MW-92-P	60C-MW-92-P	6.63 (168)	6 (152)	36 (914)	8.11	(3.65)
6	HW	60A-HW-92-P	60C-HW-92-P	6.66 (169)	6 (152)	36 (914)	9.31	(4.19)

Nominal Size	Type	ID Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	SW	20B-SW-92-P	20D-SW-92-P	2.14 (54)	6 (152)	36 (914)	1.93	(1.14)
2½	SW	25B-SW-92-P	25D-SW-92-P	2.64 (67)	6 (152)	36 (914)	2.38	(1.36)
3	SW	30B-SW-92-P	30D-SW-92-P	3.14 (80)	6 (152)	36 (914)	2.72	(1.59)
3½	SW	35B-SW-92-P	35D-SW-92-P	3.64 (92)	6 (152)	36 (914)	3.40	(1.63)
4	SW	40B-SW-92-P	40D-SW-92-P	4.14 (105)	6 (152)	36 (914)	3.91	(1.68)
4	HW	40B-HW-92-P	40D-HW-92-P	4.19 (106)	6 (152)	36 (914)	5.21	(2.09)
4½	SW	45B-SW-92-P	45D-SW-92-P	4.64 (117)	6 (152)	36 (914)	4.25	(1.86)
4½	HW	45B-HW-92-P	45D-HW-92-P	4.69 (118)	6 (152)	36 (914)	5.89	(2.27)
5	SW	50B-SW-92-P	50D-SW-92-P	5.14 (131)	6 (152)	36 (914)	4.86	(2.18)
5	MW	50B-MW-92-P	50D-MW-92-P	5.19 (132)	6 (152)	36 (914)	6.45	(2.90)
5	HW	50B-HW-92-P	50D-HW-92-P	5.22 (132)	6 (152)	36 (914)	7.42	(3.34)
6	SW	60B-SW-92-P	60D-SW-92-P	6.14 (156)	6 (152)	36 (914)	5.83	(2.62)
6	MW	60B-MW-92-P	60D-MW-92-P	6.19 (157)	6 (152)	36 (914)	7.71	(3.47)
6	HW	60B-HW-92-P	60D-HW-92-P	6.22 (158)	6 (152)	36 (914)	9.02	(4.06)

Nominal Size	Type	Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
		Belowground	Aboveground				lbs	kg
2	XW	20B-XW-92-P	20D-XW-92-P	2.50 (65)	6 (152)	36 (914)	7.14	(3.24)
2½	XW	25B-XW-92-P	25D-XW-92-P	3.00 (76)	6 (152)	36 (914)	8.73	(3.96)
3	XW	30B-XW-92-P	30D-XW-92-P	3.50 (89)	6 (152)	36 (914)	10.31	(4.68)
3½	XW	35B-XW-92-P	35D-XW-92-P	4.00 (102)	6 (152)	36 (914)	11.90	(5.40)
4	XW	40B-XW-92-P	40D-XW-92-P	4.50 (114)	6 (152)	36 (914)	13.49	(6.12)
5	XW	50B-XW-92-P	50D-XW-92-P	5.50 (140)	6 (152)	36 (914)	16.79	(7.56)
6	XW	60B-XW-92-P	60D-XW-92-P	6.50 (165)	6 (152)	36 (914)	19.99	(9.00)

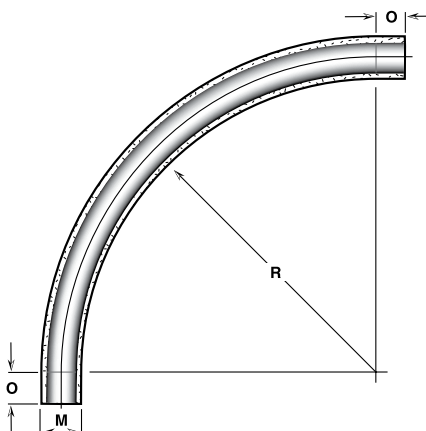


90° X 48"

Nominal Size Type	IPS Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
	Belowground	Aboveground				lbs	kg
¾ SW	07A-SW-93-P	07C-SW-93-P	1.05 (27)	6 (152)	48 (1,219)	1.36	(0.62)
1 SW	10A-SW-93-P	10C-SW-93-P	1.32 (33)	6 (152)	48 (1,219)	1.52	(0.69)
1¼ SW	12A-SW-93-P	12C-SW-93-P	1.66 (42)	6 (152)	48 (1,219)	1.84	(0.84)
1½ SW	15A-SW-93-P	15C-SW-93-P	1.90 (48)	6 (152)	48 (1,219)	2.64	(1.20)
2 SW	20A-SW-93-P	20C-SW-93-P	2.37 (60)	6 (152)	48 (1,219)	3.04	(1.38)
2½ SW	25A-SW-93-P	25C-SW-93-P	2.88 (73)	6 (152)	48 (1,219)	3.68	(1.67)
3 SW	30A-SW-93-P	30C-SW-93-P	3.50 (89)	6 (152)	48 (1,219)	4.80	(2.18)
4 SW	40A-SW-93-P	40C-SW-93-P	4.46 (113)	6 (152)	48 (1,219)	5.76	(2.62)
4 HW	40A-HW-93-P	40C-HW-93-P	4.51 (114)	6 (152)	48 (1,219)	7.76	(3.52)
5 SW	50A-SW-93-P	50C-SW-93-P	5.52 (140)	6 (152)	48 (1,219)	7.20	(3.27)
5 MW	50A-MW-93-P	50C-MW-93-P	5.57 (141)	6 (152)	48 (1,219)	9.60	(4.36)
5 HW	50A-HW-93-P	50C-HW-93-P	5.60 (142)	6 (152)	48 (1,219)	10.40	(4.72)
6 SW	60A-SW-93-P	60C-SW-93-P	6.58 (167)	6 (152)	48 (1,219)	8.64	(3.92)
6 MW	60A-MW-93-P	60C-MW-93-P	6.63 (168)	6 (152)	48 (1,219)	11.52	(5.23)
6 HW	60A-HW-93-P	60C-HW-93-P	6.66 (169)	6 (152)	48 (1,219)	12.67	(5.75)

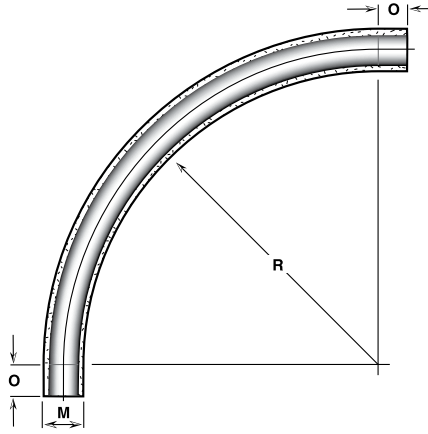
Nominal Size Type	ID Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
	Belowground	Aboveground				lbs	kg
2 SW	20B-SW-93-P	20D-SW-93-P	2.14 (54)	6 (152)	48 (1,219)	2.72	(1.24)
2½ SW	25B-SW-93-P	25D-SW-93-P	2.64 (67)	6 (152)	48 (1,219)	3.36	(1.53)
3 SW	30B-SW-93-P	30D-SW-93-P	3.14 (80)	6 (152)	48 (1,219)	3.84	(1.74)
3½ SW	35B-SW-93-P	35D-SW-93-P	3.64 (92)	6 (152)	48 (1,219)	4.80	(2.18)
4 SW	40B-SW-93-P	40D-SW-93-P	4.14 (105)	6 (152)	48 (1,219)	5.52	(2.51)
4 HW	40B-HW-93-P	40D-HW-93-P	4.19 (106)	6 (152)	48 (1,219)	7.36	(3.34)
4½ SW	45B-SW-93-P	45D-SW-93-P	4.64 (117)	6 (152)	48 (1,219)	6.00	(2.72)
4½ HW	45B-HW-93-P	45D-HW-93-P	4.69 (118)	6 (152)	48 (1,219)	8.32	(3.78)
5 SW	50B-SW-93-P	50D-SW-93-P	5.14 (131)	6 (152)	48 (1,219)	6.80	(3.09)
5 MW	50B-MW-93-P	50D-MW-93-P	5.19 (132)	6 (152)	48 (1,219)	9.04	(4.10)
5 HW	50B-HW-93-P	50D-HW-93-P	5.22 (133)	6 (152)	48 (1,219)	10.56	(4.79)
6 SW	60B-SW-93-P	60D-SW-93-P	6.14 (156)	6 (152)	48 (1,219)	8.16	(3.70)
6 MW	60B-MW-93-P	60D-MW-93-P	6.19 (157)	6 (152)	48 (1,219)	10.85	(4.92)
6 HW	60B-HW-93-P	60D-HW-93-P	6.22 (158)	6 (152)	48 (1,219)	12.48	(5.66)

Nominal Size Type	Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
	Belowground	Aboveground				lbs	kg
2 XW	20B-XW-93-P	20D-XW-93-P	2.50 (65)	6 (152)	48 (1,219)	10.08	(4.58)
2½ XW	25B-XW-93-P	25D-XW-93-P	3.00 (76)	6 (152)	48 (1,219)	12.32	(5.59)
3 XW	30B-XW-93-P	30D-XW-93-P	3.50 (89)	6 (152)	48 (1,219)	14.56	(6.61)
3½ XW	35B-XW-93-P	35D-XW-93-P	4.00 (102)	6 (152)	48 (1,219)	16.80	(7.63)
4 XW	40B-XW-93-P	40D-XW-93-P	4.50 (114)	6 (152)	48 (1,219)	19.04	(8.64)
5 XW	50B-XW-93-P	50D-XW-93-P	5.50 (140)	6 (152)	48 (1,219)	23.52	(10.68)
6 XW	60B-XW-93-P	60D-XW-93-P	6.50 (165)	6 (152)	48 (1,219)	28.00	(12.71)



90° X 60"

Nominal Size Type	IPS Item No.		M	O-Tangent (min)	R - Radius (min)	Weight	
	Belowground	Aboveground				lbs	kg
¾ SW	07A-SW-94-P	07C-SW-94-P	1.05 (27)	6 (152)	60 (1,524)	1.50	(0.68)
1 SW	10A-SW-94-P	10C-SW-94-P	1.32 (33)	6 (152)	60 (1,524)	1.68	(0.76)
1¼ SW	12A-SW-94-P	12C-SW-94-P	1.66 (42)	6 (152)	60 (1,524)	2.03	(0.92)
1½ SW	15A-SW-94-P	15C-SW-94-P	1.90 (48)	6 (152)	60 (1,524)	2.92	(1.33)
2 SW	20A-SW-94-P	20C-SW-94-P	2.37 (60)	6 (152)	60 (1,524)	3.36	(1.53)
2½ SW	25A-SW-94-P	25C-SW-94-P	2.88 (73)	6 (152)	60 (1,524)	4.06	(1.84)
3 SW	30A-SW-94-P	30C-SW-94-P	3.50 (89)	6 (152)	60 (1,524)	5.30	(2.41)
4 SW	40A-SW-94-P	40C-SW-94-P	4.46 (113)	6 (152)	60 (1,524)	6.36	(2.89)
4 HW	40A-HW-94-P	40C-HW-94-P	4.51 (115)	6 (152)	60 (1,524)	8.57	(3.89)
5 SW	50A-SW-94-P	50C-SW-94-P	5.52 (140)	6 (152)	60 (1,524)	7.95	(3.61)
5 MW	50A-MW-94-P	50C-MW-94-P	5.57 (141)	6 (152)	60 (1,524)	10.60	(4.81)
5 HW	50A-HW-94-P	50C-HW-94-P	5.60 (142)	6 (152)	60 (1,524)	11.48	(5.21)
6 SW	60A-SW-94-P	60C-SW-94-P	6.58 (167)	6 (152)	60 (1,524)	8.83	(4.01)
6 MW	60A-MW-94-P	60C-MW-94-P	6.63 (168)	6 (152)	60 (1,524)	12.54	(5.69)
6 HW	60A-HW-94-P	60C-HW-94-P	6.66 (169)	6 (152)	60 (1,524)	14.40	(6.54)



90° X 60"

Note: For different radii, degree and/or length for any elbows listed in this catalog, please contact your local sales representative or Champion Fiberglass. Please specify if such an arrangement is required.

For technical information regarding fittings and elbows for 8", 10", and 12" conduit, please contact your local sales representative or Champion Fiberglass.

Nominal Size	Type	ID Item No. Belowground	Aboveground	M	O-Tangent (min)	R - Radius (min)	Weight lbs	kg
2	SW	20B-SW-94-P	20D-SW-94-P	2.14 (54)	6 (152)	60 (1,524)	3.00	(1.36)
2½	SW	25B-SW-94-P	25D-SW-94-P	2.64 (67)	6 (152)	60 (1,524)	3.71	(1.68)
3	SW	30B-SW-94-P	30D-SW-94-P	3.14 (80)	6 (152)	60 (1,524)	4.24	(1.93)
3½	SW	35B-SW-94-P	35D-SW-94-P	3.64 (92)	6 (152)	60 (1,524)	5.30	(2.41)
4	SW	40B-SW-94-P	40D-SW-94-P	4.14 (105)	6 (152)	60 (1,524)	6.10	(2.77)
4	HW	40B-HW-94-P	40D-HW-94-P	4.19 (106)	6 (152)	60 (1,524)	8.13	(3.69)
4½	SW	45B-SW-94-P	45D-SW-94-P	4.64 (117)	6 (152)	60 (1,524)	6.63	(3.01)
4½	HW	45B-HW-94-P	45D-HW-94-P	4.69 (118)	6 (152)	60 (1,524)	9.19	(4.17)
5	SW	50B-SW-94-P	50D-SW-94-P	5.14 (131)	6 (152)	60 (1,524)	7.51	(3.41)
5	MW	50B-MW-94-P	50D-MW-94-P	5.19 (132)	6 (152)	60 (1,524)	9.98	(4.53)
5	HW	50B-HW-94-P	50D-HW-94-P	5.22 (132)	6 (152)	60 (1,524)	11.66	(5.29)
6	SW	60B-SW-94-P	60D-SW-94-P	6.14 (156)	6 (152)	60 (1,524)	9.01	(4.09)
6	MW	60B-MW-94-P	60D-MW-94-P	6.19 (157)	6 (152)	60 (1,524)	11.93	(5.42)
6	HW	60B-HW-94-P	60D-HW-94-P	6.22 (158)	6 (152)	60 (1,524)	13.96	(6.34)

Nominal Size	Type	Item No. Belowground	Aboveground	M	O-Tangent (min)	R - Radius (min)	Weight lbs	kg
2	XW	20B-XW-94-P	20D-XW-94-P	2.50 (65)	6 (152)	60 (1,524)	11.13	(5.05)
2½	XW	25B-XW-94-P	25D-XW-94-P	3.00 (76)	6 (152)	60 (1,524)	13.61	(6.18)
3	XW	30B-XW-94-P	30D-XW-94-P	3.50 (89)	6 (152)	60 (1,524)	16.08	(7.30)
3½	XW	35B-XW-94-P	35D-XW-94-P	4.00 (102)	6 (152)	60 (1,524)	18.55	(8.42)
4	XW	40B-XW-94-P	40D-XW-94-P	4.50 (114)	6 (152)	60 (1,524)	21.02	(9.54)
5	XW	50B-XW-94-P	50D-XW-94-P	5.50 (140)	6 (152)	60 (1,524)	25.97	(11.79)
6	XW	60B-XW-94-P	60D-XW-94-P	6.50 (165)	6 (152)	60 (1,524)	30.92	(14.04)

IPS STANDARD RADIUS 90° ELBOWS

Standard radius elbows are available in 11¼, 22½, 30 and 45 degree bends as well. Please contact factory for additional information regarding pricing, dimensions, weights and part numbers.

Nominal Size	Type	IPS Item No. Belowground	Aboveground	M	O-Tangent (min)	R-Radius (min)	Weight lbs	kg
¾	SW	07A-SW-9SR-P	07C-SW-9SR-P	1.05 (27)	6 (152)	4.50 (114)	0.27	(0.1)
1	SW	10A-SW-9SR-P	10C-SW-9SR-P	1.32 (33)	6 (152)	5.75 (146)	0.33	(0.2)
1¼	SW	12A-SW-9SR-P	12C-SW-9SR-P	1.66 (42)	6 (152)	7.25 (184)	0.46	(0.2)
1½	SW	15A-SW-9SR-P	15C-SW-9SR-P	1.90 (48)	6 (152)	8.25 (210)	0.68	(0.3)
2	SW	20A-SW-9SR-P	20C-SW-9SR-P	2.37 (60)	6 (152)	9.50 (241)	0.87	(0.4)

XW STANDARD RADIUS 90° ELBOWS

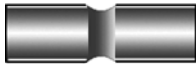
Standard radius elbows are available in 11¼, 22½, 30 and 45 degree bends as well. Please contact factory for additional information regarding pricing, dimensions, weights and part numbers.

Nominal Size	Type	Item No.	M	O-Tangent (min)	R - Radius (min)	Weight lbs	kg
¾	XW	07C-XW-9SR-P	1.05 (27)	6 (152)	4.50 (114)	.98	(0.4)
1	XW	10C-XW-9SR-P	1.32 (33)	6 (152)	5.75 (146)	1.19	(0.5)
1¼	XW	12C-XW-9SR-P	1.66 (42)	6 (152)	7.25 (184)	1.62	(0.7)
1½	XW	15C-XW-9SR-P	1.90 (48)	6 (152)	8.25 (210)	2.42	(1.1)
2	XW	20D-XW-9SR-P	2.37 (60)	6 (152)	9.50 (241)	2.87	(1.3)

ELBOWS WITH BONDED ON PVC COUPLINGS



Standard PVC Coupling



Deep Socket PVC Coupling



Standard PVC Coupling bonded onto fiberglass elbow.



Deep Socket PVC Coupling bonded onto fiberglass elbow.

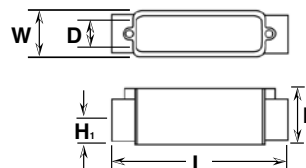
Elbows can be supplied with one or two PVC bonded couplings. Replace P suffix with: 1V for one coupling or 2V for two couplings.

Elbows can be supplied with one or two PVC bonded couplings. Replace P suffix with: 1D for one coupling or 2D for two couplings.

CONDUIT BODIES

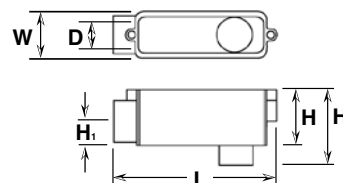
All conduit bodies are manufactured by compression molding for ultimate strength. The conduit bodies are made of vinyl ester resin with high glass content, flame retardant per UL 2515 and CSA C22.2 No. 2515 and halogen free. Each conduit body is supplied with a high performance rubber gasket to provide a water tight seal between the cover and conduit body. Provided hardware is stainless steel.

TYPE C



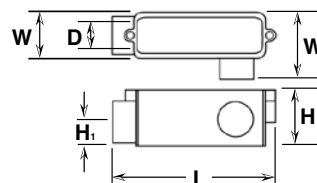
Nominal Size	Type	IPS Item No. Aboveground	L inch (mm)	H inch (mm)	W inch (mm)	H ₁ inch (mm)	D inch (mm)	Volume cu in (cm ³)	Weight lbs (kg)
¾	SW	07C-SW-C	8.375 (213)	2.375 (60)	1.840 (47)	1.000 (25)	1.075 (27)	13.90 (228)	0.70 (0.32)
1	SW	10C-SW-C	8.375 (213)	2.375 (60)	1.840 (47)	1.000 (25)	1.340 (34)	13.90 (228)	0.70 (0.32)
1¼	SW	12C-SW-C	10.125 (257)	2.875 (73)	2.540 (64)	1.188 (30)	1.685 (43)	32.00 (524)	1.20 (0.54)
1½	SW	15C-SW-C	10.125 (257)	2.875 (73)	2.540 (64)	1.188 (30)	1.910 (48)	32.00 (524)	1.10 (0.50)
2	SW	20C-SW-C	13.375 (340)	4.000 (102)	3.040 (77)	1.812 (46)	2.390 (61)	70.75 (1160)	2.50 (1.13)
2½	SW	25C-SW-C	21.750 (552)	6.000 (152)	5.875 (149)	3.000 (76)	3.508 (89)	425.00 (6964)	4.24 (1.92)
3	SW	30C-SW-C	21.750 (552)	6.000 (152)	5.875 (149)	3.000 (76)	3.508 (89)	425.00 (6964)	4.24 (1.92)
4	SW	40C-SW-C	21.750 (552)	6.000 (152)	5.875 (149)	3.000 (76)	4.508 (114)	425.00 (6964)	4.24 (1.92)

TYPE LB



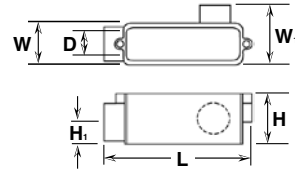
Nominal Size	Type	IPS Item No. Aboveground	L inch (mm)	H inch (mm)	W inch (mm)	H ₁ inch (mm)	H ₂ inch (mm)	D inch (mm)	Volume cu in (cm ³)	Weight lbs (kg)
¾	SW	07C-SW-LB	7.375 (187)	2.375 (60)	1.840 (47)	1.000 (25)	3.900 (99)	1.075 (27)	13.90 (228)	0.70 (0.32)
1	SW	10C-SW-LB	7.375 (187)	2.375 (60)	1.840 (47)	1.000 (25)	3.900 (99)	1.340 (34)	13.90 (228)	0.70 (0.32)
1¼	SW	12C-SW-LB	9.000 (229)	2.875 (73)	2.540 (64)	1.188 (30)	4.875 (124)	1.685 (43)	32.00 (524)	1.20 (0.54)
1½	SW	15C-SW-LB	9.000 (229)	2.875 (73)	2.540 (64)	1.188 (30)	4.875 (124)	1.910 (48)	32.00 (524)	1.10 (0.50)
2	SW	20C-SW-LB	11.250 (286)	4.000 (102)	3.040 (77)	1.812 (46)	6.687 (170)	2.390 (61)	70.75 (1160)	2.50 (1.13)
2½	SW	25C-SW-LB	16.125 (410)	6.000 (152)	5.875 (149)	3.000 (76)	8.750 (222)	3.508 (89)	425.00 (6964)	4.24 (1.92)
3	SW	30C-SW-LB	16.125 (410)	6.000 (152)	5.875 (149)	3.000 (76)	8.750 (222)	3.508 (89)	425.00 (6964)	4.24 (1.92)
4	SW	40C-SW-LB	16.125 (410)	6.000 (152)	5.875 (149)	3.000 (76)	8.750 (222)	4.508 (114)	425.00 (6964)	4.24 (1.92)

TYPE LL



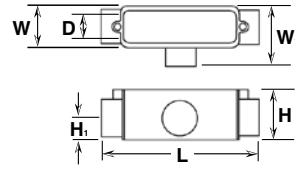
Nominal Size	Type	IPS Item No. Aboveground	L inch (mm)	H inch (mm)	W inch (mm)	W ₁ inch (mm)	H ₁ inch (mm)	D inch (mm)	Volume cu in (cm ³)	Weight lbs (kg)
¾	SW	07C-SW-LL	7.375 (187)	2.375 (60)	1.840 (47)	3.500 (89)	1.000 (25)	1.075 (27)	13.90 (228)	0.70 (0.32)
1	SW	10C-SW-LL	7.375 (187)	2.375 (60)	1.840 (47)	3.500 (89)	1.000 (25)	1.340 (34)	13.90 (228)	0.70 (0.32)
1¼	SW	12C-SW-LL	9.000 (229)	2.875 (73)	2.540 (64)	4.500 (114)	1.188 (30)	1.685 (43)	32.00 (524)	1.20 (0.54)
1½	SW	15C-SW-LL	9.000 (229)	2.875 (73)	2.540 (64)	4.500 (114)	1.188 (30)	1.910 (48)	32.00 (524)	1.10 (0.50)
2	SW	20C-SW-LL	11.250 (286)	4.000 (102)	3.040 (77)	5.500 (140)	1.812 (46)	2.390 (61)	70.75 (1160)	2.50 (1.13)
2½	SW	25C-SW-LL	16.125 (410)	6.000 (152)	5.875 (149)	8.750 (222)	3.000 (76)	3.508 (89)	425.00 (6964)	4.24 (1.92)
3	SW	30C-SW-LL	16.125 (410)	6.000 (152)	5.875 (149)	8.750 (222)	3.000 (76)	3.508 (89)	425.00 (6964)	4.24 (1.92)
4	SW	40C-SW-LL	16.125 (410)	6.000 (152)	5.875 (149)	8.750 (222)	3.000 (76)	4.508 (114)	425.00 (6964)	4.24 (1.92)

TYPE LR



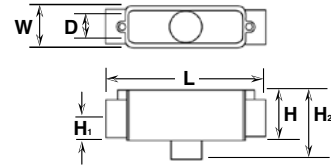
Nominal Size	Type	IPS Item No. Aboveground	L inch (mm)	H inch (mm)	W inch (mm)	W ₁ inch (mm)	H ₁ inch (mm)	D inch (mm)	Volume cu in (cm ³)	Weight lbs (kg)
¾	SW	07C-SW-LR	7.375 (187)	2.375 (60)	1.840 (47)	3.500 (89)	1.000 (25)	1.075 (27)	13.90 (228)	0.70 (0.32)
1	SW	10C-SW-LR	7.375 (187)	2.375 (60)	1.840 (47)	3.500 (89)	1.000 (25)	1.340 (34)	13.90 (228)	0.70 (0.32)
1¼	SW	12C-SW-LR	9.000 (229)	2.875 (73)	2.540 (64)	4.500 (114)	1.188 (30)	1.685 (43)	32.00 (524)	1.20 (0.54)
1½	SW	15C-SW-LR	9.000 (229)	2.875 (73)	2.540 (64)	4.500 (114)	1.188 (30)	1.910 (48)	32.00 (524)	1.10 (0.50)
2	SW	20C-SW-LR	11.250 (286)	4.000 (102)	3.040 (77)	5.500 (140)	1.812 (46)	2.390 (61)	70.75 (1160)	2.50 (1.13)
2½	SW	25C-SW-LR	16.125 (410)	6.000 (152)	5.875 (149)	8.750 (222)	3.000 (76)	3.508 (89)	425.00 (6964)	4.24 (1.92)
3	SW	30C-SW-LR	16.125 (410)	6.000 (152)	5.875 (149)	8.750 (222)	3.000 (76)	3.508 (89)	425.00 (6964)	4.24 (1.92)
4	SW	40C-SW-LR	16.125 (410)	6.000 (152)	5.875 (149)	8.750 (222)	3.000 (76)	4.508 (114)	425.00 (6964)	4.24 (1.92)

TYPE T



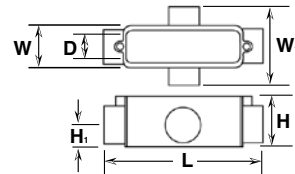
Nominal Size	Type	IPS Item No. Aboveground	L inch (mm)	H inch (mm)	W inch (mm)	W ₁ inch (mm)	H ₁ inch (mm)	D inch (mm)	Volume cu in (cm ³)	Weight lbs (kg)
¾	SW	07C-SW-T	8.375 (213)	2.375 (60)	1.840 (47)	3.500 (89)	1.000 (25)	1.075 (27)	13.90 (228)	0.70 (0.32)
1	SW	10C-SW-T	8.375 (213)	2.375 (60)	1.840 (47)	3.500 (89)	1.000 (25)	1.340 (34)	13.90 (228)	0.70 (0.32)
1¼	SW	12C-SW-T	10.125 (257)	3.000 (76)	2.540 (64)	4.437 (113)	1.188 (30)	1.685 (43)	32.00 (524)	1.40 (0.64)
1½	SW	15C-SW-T	10.125 (257)	3.000 (76)	2.540 (64)	4.437 (113)	1.188 (30)	1.910 (48)	32.00 (524)	1.30 (0.59)
2	SW	20C-SW-T	13.375 (340)	4.000 (102)	3.040 (77)	5.500 (140)	1.812 (46)	2.390 (61)	70.75 (1160)	2.80 (1.27)
2½	SW	25C-SW-T	21.750 (552)	6.000 (152)	5.875 (149)	8.750 (222)	3.000 (76)	3.508 (89)	425.00 (6964)	4.24 (1.92)
3	SW	30C-SW-T	21.750 (552)	6.000 (152)	5.875 (149)	8.750 (222)	3.000 (76)	3.508 (89)	425.00 (6964)	4.24 (1.92)
4	SW	40C-SW-T	21.750 (552)	6.000 (152)	5.875 (149)	8.750 (222)	3.000 (76)	4.508 (114)	425.00 (6964)	4.24 (1.92)

TYPE TB



Nominal Size	Type	IPS Item No. Aboveground	L inch (mm)	H inch (mm)	W inch (mm)	H ₁ inch (mm)	H ₂ inch (mm)	D inch (mm)	Volume cu in (cm ³)	Weight lbs (kg)
¾	SW	07C-SW-TB	8.375 (213)	2.375 (60)	1.840 (47)	1.000 (25)	3.900 (99)	1.075 (27)	13.90 (228)	0.70 (0.32)
1	SW	10C-SW-TB	8.375 (213)	2.375 (60)	1.840 (47)	1.000 (25)	3.900 (99)	1.340 (34)	13.90 (228)	0.70 (0.32)
1¼	SW	12C-SW-TB	10.125 (257)	3.000 (76)	2.540 (64)	1.188 (30)	4.875 (124)	1.685 (43)	32.00 (524)	1.40 (0.64)
1½	SW	15C-SW-TB	10.125 (257)	3.000 (76)	2.540 (64)	1.188 (30)	4.875 (124)	1.910 (48)	32.00 (524)	1.30 (0.59)
2	SW	20C-SW-TB	13.375 (340)	4.000 (102)	3.040 (77)	1.812 (46)	6.687 (170)	2.390 (61)	70.75 (1160)	2.80 (1.27)
2½	SW	25C-SW-TB	21.750 (552)	6.000 (152)	5.875 (149)	3.000 (76)	8.750 (222)	3.508 (89)	425.00 (6964)	4.24 (1.92)
3	SW	30C-SW-TB	21.750 (552)	6.000 (152)	5.875 (149)	3.000 (76)	8.750 (222)	3.508 (89)	425.00 (6964)	4.24 (1.92)
4	SW	40C-SW-TB	21.750 (552)	6.000 (152)	5.875 (149)	3.000 (76)	8.750 (222)	4.508 (114)	425.00 (6964)	4.24 (1.92)

TYPE X



Nominal Size	Type	IPS Item No. Aboveground	L inch (mm)	H inch (mm)	W inch (mm)	W ₁ inch (mm)	H ₁ inch (mm)	D inch (mm)	Volume cu in (cm ³)	Weight lbs (kg)
¾	SW	07C-SW-X	8.375 (213)	2.375 (60)	1.840 (47)	4.750 (121)	1.000 (25)	1.075 (27)	13.90 (228)	0.70 (0.32)
1	SW	10C-SW-X	8.375 (213)	2.375 (60)	1.840 (47)	4.750 (121)	1.000 (25)	1.340 (34)	13.90 (228)	0.70 (0.32)
1¼	SW	12C-SW-X	10.125 (257)	3.000 (76)	2.540 (64)	6.437 (163)	1.188 (30)	1.685 (43)	32.00 (524)	1.60 (0.73)
1½	SW	15C-SW-X	10.125 (257)	3.000 (76)	2.540 (64)	6.437 (163)	1.188 (30)	1.910 (48)	32.00 (524)	1.50 (0.68)
2	SW	20C-SW-X	13.375 (340)	4.000 (102)	3.040 (77)	7.188 (182)	1.812 (46)	2.390 (61)	70.75 (1160)	3.00 (1.36)
2½	SW	25C-SW-X	21.750 (552)	6.000 (152)	5.875 (149)	11.500 (292)	3.000 (76)	3.508 (89)	425.00 (6964)	4.24 (1.92)
3	SW	30C-SW-X	21.750 (552)	6.000 (152)	5.875 (149)	11.500 (292)	3.000 (76)	3.508 (89)	425.00 (6964)	4.24 (1.92)
4	SW	40C-SW-X	21.750 (552)	6.000 (152)	5.875 (149)	11.500 (292)	3.000 (76)	4.508 (114)	425.00 (6964)	4.24 (1.92)

CHAMPION MIX®

[Epoxy Adhesive]

The **CHAMPION MIX** system is a two part adhesive, epoxy resin system, designed to permanently bond fittings and joints of fiberglass reinforced epoxy conduit. It is also designed for use with pultruded polyester and vinyl ester components. Each cartridge system contains resin, hardener, and one plastic static mixer. An adhesive gun is required for applying the adhesive (ordered separately).

Under normal conditions, it takes approximately 1 hour for the adhesive to harden at its rated temperature. If a faster setting adhesive is desired, a Champion Mix adhesive is available that gels in 1/3 of the time. The "Fast Gel" adhesive can be specified by adding the suffix, "FG" to the part number. Because the "Fast Gel" adhesive sets up quicker, additional mixing tubes may be required.

Note: Proper mixing can be visually ascertained when the epoxy mixture is evenly gray.

Part Numbers:

Temperature Range	Part Number
40° - 70°F (4°C - 21° C)	CM-2040
40° - 70°F (4°C - 21° C)	CM-2040-FG (Fast Gel)
70°F (21°C) and above	CM-2070
70°F (21°C) and above	CM-2070-FG (Fast Gel)
Mixing Tips	CM-MT
Adhesive Gun	CM-AG

Estimated Number of Joints Per Container (estimated only, as it varies depending on the amount of adhesive applied per application)							
¾"	100 Joints	1½"	60 Joints	3"	35 Joints	5"	20 Joints
1"	85 Joints	2"	50 Joints	3½"	30 Joints	6"	15 Joints
1¼"	75 Joints	2½"	40 Joints	4"	25 Joints	8"	10 Joints



Adhesive gun



Epoxy Cartridge & Mixer Tip



Assembled Unit

EPOXY ADHESIVE KIT

Champion Fiberglass Adhesive Kit, contains two cans, one with base adhesive (black color) and the other with hardener (white color), stir sticks, sand paper for abrading conduit surfaces and instruction sheet. When properly mixed, the adhesive will be evenly gray.

The adhesive kit is offered for three different ambient curing temperatures:

- Item# CF-1070, for 70°F **(21°C)** ambient temperature (standard grade)
- Item# CF-1040, for 40°F **(4°C)** ambient temperature (special grade)
- Item# CF-1020, for 20°F **(-7°C)** ambient temperature (special grade)

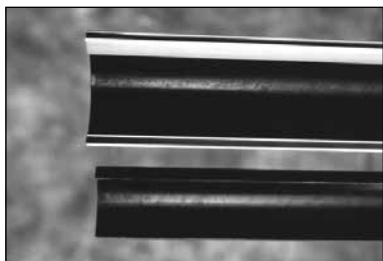


Adhesive curing time is dependent on the ambient temperature. As a guideline, the CF-1070 adhesive is cured at 75°F **(29°C)** in 1 hour. Contact Champion Fiberglass for curing information at extreme temperatures (high or low). Champion Fiberglass adhesive can be used for bonding fiberglass and PVC together.

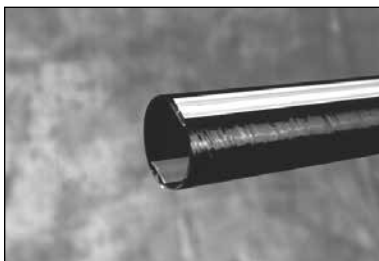
Estimated Number of Joints Per Kit (estimated only, as it varies depending on the amount of adhesive applied per application)					
¾"	40 Joints	1½"	25 Joints	3"	15 Joints
1"	35 Joints	2"	20 Joints	3½"	13 Joints
1¼"	30 Joints	2½"	18 Joints	4"	10 Joints
				5"	8 Joints
				6"	6 Joints
				8"	4 Joints

SPLIT DUCT

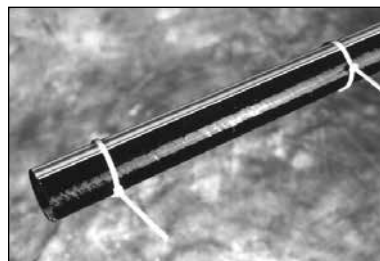
For making field repairs when the cable cannot be removed, Champion Fiberglass offers Split Duct conduit. For ease of installation, the duct is split lengthwise in two halves. The duct is then joined by using thermoplastic H-strips. Tie straps are applied every 2-3 feet for securing the duct. Champion Fiberglass also offers elbows and fittings in split configuration. H-strips are ordered separately.



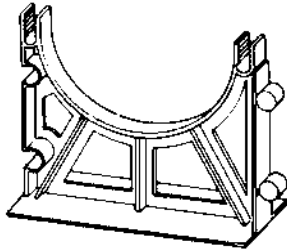
Unassembled Unit



Duct joined together with H-Strips

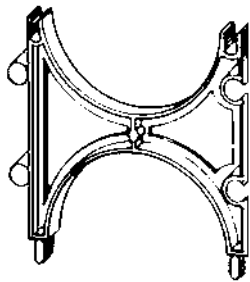


Assembled Unit



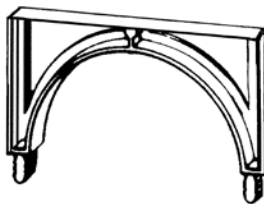
BASE SPACERS*

1½" Separation - Base Spacer			
Duct Size	Item No.	Weight lbs/ft kgs/m	
2 (51)	BS-215	0.010	(.045)
3 (76)	BS-315	0.014	(.064)
4 (107)	BS-415	0.020	(.091)
5 (127)	BS-515	0.028	(.127)
6 (152)	BS-615	0.030	(.136)
2" Separation - Base Spacer			
2 (51)	BS-220	0.010	(.045)
3 (76)	BS-320	0.016	(.073)
4 (107)	BS-420	0.022	(.100)
5 (127)	BS-520	0.027	(.123)
6 (152)	BS-620	0.034	(.154)
3" Separation - Base Spacer			
2 (51)	BS-230	0.014	(.064)
3 (76)	BS-330	0.018	(.082)
4 (107)	BS-430	0.027	(.123)
5 (127)	BS-530	0.029	(.132)
6 (152)	BS-630	0.037	(.168)



INTERMEDIATE SPACERS*

1½" Separation - Intermediate Spacer			
Duct Size	Item No.	Weight lbs/ft kgs/m	
2 (51)	IS-215	0.012	(.054)
3 (76)	IS-315	0.018	(.082)
4 (107)	IS-415	0.028	(.127)
5 (127)	IS-515	0.032	(.145)
6 (152)	IS-615	0.035	(.159)
2" Separation - Intermediate Spacer			
2 (51)	IS-220	0.015	(.068)
3 (76)	IS-320	0.018	(.082)
4 (107)	IS-420	0.030	(.136)
5 (127)	IS-520	0.038	(.173)
6 (152)	IS-620	0.041	(.186)
3" Separation - Intermediate Spacer			
2 (51)	IS-230	0.016	(.073)
3 (76)	IS-330	0.021	(.095)
4 (107)	IS-430	0.036	(.163)
5 (127)	IS-530	0.038	(.173)
6 (152)	IS-630	0.040	(.182)



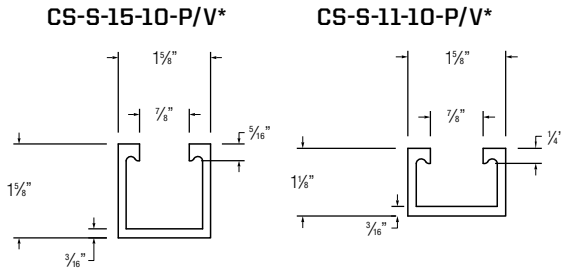
CAP-LOK*

Cap-Loc			
Duct Size	Item No.	Part No.	Weight lbs/ft kgs/m
2 (51)	CL-20	94	0.04 (.018)
3 (76)	CL-30	95	0.04 (.018)
4 (107)	CL-40	96	0.05 (.023)
5 (127)	CL-50	97	0.07 (.032)
6 (152)	CL-60	98	0.07 (.032)

*NO RETURNS ALLOWED ON SPACERS.

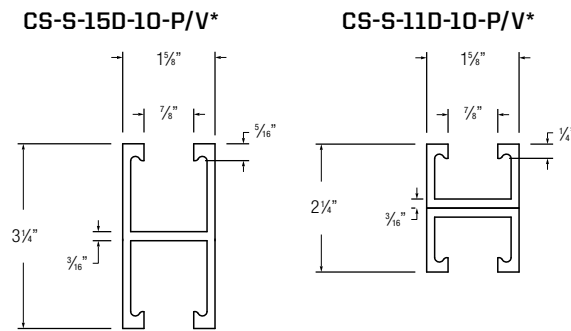
Champion Fiberglass, Inc. offers a complete support system for installations of above ground conduit. The strut, pipe clamps etc. are manufactured in house and made from high quality fiberglass. **Please note that for standard support systems, only IPS type of fiberglass conduit can be used (If ID/Tubular type of conduit is used, Please consult factory prior to installation).** For bridge installations, refer to Hangers on page 63.

SINGLE STRUT



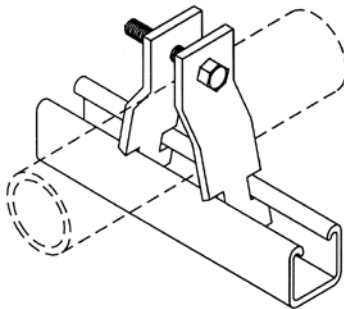
* Use P for polyester resin and V for vinyl ester resin.

DOUBLE "BACK TO BACK" STRUT



* Use P for polyester resin and V for vinyl ester resin.

"NON-METALLIC" UNIVERSAL PIPE CLAMPS



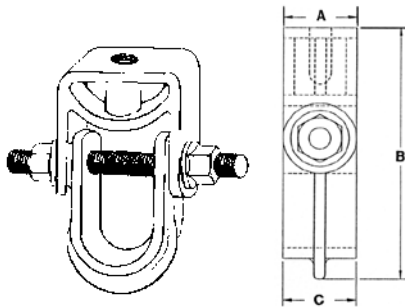
If stainless steel fasteners are preferred, add letter "S" to part nos. below.

Part No.	Pipe Size	Conduit Outside Dimension - inches (metric)				
		PVC Schedule 40 & 80	PVC Coated Steel	Rigid Steel	Epoxy Fiberglass IPS	Type*
CS-PC-3/4-V	3/4	1.050 (27)	1.130 (29)	1.050 (27)	1.050 (27)	(27)
CS-PC-1-V	1	1.315 (33)	1.395 (35)	1.315 (33)	1.315 (33)	(33)
CS-PC-1.25-V	1 1/4	1.660 (42)	1.740 (44)	1.660 (42)	1.660 (42)	(42)
CS-PC-1.5-V	1 1/2	1.900 (48)	1.980 (50)	1.900 (48)	1.900 (48)	(48)
CS-PC-2-V	2	2.375 (60)	2.455 (62)	2.375 (60)	2.340 (59)	(59)
CS-PC-2.5-V	2 1/2	2.875 (73)	2.950 (75)	2.875 (73)	2.875 (73)	(73)
CS-PC-3-V	3	3.500 (89)	3.580 (91)	3.500 (89)	3.450 (88)	(88)
CS-PC-3.5-V	3 1/2	4.000 (102)	4.090 (104)	4.000 (102)	4.000 (102)	(102)
CS-PC-4-V	4	4.500 (114)	4.580 (116)	4.500 (114)	4.460 (113)	(113)

* Epoxy Fiberglass conduit, tubular dimensions (ID Type), does not fit into standard pipe clamps. Please consult factory.

For rigid steel, PVC coated steel, PVC schedule 40 & 80 and filament wound epoxy fiberglass conduit (IPS only). Made from a special grade of glass reinforced vinyl ester resin. Standard fasteners are non-metallic bolts and hex nuts. See page 51 in this catalog.

FIBERGLASS CLEVIS HANGERS

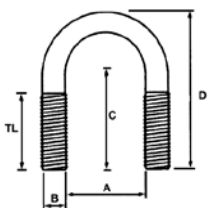


Part No.	Nominal Diameter in	Max Pipe OD in (mm)	Hanger Rod in (mm)	Maximum Load (lbs)	A in (mm)	B in (mm)	C in (mm)
CS-CH-3/4	3/4	1 (25)	1/2 (13)	200 (90)	2.53 (64)	4.52 (115)	1.25 (32)
CS-CH-1	1	1 1/2 (38)	1/2 (13)	200 (90)	2.53 (64)	4.52 (115)	1.25 (32)
CS-CH-1.25	1 1/4	1 3/4 (44)	1/2 (13)	200 (90)	3.06 (78)	5.14 (131)	1.25 (32)
CS-CH-1.5	1 1/2	2 (51)	1/2 (13)	200 (90)	3.06 (78)	5.14 (131)	1.25 (32)
CS-CH-2	2	2 1/2 (67)	1/2 (13)	300 (135)	3.68 (93)	6.52 (166)	1.25 (32)
CS-CH-2.5	2 1/2	3 1/4 (83)	1/2 (13)	400 (180)	3.68 (93)	6.52 (166)	1.25 (32)
CS-CH-3	3	3 3/4 (98)	1/2 (13)	600 (270)	7.04 (179)	10.00 (254)	1.50 (38)
CS-CH-4	4	5 1/8 (130)	1/2 (13)	600 (270)	7.04 (179)	10.00 (254)	1.50 (38)
CS-CH-6	6	7 1/2 (181)	1/2 (13)	600 (270)	9.36 (238)	12.33 (313)	2.04 (52)

Design loads have a 3:1 safety factor at 120°F. Insulation may be required at higher temperatures.

Champion Thread™ Fasteners and Hanging Systems are specially developed to give optimum strength and chemical corrosion resistance. The systems are excellent for all structural, mechanical and electrical applications where components must be corrosion resistant. All nuts are hex type and standard tools can be used for easy assembly.

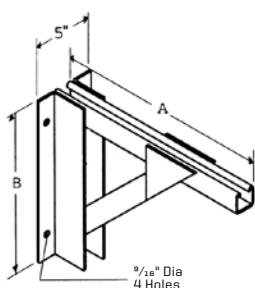
NON-METALLIC U-BOLT



Part No.	Pipe Nom Dia	Dimensions					Load Ratings	
		A in (mm)	B in (mm)	C in (mm)	D in (mm)	TL in (mm)	Max Rec Load lbs (kg)	Max Rec Torque ft lbs (kgm)
CS-UB-1/2	1/2	0.93 (24)	0.375 (10)	1.56 (40)	2.41 (61)	1.25 (32)	75 (34)	20 (2.8)
CS-UB-3/4	3/4	1.12 (28)	0.375 (10)	1.66 (42)	2.60 (66)	1.25 (32)	75 (34)	20 (2.8)
CS-UB-1	1	1.37 (35)	0.375 (10)	1.78 (45)	2.85 (72)	1.25 (32)	75 (34)	20 (2.8)
CS-UB-1.25	1 1/4	1.68 (43)	0.375 (10)	1.94 (49)	3.16 (80)	1.25 (32)	75 (34)	20 (2.8)
CS-UB-1.5	1 1/2	2.00 (51)	0.375 (10)	2.10 (53)	3.47 (88)	1.25 (32)	75 (34)	20 (2.8)
CS-UB-2	2	2.43 (62)	0.500 (13)	2.46 (62)	4.18 (106)	1.50 (38)	150 (68)	40 (5.5)
CS-UB-2.5	2 1/2	2.93 (74)	0.500 (13)	2.71 (69)	4.68 (119)	1.50 (38)	150 (68)	40 (5.5)
CS-UB-3	3	3.56 (90)	0.500 (13)	3.03 (77)	5.31 (135)	1.50 (38)	150 (68)	40 (5.5)
CS-UB-3.5	3 1/2	4.06 (103)	0.500 (13)	3.28 (83)	5.81 (148)	1.50 (38)	150 (68)	40 (5.5)
CS-UB-4	4	4.56 (116)	0.500 (13)	3.53 (90)	6.31 (160)	1.50 (38)	150 (68)	40 (5.5)

U-Bolts are made from a fiberglass reinforced urethane material and are recommended for temperatures ranging from -40°F to +150°F. 2 FRP nuts included with each U-Bolt.

SUPPORT RACKS



Part No.	Tray Width	Dimensions	
		A	B
CS-SR-06-P/V*	6 (152)	10 (254)	10 (254)
CS-SR-09-P/V*	9 (229)	13 (330)	12 (305)
CS-SR-12-P/V*	12 (305)	16 (406)	13 (330)
CS-SR-18-P/V*	18 (457)	22 (559)	16 (406)
CS-SR-24-P/V*	24 (610)	28 (711)	19 (483)
CS-SR-30-P/V*	30 (762)	34 (864)	22 (559)
CS-SR-36-P/V*	36 (914)	40 (1016)	25 (635)

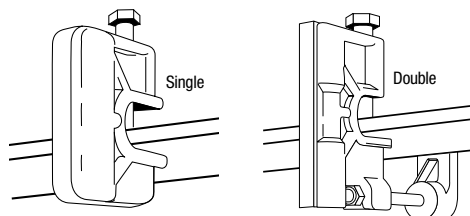
Allowable load = 750 lbs.- based on total load, uniformly distributed over the width of the rack. Safety factor = 2

* Use P for polyester resin and V for vinyl ester resin.

BEAM CLAMPS

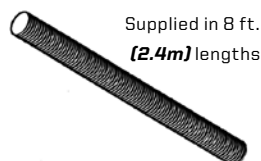
Part No.	Vinyl Ester Beam Clamps	
CS-BC-3/8	Single for 3/8"	FRP Threaded Rod
CS-BC-1/2	Single for 1/2"	FRP Threaded Rod
CS-DC-3/8	Double for 3/8"	FRP Threaded Rod
CS-DC-1/2	Double for 1/2"	FRP Threaded Rod

Allowable load = 300 lbs. Recommended safety factor of 3. Set screws included with clamps.



FRP THREADED RODS

Part No.	Size
CS-TR- 3/8	3/8 - 16 UNC
CS-TR- 1/2	1/2 - 13 UNC
CS-TR- 5/8	5/8 - 11 UNC
CS-TR- 3/4	3/4 - 10 UNC
CS-TR-1	1 - 8 UNC

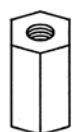


Supplied in 8 ft.
(2.4m) lengths

FRP CHANNEL NUTS & ROD COUPLERS

Part No.	Size
CS-CN- 3/8-V	3/8 - 16 UNC
CS-CN- 1/2-V	1/2 - 13 UNC

Part No.	Size
CS-RC- 3/8	3/8 - 16 UNC
CS-RC- 1/2	1/2 - 13 UNC
CS-RC- 5/8	5/8 - 11 UNC
CS-RC- 3/4	3/4 - 10 UNC
CS-RC-1	1 - 8 UNC



FRP HEX NUTS & WASHERS

Part No.	Size
CS-HN- 3/8	3/8 - 16 UNC
CS-HN- 1/2	1/2 - 13 UNC
CS-HN- 5/8	5/8 - 11 UNC
CS-HN- 3/4	3/4 - 10 UNC
CS-HN-1	1 - 8 UNC



Part No.	Size
CS-FW- 3/8	3/8 - 16 UNC
CS-FW- 1/2	1/2 - 13 UNC
CS-FW- 5/8	5/8 - 11 UNC
CS-FW- 3/4	3/4 - 10 UNC
CS-FW-1	1 - 8 UNC



GENERAL

Fiberglass Conduit Specifications for Use Below Ground

The conduit shall be fiberglass conduit, also known as Reinforced Thermosetting Resin Conduit (RTRC), manufactured using the single circuit filament winding process. Multi circuit windings are not allowed. The conduit shall have a winding angle as close as possible to 54.75 degrees.

The resin system shall be epoxy based, with no fillers, using an anhydride curing agent. The fiberglass shall consist of continuous E-glass roving. The conduit shall not contain any halogen compounds containing chlorine, bromine, fluorine and iodine in more than trace amounts when burning.

Conduit and elbows shall be manufactured from the same resin/hardener/glass systems manufactured by the same filament wound system.

Fiberglass conduit fittings and accessories shall be manufactured using one of two manufacturing procedures. The first method shall use the same process, methods, and components as used to manufacture the fiberglass conduit. The second method shall use the compression molding process, Sheet Molding Compound (SMC), for the manufacture of the finished component. The SMC material shall be a vinyl ester resin with +30% reinforcement of glass. The glass fibers should be approximately 1" in length. The SMC material shall be fire resistant to UL 2515.

Conduit shall be integral bell and spigot or bonded coupling and spigot.

Conduit, elbows and fittings are specified for use throughout a temperature range of -60°F **(-51°C)** to 250°F **(121°C)**.

Manufacturer shall have a current Certificate of Compliance, issued by an independent and accredited company, with an ISO 9001:2008 Quality Management System.

ELECTRICAL PROPERTIES

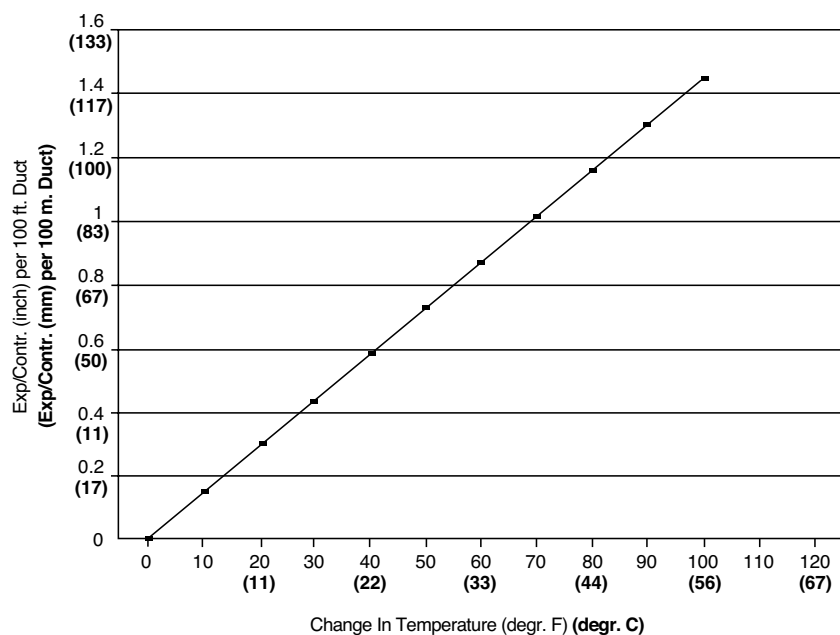
• Volume Resistivity	3.8 x 10 ¹⁴ ohm-cm	ASTM D 257
• Surface Resistivity	1.1 x 10 ¹⁴ ohms	ASTM D 257
• Dielectric Constant	3.5 (at 10 ³ cps)	ASTM D 150
• Dissipation Factor	0.005 (at 10 ³ cps)	ASTM D 150
• Dielectric Strength	500 volts/mil. (19.7 kv/mm)	ASTM D 149

PHYSICAL AND MECHANICAL PROPERTIES

• Tensile Strength (Axial)	11,000 psi (76 MPa)	ASTM D 2105
• Compressive Strength (Axial)	12,000 psi (83 MPa)	ASTM D 695
• Ultimate Elongation	2% psi (9.6 GPa)	ASTM D 2105
• Modulus of Elasticity (4" conduit)	1.4 X 10 ⁶ psi (9.6 GPa)	ASTM D 2105
• Thermal Conductivity	2.0 BTU/(ft ²)(hr.)(°F/in) (0.3mk)	ASTM D 5930-01
• Specific Gravity	1.9	ASTM D 792
• Glass Content	70% ± 5%	API SPEC 15 LR

PHYSICAL AND MECHANICAL PROPERTIES (CONT.)

• Water Absorption	Less than 1%	ASTM D 570
• Barcol Hardness	54 ± 2	ASTM D2583
• Flammability		
Above Ground Conduit	Conform to UL 2515 & CSA C22.2	No. 211.3-96
Below Ground Conduit	HB Rating	UL 94
• Coefficient of Thermal Expansion	1.2 x 10 ⁻⁵ in/in/°F (2.2 10⁻⁵ m/m/°C)	ASTM D 696



HEAT DISTORTION

The minimum heat distortion temperature shall be 230°F **(110°C)** when tested at 264 psi in accordance with ASTM D 648.

JOINT PULLOUT

A 12-inch length shall be cut from both the belled end and spigot end of a length of conduit. The two parts shall be assembled in accordance with Champion's instructions. The assembly shall be tested in accordance with ASTM D 2105 and shall meet the requirements of the table below.

Nominal Size	Interference Joint	Joint Pullout Resistance / Minimum Force - lbs (N)			Tight Lock Joints (Adhesive)
		Gasket with Interference Joint	Gasket without Interference Joint		
All	1,000 (4,450)	2,000 (8,900)	500 (2,220)		11,000 psi x (cross sectional area of conduit)

TOXICITY

CHAMPION DUCT conduit does not contain any compounds that can release halogens - bromine or chlorine - when burning.

Gases	Values (max P.P.M.)
Hydrogen Chloride	0
Hydrogen Bromide	0
Hydrogen Cyanide	<1
Hydrogen Sulphide	0
Ammonia	0
Aldehydes as HCHO	<10
Oxides of Nitrogen	<50
Carbon Dioxide	<12,500
Carbon Monoxide	<250

SURFACE FINISH

- Exterior Surface Normally less than 2,000 microinches (50.8 micron)
- Interior Surface Normally less than 125 microinches (3.2 micron)

COLOR

Standard color is black, using carbon black as pigment. Optional available colors are gray, red, orange and blue.

Note: When ordering optional colors, the finished product may exhibit slight to extreme color variations.

WATER TIGHTNESS

There should be no evidence of water leakage through the joint when tested in accordance to UL 2515 and CSA C22.2 No. 2515. In order to achieve water tightness use **CHAMPION MIX**® or Epoxy Adhesive Kit for Tight Lock Joint. See page 47-48 of this catalog.

COEFFICIENT OF FRICTION

The following data for static coefficient of friction is for dry conduit and non-lubricated cable at a temperature of 72° F (22° C).

Cable Material	Conduit Material					
	Epoxy Fiberglass Conduit	PVC Conduit	Steel Conduit	Aluminum Conduit	Concrete Conduit	Polyethylene Conduit
PVC	.38	.90	.55	.25	.95	1.90
XLP (Cross-linked Polyethylene)	.23	.90	.75	1.50	.75	2.00
LDPE (Polyethylene)	.25	.50	.50	.62	.60	1.70
Neoprene	.53	2.60	1.60	.26	1.35	3.30
Concentric Neutral	.16	--	--	--	--	--
Tech (Armored) Cable	.16	2.60	1.60	.26	1.35	3.30

IMPACT RESISTANCE

The minimum impact resistance values for the conduit shall be as shown in the table below when tested in accordance with ASTM D2444.

Nominal Size	At 73.4°F (23°C)				At 32°F (0°C)			
	Impact Resistance lbs. ft. (Nm)				Impact Resistance lbs. ft. (Nm)			
	SW	MW	HW	XW	SW	MW	HW	XW
¾	20 (27)	-- --	-- --	150 (202)	20 (27)	-- --	-- --	150 (202)
1	25 (34)	-- --	-- --	400 (540)	25 (34)	-- --	-- --	400 (540)
1¼	30 (41)	-- --	-- --	400 (540)	30 (41)	-- --	-- --	400 (540)
1½	35 (47)	-- --	-- --	500 (675)	35 (47)	-- --	-- --	500 (675)
2	40 (54)	-- --	-- --	550 (742)	40 (54)	-- --	-- --	550 (742)
2½	55 (75)	-- --	-- --	600 (810)	55 (75)	-- --	-- --	600 (810)
3	70 (95)	-- --	-- --	700 (945)	70 (95)	-- --	-- --	700 (945)
3½	80 (108)	-- --	-- --	850 (1,150)	80 (108)	-- --	-- --	850 (1,150)
4	85 (115)	-- --	120 (163)	1,000 (1,350)	85 (115)	-- --	120 (163)	1,000 (1,350)
5	110 (149)	140 (190)	160 (217)	1,200 (1,620)	110 (149)	140 (190)	160 (217)	1,200 (1,620)
6	130 (176)	160 (217)	200 (271)	1,300 (1,755)	130 (179)	160 (217)	200 (271)	1,300 (1,755)



For high impact situations as well as during cold weather, PVC can shatter and/or flatten.



For high impact, steel conduit will collapse and can pinch the cable. This will make repair of damaged conduit more difficult.

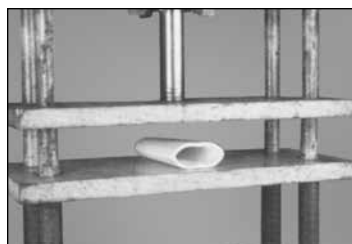


X-wall conduit has the highest impact value of all conduit materials available. If impacted, it will flex back close to its original diameter. SW, MW and HW will also flex back similarly after impact. They will not shatter.

STIFFNESS

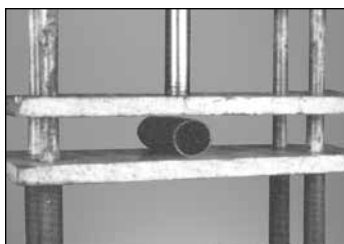
The minimum conduit stiffness at five percent deflection for all sizes of conduit shall not be less than the values given in table below when tested in accordance with ASTM D2412

Pipe Stiffness (PS) = (F/ΔY)									
Nominal Size	At 73.4°F (23°C) lb/in ² (MPa)				At 32°F (0°C) lb/in ² (MPa)				
	SW	MW	HW	XW	SW	MW	HW	XW	
¾	1,500 (10.3)	--	--	2,500 (17.5)	1,500 (10.3)	--	--	2,500 (17.5)	
1	1,200 (8.3)	--	--	2,400 (16.8)	1,200 (8.3)	--	--	2,400 (16.8)	
1¼	850 (5.9)	--	--	2,100 (14.7)	850 (5.9)	--	--	2,100 (14.7)	
1½	600 (4.1)	--	--	2,000 (14)	600 (4.1)	--	--	2,000 (14)	
2	320 (2.2)	--	--	1,300 (9.0)	320 (2.2)	--	--	1,300 (9.0)	
2½	200 (1.4)	--	--	800 (5.6)	200 (1.4)	--	--	800 (5.6)	
3	140 (1.0)	--	--	600 (4.1)	140 (1.0)	--	--	600 (4.1)	
3½	85 (0.6)	--	--	450 (3.1)	85 (0.6)	--	--	450 (3.1)	
4	50 (0.3)	--	130 (0.7)	250 (1.7)	50 (0.3)	--	130 (0.7)	250 (1.7)	
5	40 (0.3)	75 (0.5)	90 (0.6)	180 (1.2)	40 (0.3)	75 (0.5)	90 (0.6)	180 (1.2)	
6	30 (0.2)	55 (0.4)	65 (0.4)	150 (1.0)	30 (0.2)	55 (0.4)	65 (0.4)	150 (1.0)	



PVC Conduit

PVC conduit will stay compressed if it is crushed. (Same for steel conduit.)



Fiberglass Conduit

Epoxy Fiberglass conduit will flex back to almost its original shape after crushing.

WIRE FILL

Maximum allowable percentage wire fill per National Electric Code 2011 (Chapter 9, Table 1)

IPS sizes					
Trade Size	Internal Diameter in (mm)	Total Area 100% in ² (mm ²)	Percent of cross section of conduit & tubing for conductors		
			1 Wire 53% in ² (mm ²)	2 Wire 31% in ² (mm ²)	Over 2 Wire 40% in ² (mm ²)
¾ (19)	0.910 (23)	0.650 (419)	0.345 (222)	0.202 (130)	0.260 (168)
1 (25)	1.175 (30)	1.084 (697)	0.574 (370)	0.336 (216)	0.434 (279)
1¼ (32)	1.520 (39)	1.815 (1170)	0.962 (620)	0.563 (363)	0.726 (468)
1½ (38)	1.760 (45)	2.433 (1569)	1.289 (832)	0.754 (486)	0.973 (628)
2 (51)	2.235 (57)	3.923 (2525)	2.079 (1338)	1.216 (783)	1.569 (1010)
2½ (64)	2.740 (70)	5.896 (3805)	3.125 (2016)	1.828 (1179)	2.359 (1522)
3 (76)	3.360 (85)	8.867 (5715)	4.699 (3029)	2.749 (1772)	3.547 (2286)
4 (102)	4.320 (110)	14.657 (9452)	7.768 (5009)	4.544 (2930)	5.863 (3781)
5 (127)	5.380 (137)	22.733 (14677)	12.048 (7779)	7.047 (4550)	9.093 (5871)
6 (152)	6.435 (163)	32.523 (20970)	17.237 (11114)	10.082 (6501)	13.009 (8388)

ID sizes					
Trade Size	Internal Diameter in (mm)	Total Area in ² (mm ²)	Percent of cross section of conduit & tubing for conductors		
			1 Wire 53% in ² (mm ²)	2 Wire 31% in ² (mm ²)	Over 2 Wire 40% in ² (mm ²)
2 (51)	2.000 (51)	3.142 (2027)	1.665 (1074)	0.974 (628)	1.257 (811)
2½ (64)	2.500 (64)	4.909 (3167)	2.602 (1678)	1.522 (982)	1.963 (1267)
3 (76)	3.000 (76)	7.069 (4560)	3.746 (2417)	2.191 (1414)	2.827 (1824)
3½ (89)	3.500 (89)	9.621 (6207)	5.099 (3290)	2.983 (1924)	3.848 (2483)
4 (102)	4.00 (102)	12.566 (8107)	6.660 (4297)	3.896 (2513)	5.027 (3243)
5 (127)	5.000 (127)	19.635 (12668)	10.407 (6714)	6.087 (3927)	7.854 (5067)
6 (152)	6.000 (152)	28.274 (18241)	14.985 (9668)	8.765 (5655)	11.310 (7297)

CONDUIT CONDUCTOR FILL

Based on Wire Fill Data on page 58 and Table 5, Chapter 9 of National Electric Code 2011

RHW*

IPS sizes												
	Allowable Conduit in ²	Max. 1 Conductor Size	in ² of 1 Conductor	Allowable Conduit in ²	Max. 2 Conductor Size	in ² of 2 Conductors	Allowable Conduit in ²	Max. 3 Conductor Size	in ² of 3 Conductors	Allowable Conduit in ²	Max. 4 Conductor Size	in ² of 4 Conductors
Trade Size												
¾ (19)	0.345	3/0	0.3117	0.202	4	0.1946	0.260	6	0.2178	0.260	8	0.2223
1 (25)	0.575	300	0.5281	0.336	2	0.2666	0.434	2	0.3999	0.434	4	0.3893
1¼ (32)	0.962	500	0.7901	0.563	2/0	0.5248	0.726	1/0	0.6669	0.726	2	0.5333
1½ (38)	1.289	800	1.2272	0.754	4/0	0.7435	0.973	3/0	0.9352	0.973	1/0	0.8891
2 (51)	2.079	1250	1.8602	1.216	350	1.1917	1.569	250	1.3789	1.569	4/0	1.4871
2½ (64)	3.125	2000	2.7818	1.828	500	1.5802	2.359	400	1.9856	2.359	300	2.1124
3 (76)	4.699			2.749	900	2.7121	3.547	750	3.4955	3.547	500	3.1605
4 (102)	7.768			4.544	1500	4.3389	5.863	1250	5.5807	5.863	900	5.4243
5 (127)	12.048			7.047	2000	5.5636	9.093	2000	8.3455	9.093	1750	9.9091
6 (152)	17.237			10.082			13.009			13.009	2000	11.1273

RHW*

ID sizes												
	Allowable Conduit in ²	Max. 1 Conductor Size	in ² of 1 Conductor	Allowable Conduit in ²	Max. 2 Conductor Size	in ² of 2 Conductors	Allowable Conduit in ²	Max. 3 Conductor Size	in ² of 3 Conductors	Allowable Conduit in ²	Max. 4 Conductor Size	in ² of 4 Conductors
2 <i>(51)</i>	1.665	1000	1.4784	0.974	250	0.9193	1.257	4/0	1.1153	1.257	3/0	1.2469
2½ <i>(64)</i>	2.602	1750	2.4773	1.522	400	1.3237	1.963	350	1.7875	1.963	250	1.8385
3 <i>(76)</i>	3.746	2000	2.7818	2.191	600	1.9459	2.827	500	2.3704	2.827	400	2.6475
3½ <i>(89)</i>	5.099			2.983	900	2.7121	3.848	800	3.6816	3.848	500	3.1605
4 <i>(102)</i>	6.660			3.896	1250	3.7205	5.027	1000	4.4353	5.027	800	4.9087
5 <i>(127)</i>	10.407			6.087	2000	5.5636	7.854	1750	7.4319	7.854	1250	7.4409
6 <i>(152)</i>	14.985			8.765			11.310	2000	8.3455	11.310	2000	11.1273

THHN

IPS sizes												
	Allowable Conduit	Max. 1 Conductor	in ² of 1 Conductor	Allowable Conduit	Max. 2 Conductor	in ² of 2 Conductors	Allowable Conduit	Max. 3 Conductor	in ² of 3 Conductors	Allowable Conduit	Max. 4 Conductor	in ² of 4 Conductors
Trade Size	in ²	Size		in ²	Size		in ²	Size		in ²	Size	
¾ (19)	0.345	4/0	0.3237	0.202	3	0.1946	0.260	4	0.2472	0.260	6	0.2028
1 (25)	0.575	350	0.5242	0.336	1	0.3124	0.434	2	0.3474	0.434	3	0.3892
1¼ (32)	0.962	600	0.8676	0.563	3/0	0.5358	0.726	2/0	0.6669	0.726	1	0.6248
1½ (38)	1.289	900	1.2311	0.754	4/0	0.6474	0.973	4/0	0.9711	0.973	2/0	0.8892
2 (51)	2.079	1000	1.3478	1.216	400	1.1726	1.569	300	1.3824	1.569	4/0	1.2948
2½ (64)	3.125			1.828	600	1.7352	2.359	500	2.1219	2.359	400	2.3452
3 (76)	4.699			2.749	1000	2.6956	3.547	800	3.3255	3.547	600	3.4704
4 (102)	7.768			4.544			5.863	1000	4.0434	5.863	1000	5.3912
5 (127)	12.048			7.047			9.093			9.093		
6 (152)	17.237			10.082			13.009			13.009		

THHN

ID sizes												
	Allowable Conduit in ²	Max. 1 Conductor Size	in ² of 1 Conductor	Allowable Conduit in ²	Max. 2 Conductor Size	in ² of 2 Conductors	Allowable Conduit in ²	Max. 3 Conductor Size	in ² of 3 Conductors	Allowable Conduit in ²	Max. 4 Conductor Size	in ² of 4 Conductors
2 <i>(51)</i>	1.665	1000	0.3237	0.974	300	0.9216	1.257	250	1.1910	1.257	3/0	1.0716
2½ <i>(64)</i>	2.602			1.522	500	1.4146	1.963	400	1.7589	1.963	300	1.8432
3 <i>(76)</i>	3.746			2.191	750	2.0992	2.827	600	2.6028	2.827	400	2.3452
3½ <i>(89)</i>	5.099			2.983	1000	2.6956	3.848	900	3.6933	3.848	600	3.4704
4 <i>(102)</i>	6.660			3.896			5.027	1000	4.0434	5.027	900	4.9244
5 <i>(127)</i>	10.407			6.087			7.854			7.854	1000	5.3912
6 <i>(152)</i>	14.985			8.765			11.310			11.310		

DEFLECTION

Deflection is always determined at midspan.

The empirical formula for deflection is:

$$D = \frac{131 \cdot W \cdot L^4}{E(OD^4 - ID^4)}$$

Where: D = Midspan deflection (in.)

OD = Outside diameter of conduit (in.)

ID = Inside diameter of conduit (in.)

E = Modulus of elasticity of conduit (psi), which is 1,400,000 for epoxy fiberglass conduit

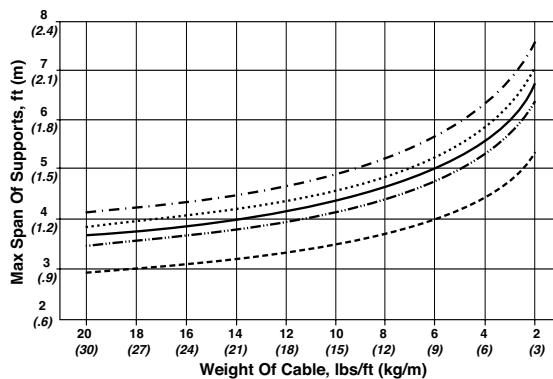
L = Distance between hangers (ft.)

W = Total weight of cable and conduit (lbs/ft.)

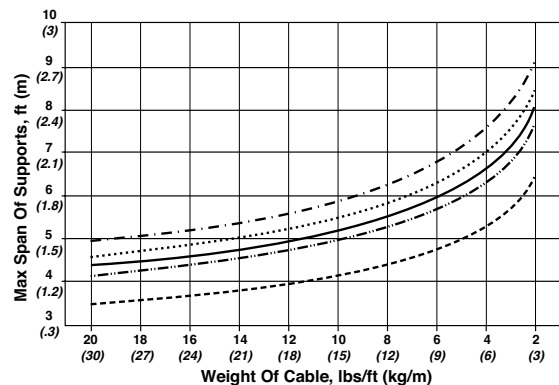
It is recommended that midspan deflection never exceeds $\frac{5}{8}$ inches (16 mm).

Below are easy graphs for determining support distance between hangers for various diameters and wall thicknesses of conduit.

$\frac{3}{4}$ " SW DIAMETER



1" SW DIAMETER



1/4" (6) Deflection

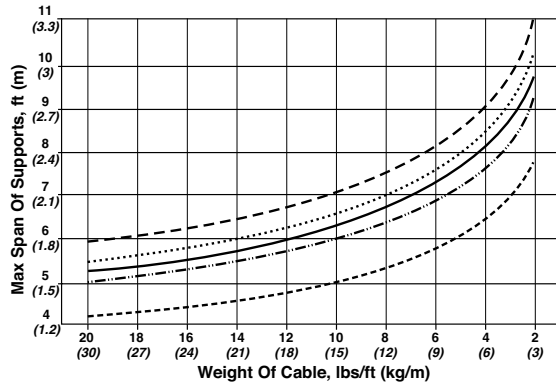
1/2" (13) Deflection

5/8" (16) Deflection

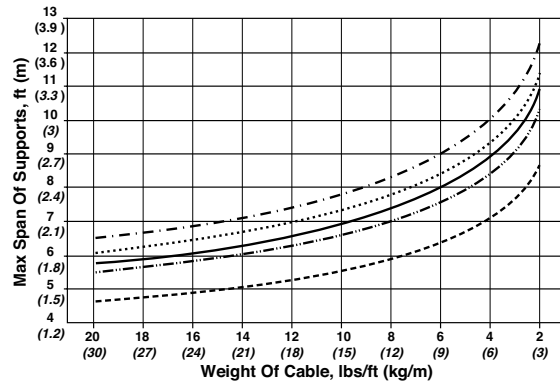
3/4" (19) Deflection

1" (25) Deflection

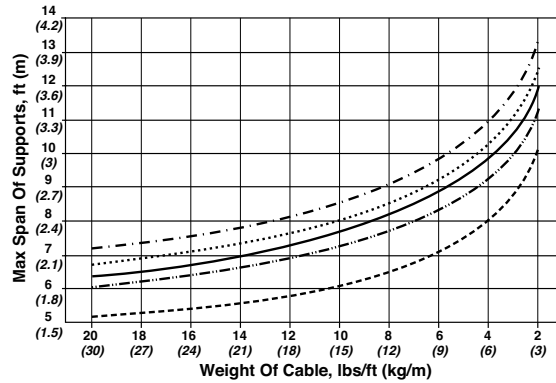
1 1/4" SW DIAMETER



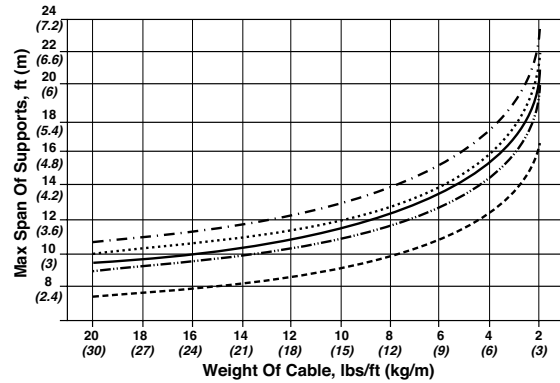
1 1/2" SW DIAMETER



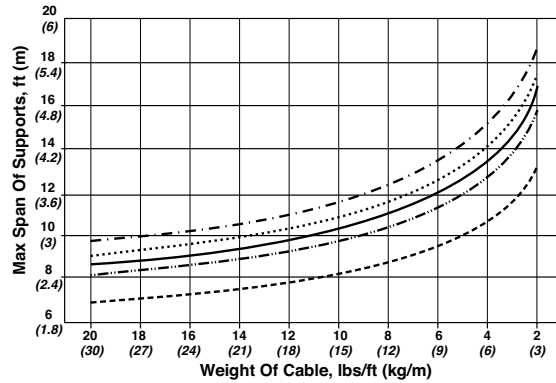
2" SW DIAMETER



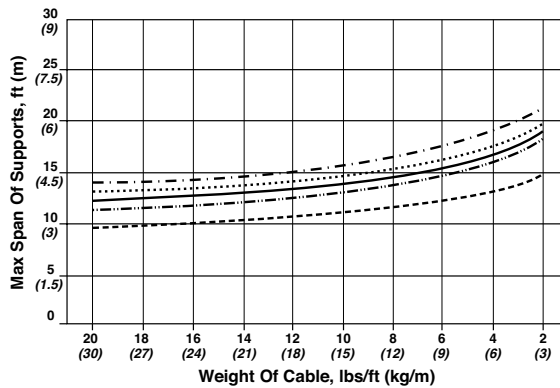
2" XW DIAMETER



3" SW DIAMETER



3" XW DIAMETER



1/4" [6] Deflection

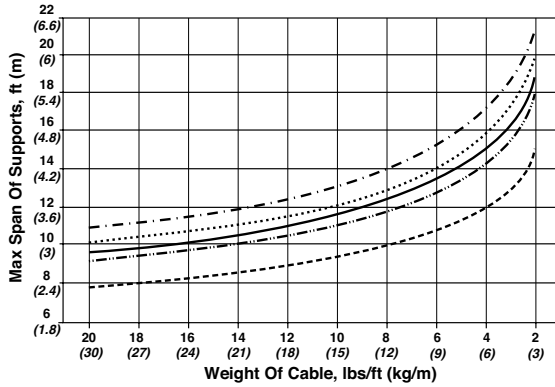
1/2" [13] Deflection

5/8" [16] Deflection

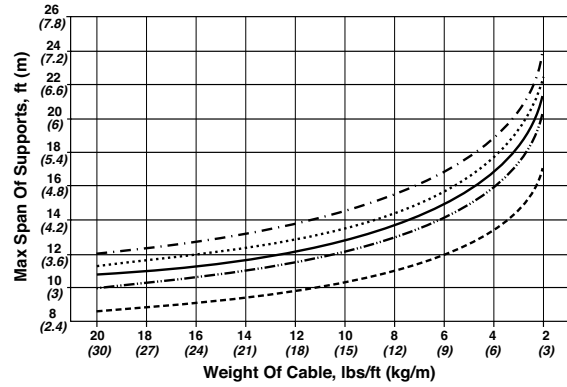
3/4" [19] Deflection

1" [25] Deflection

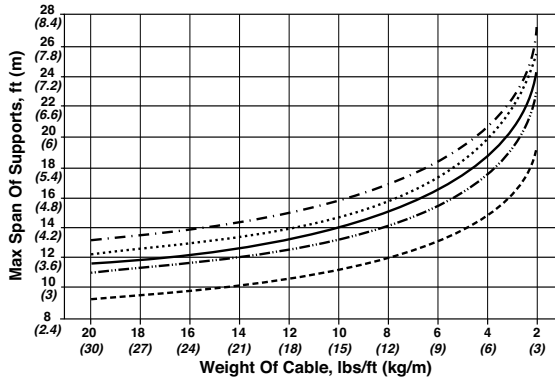
3½" SW DIAMETER



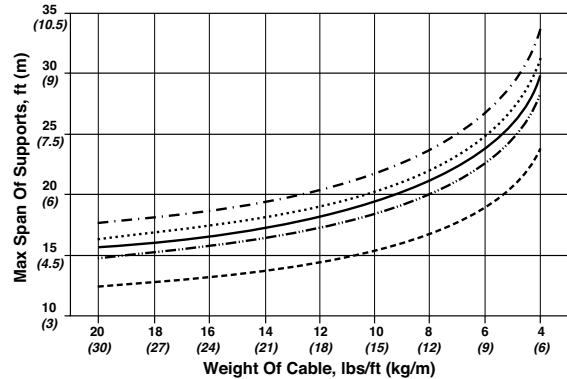
4" SW DIAMETER



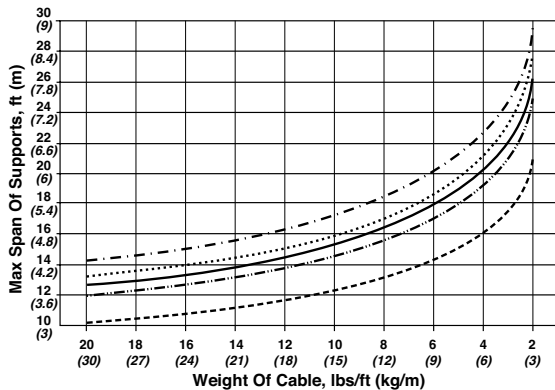
4" HW DIAMETER



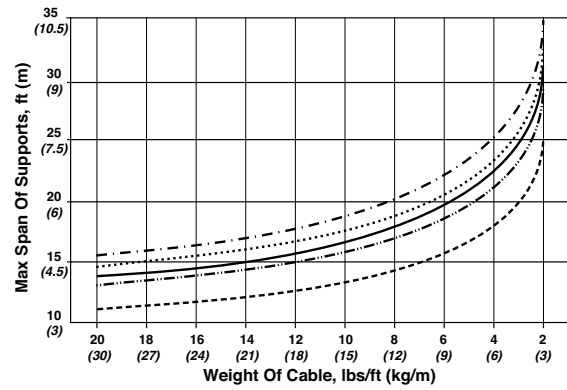
4" XW DIAMETER



5" SW DIAMETER



5" MW DIAMETER



¼" (6) Deflection

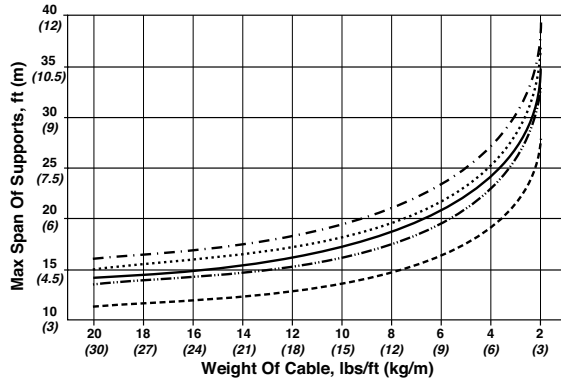
½" (13) Deflection

⅝" (16) Deflection

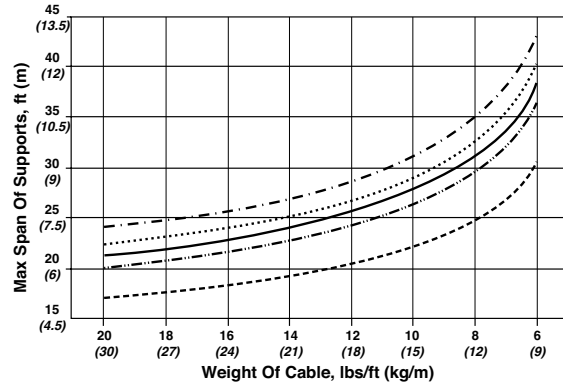
¾" (19) Deflection

1" (25) Deflection

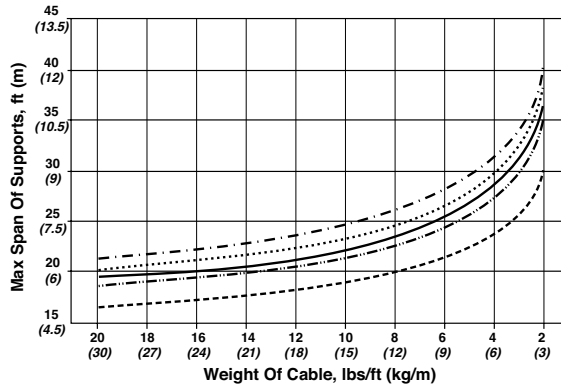
5" HW DIAMETER



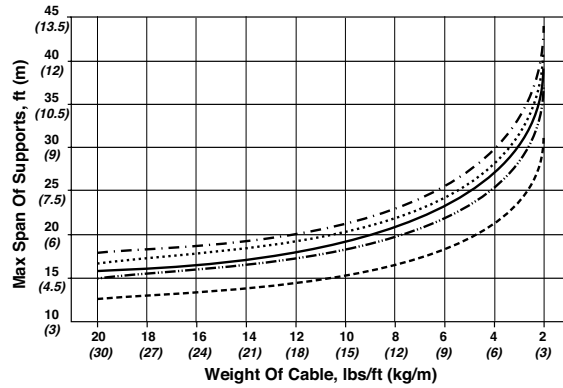
5" XW DIAMETER



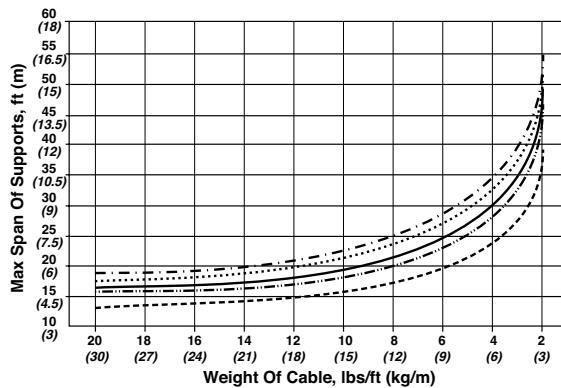
6" SW DIAMETER



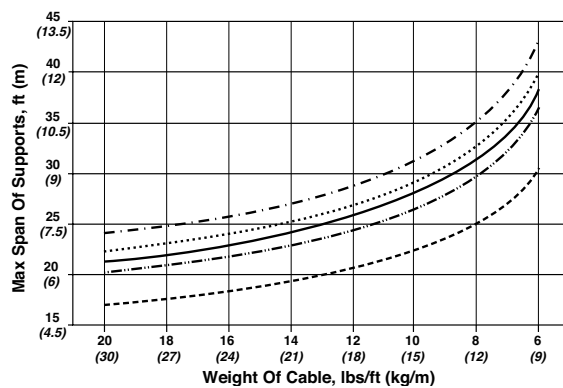
6" MW DIAMETER



6" HW DIAMETER



6" XW DIAMETER



1/4" (6) Deflection

1/2" (13) Deflection

5/8" (16) Deflection

3/4" (19) Deflection

1" (25) Deflection

CORROSION RESISTANCE GUIDE

The corrosion guidelines tests were performed by immersing epoxy coupons for 30 days in the chemical at the temperature shown. This is a very severe test. It has been shown that **CHAMPION DUCT**® can often be used for chemicals listed as “Not Recommended” (NR). Real cases often are limited to fumes, vapors and occasional splashes at the temperatures indicated.

This information is provided solely as a guide since it is impossible to anticipate all individual site conditions. For specific applications which are not covered in this guide, and may require screening tests to evaluate resin system suitability, consultation with Champion Fiberglass, Inc. is recommended.

Chemical	°F	°C	Chemical	°F	°C
Acetic Acid 15%	175	79	Lactic Acid	150	66
Acetic Acid 50%	NR	NR	Lime Slurry, Sat'd	100	38
Acetic Acid (Glacial)	NR	NR	Magnesium Salts	150	66
Acetone	NR	NR	Methyl Alcohol, 10%	100	38
Aluminum Chloride, 1%	200	93	Methyl Ethyl Ketone, 100%	NR	NR
Aluminum Hydroxide 30%	NR	NR	Mineral Oils	200	93
Aluminum Sulphate, 25%	150	66	Naphtha	100	38
Ammonium Chloride, Sat'd	150	66	Nickel Salts	100	38
Ammonium Hydroxide 20%	NR	NR	Nitric Acid	NR	NR
Ammonium Nitrate, Sat'd	150	66	Oleic Acid	150	66
Ammonium Sulfate, Sat'd	150	66	Oxalic Acid	150	66
Benzene, 10%	70	21	Perchloroethylene	70	21
Benzene Sulfonic Acid 30%	NR	NR	Phenol, 0-2%	75	24
Benzoic Acid, Sat'd	140	60	Phosphoric Acid, 10%	125	52
Calcium Salts	150	66	Potassium Carbonate, 0-15%	NR	NR
Carbon Dioxide	150	66	Potassium Permanganate, 5%	75	24
Carbon Tetrachloride	NR	NR	Potassium Sulfate, 10%	100	38
Chlorine, Wet Gas	NR	NR	Sodium Bicarbonate	125	52
Chlorine Water	150	66	Sodium Bisulfate	180	82
Chlorobenzene	NR	NR	Sodium Carbonate, 10%	75	24
Citric Acid, Sat'd	150	66	Sodium Chloride	200	93
Diesel Fuel	150	66	Sodium Dichromate	75	24
Ethyl Alcohol	75	24	Sodium Hydroxide, 1%	75	24
Ethylene Glycol	190	88	Sodium Hypochlorite	NR	NR
Ferrous Sulfate	150	66	Sodium Nitrate	100	38
Fuel Oil	150	66	Sodium Sulfate, 10%	100	38
Gasoline	140	60	Sodium Sulfide, 10%	75	24
Glycerine	200	93	Sodium Thiosulfate	NR	NR
Hydrochloric Acid 0-10%	125	52	Styrene	NR	NR
Hydrochloric Acid 10-36%	NR	NR	Sulfur Dioxide, Dry or Wet Gas	150	66
Hydrofluoric Acid	NR	NE	Sulfuric Acid, Vapor	100	38
Hydrogen Chloride, Dry or Wet Gas	100	38	Tannic Acid, 15%	150	66
Hydrogen Peroxide	NR	NR	Tartaric Acid	150	66
Hydrogen Sulfide, Dry or Wet Gas	125	52	Toluene	NR	NR
Kerosene	150	66	Water, City	170	77

NR = Not Recommended

Information in this table is based on data supplied by raw material suppliers and collected from many years of similar industrial applications.

Temperatures represent standard test conditions and are not minimums or maximums. **CHAMPION DUCT** products may be acceptable at other temperatures for some chemicals, but should be tested to determine specific suitability.

The recommendations or suggestions contained in this table are made without guarantee or representation as to results. We suggest that you evaluate these recommendations and suggestions in your own laboratory or field trial prior to use.

LOCATION OF SUPPORTS

The actual location of supports are determined by two factors,

- 1) What the National Electrical Code (NEC) allows.
- 2) If not guided by NEC, see pages 58-61 in this catalog for determination of support distance. All of the graphs are shown for five (5) different mid-span locations. After determining the total weight of the cable, the support span distance is determined based on maximum allowable mid-span deflection. A rule of thumb is that the mid-span deflection should not exceed $\frac{5}{8}$ " **(16 mm)**.

If PVC conduit or any other material is used, please consult NEC and the manufacturers guidelines.

INSTALLATION OF EXPANSION JOINTS

If the fiberglass conduit is subject to expansion and contraction due to changes in the ambient temperature, Champion Fiberglass, Inc. suggests following guidelines for installing expansion joints.

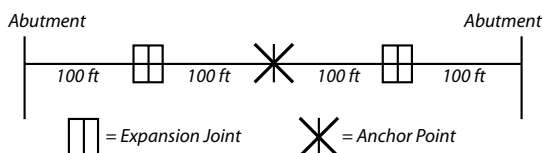
(see also page 7 in this catalog for expansion chart):

Conduit Length Less Than 50 ft. (15 m) No Expansion Joint Needed.

If conduit length is between 50 ft. (15 m) up to 200 ft. (61 m), install one expansion joint mid-way.

If conduit length is over 200 ft. (61 m), install one expansion joint every 200 ft. (61 m) apart. When commencing, install the first expansion joint 100 ft. (30 m) maximum from each abutment, and then space the expansion joints equally every 200 ft. (61 m) maximum.

Expansion joints should preferably be placed $\frac{3}{4}$ away from any hanger. This is the point where the load is at minimum and will therefore allow for smooth operation.



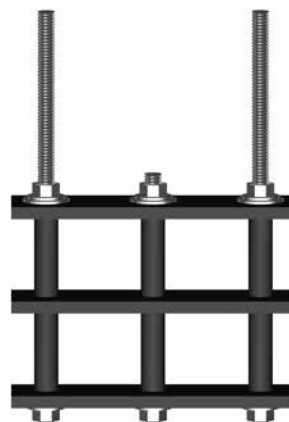
ANCHOR POINT

If more than one expansion joint is installed in a conduit run, split anchor rings need to be installed around the hanger that is closest to mid-way between each expansion joint.

The hangers that have split anchor rings, need to be braced as these hangers can be distorted, (because of the bending forces from the conduit contracting and expanding as ambient temperature varies). A hanger that is braced is most commonly referred to as an anchor hanger. The bracing is supplied using adjustable rods.

INTERMEDIATE HANGER

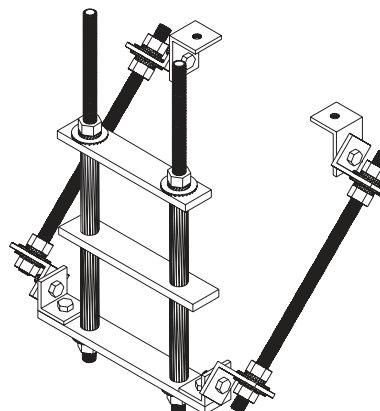
This is the most widely used type of hanger for support under bridges. It is a trapeze hanging system, using threaded rods that are attached to the bridge. The horizontal components are fiberglass flatbars, 2" wide x $\frac{1}{2}$ " **(52 mm x 13 mm)** thick, and the threaded rods are sleeved over using 1" **(25 mm)** fiberglass pultruded pipe, in order not to abrade the conduit. For more information see our website www.championfiberglass.com.



ANCHOR HANGER

Wherever split anchor rings are used around a hanger, this hanger needs to be braced and is often referred to as an anchor hanger. It has the same construction as an intermediate hanger, except that the bottom horizontal crossmember is 2" **(51 mm)** longer on each side. From this extended crossmember, bracing members are attached. The bracing can be an adjustable brace or made from angle iron.

In some instances, hangers are not supported from the bridge, but instead "standing" on top of I-beams. For such instances, the support rods are shorter and instead extended downwards for attachment to an I-beam.



NATIONAL ELECTRICAL CODE, NEC (2011)

(Copyright 2008 NFPA)

Article 355 - Reinforced Thermosetting Resin Conduit Type (RTRC)

I. General

355.1 Scope.

This article covers the use, installation, and construction specification for reinforced thermosetting resin conduit (RTRC) and associated fittings.

Informational Note: Refer to Article 352 for Rigid Polyvinyl Chloride Conduit: Type PVC, and Article 353 for High Density Polyethylene Conduit: Type HDPE.

355.2 Definition.

Reinforced Thermosetting Resin Conduit (RTRC). A rigid nonmetallic conduit of circular cross section, with integral or associated couplings, connectors, and fittings for the installation of electrical conductors and cables.

355.6 Listing Requirements.

RTRC, factory elbows, and associated fittings shall be listed.

II. Installation

355.10 Uses Permitted.

The use of RTRC shall be permitted in accordance with 355.10 (A) through (I).

- (A) Concealed. RTRC shall be permitted in walls, floors, and ceilings
- (B) Corrosive Influences. RTRC shall be permitted in locations subject to severe corrosive influences as covered in 300.6 and where subject to chemicals for which the materials are specifically approved.
- (C) Cinders. RTRC shall be permitted in cinder fill.
- (D) Wet Locations. RTRC shall be permitted in portions of dairies, laundries, canneries, or other wet locations and in locations where walls are frequently washed, the entire conduit system, including boxes and fittings used therewith, shall be installed and equipped so as to prevent water from entering the conduit. All supports, bolts, straps, screws, and so forth, shall be of corrosion-resistant materials or be protected against corrosion by approved corrosion-resistant materials.
- (E) Dry and Damp Locations. RTRC shall be permitted for use in dry and damp locations not prohibited by 355.12.
- (F) Exposed. RTRC shall be permitted for exposed work if identified for such use.

Informational Note: RTRC, Type XW, is identified for areas of physical damage.

- (G) Underground Installations. For underground installations, see 300.5 and 300.50.
- (H) Support of Conduit Bodies. RTRC shall be permitted to support nonmetallic conduit bodies not larger than the largest trade size of an entering raceway. These conduit bodies shall not support luminaires or other equipment and shall not contain devices other than splicing devices as permitted by 110.14(B) and 314.16(C)(2).
- (I) Insulated temperature Limitations: Conductors or cables rated at temperature higher than the listed temperature rating of RTRC conduit shall be permitted to be installed in RTRC conduit, if the conductors or cables are not operated at a temperature higher than the listed temperature rating of the RTRC conduit.**

355.12 Uses Not Permitted.

RTRC shall not be used in the following conditions.

- (A) Hazardous (Classified) Locations.
 - 1. In hazardous (classified) locations, except as permitted by other articles in this Code
 - 2. In Class I, Division 2 locations, except as permitted in 501.10(B)(3)
- (B) Support of Luminaires. For the support of luminaires or other equipment not described in 355.10(H).
- (C) Physical Damage. Where subject to physical damage unless identified for such use.*
- (D) Ambient Temperatures. Where subject to ambient temperatures in excess of 50°C (122°F) unless listed otherwise.**
- (E) Insulation Temperature Limitations. For conductors or cables operating at temperature higher than the RTRC listed operating temperature rating.
- (F) Theaters and Similar Locations. In theaters and similar locations, except as provided in Articles 518.4 and 520.5.

(*) Champion Haz Duct* is identified for such use, i.e. can be used where Physical Damage is of concern.

(**) Champion Duct* and Haz Duct* are listed for 110°C (230°F).

CANADIAN ELECTRICAL CODE, CEC (2009)

Rigid RTRC Conduit

12-1200 Scope

Rules 12-1202 to 12-1220 apply only to the installation of rigid RTRC conduit Type AG and Type BG.

12-1202 Use

- (1) Rigid RTRC conduit Type AG and Type BG shall be permitted to be installed
 - (a) underground in accordance with Rule 12-012; and
 - (b) in walls, floors, and ceilings where encased or embedded in at least 50 mm of masonry or poured concrete.
- (2) Rigid RTRC conduit Type AG shall, in addition to the locations permitted in Subrule (1), be permitted for exposed and concealed locations.

12-1204 Restrictions on use (see Appendix B)

Rigid RTRC conduit shall not be used in buildings required to be of non-combustible construction, unless it has a flame spread rating and smoke developed classification as specified in the National Building Code of Canada.

12-1206 Mechanical protection

Rigid RTRC conduit shall be provided with mechanical protection where exposed to damage either during installation or afterwards.

12-1208 Field bends

Rigid RTRC conduit shall not be bent in the field.

12-1210 Temperature limitations

Rigid RTRC conduit shall not be used where normal conditions are such that any part of the conduit is subjected to a temperature in excess of 110°C.

12-1212 Fittings

Rigid RTRC conduit shall not be threaded but shall be used with adapters and couplings specifically designed for the purpose.

12-1214 Expansion joints (see Appendix B)

Except where encased in concrete, at least one expansion joint shall be installed in any conduit run where the expansion of the conduit due to the maximum probable temperature change during and after installation will exceed 45 mm.

12-1216 Conduit supports

Where rigid RTRC conduit Type AG is run in accordance with Rule 12-1202(2), it shall be supported with hangers or clamps

- (a) in such a manner as to permit adequate linear movement to allow for expansion and contraction due to temperature change; and
- (b) with the spacings of the supports not greater than permitted by Rule 12-1010.

12-1218 Maximum number of conductors

The maximum number of conductors in rigid RTRC conduit shall be determined in accordance with Rule 12-1014.

12-1220 Provision for bonding

A separate bonding conductor shall be installed in rigid RTRC conduit in compliance with Rule 10-404.

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PACKAGING INFORMATION FOR CONDUIT

Nominal Size	Iron Pipe Size			Tubular Size		
	Truckload Quantities (ft)	Crate Quantities (ft)	Approx Crate Dimensions (ft)	Truckload Quantities (ft)	Crate Quantities (ft)	Approx Crate Dimensions (ft)
¾	*	3,600	3 x 2 x 10			
1	*	2,400	2.7 x 2 x 10			
1¼	*	3,840	4 x 1.5 x 20			
1½	*	3,680	4 x 1.8 x 20			
2	*	2,480	4 x 2 x 20	*	3,000	4 x 2 x 20
3	25,760	3,220	4 x 4 x 20	34,560	4,320	4 x 4 x 20
3½	-			25,760	3,220	4 x 4 x 20
4	15,040	1,880	4 x 4 x 20	18,240	2,280	4 x 4 x 20
5	10,880	1,360	4 x 4 x 20	12,000	1,500	4 x 4 x 20
6	7,040	880	4 x 4 x 20	8,320	1,040	4 x 4 x 20

* Contact Champion Fiberglass, Inc. for Information. For XWall Conduit, Contact Champion Fiberglass, Inc. for Packaging Information.

LIMITED WARRANTY

This warranty covers any Champion Fiberglass, Inc. ("Champion") electrical conduit products ("Product").

Subject to the terms and conditions of this warranty, Champion warrants that the Product is free from defects in workmanship and materials for a period of one (1) year from the date of purchase. During the applicable terms of this warranty, and subject to the terms and conditions thereof, in the event that the Product is proven to be defective and the defect is not caused by any misuse or damage to the Product while in the possession of the user, Champion will remedy the failure or defect without charge to the user except for labor. The remedy will consist of repair or replacement of the Product and or defective part, at Champion's option. Repair will be made, at Champion's option, either at user's location or at a facility designated by Champion. Any replacement part provided under this warranty assumed as its warranty period only the unexpired term of this warranty, which is fixed when such part replaces a defective part. This warranty does not cover defects, failure or damages caused by normal wear and tear, act of God, accident, misuse or unreasonable use of the Product, lack of proper maintenance, fire, flood, or any circumstances or events beyond Champion's control.

Champion's sole obligation under this warranty is to repair or replace the product, as provided herein. Champion shall have no liability for any direct, incidental, special or consequential damages resulting from breach of this or any other warranty (no warranty being implied from this reference) on the product. Except to the extent prohibited by applicable law, any implied warranty, including without limitation, of merchantability or fitness for any particular purchase with respect to the product, is limited in duration to the term of this warranty. This warranty is in lieu of any other express warranties and of any other obligation on the part of Champion. Any other express warranties are expressly excluded and disclaimed. No Champion representative is authorized to give any warranty (other than this warranty) with respect to the product, and any such warranty given by a Champion representative shall not constitute a Champion warranty or be binding in any respect upon Champion.

Note: Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. Some states do not allow limitation on how long an implied warranty lasts, so the above limitations may not apply to you.

To obtain performance of any obligation of Champion under this warranty, the user must provide proof of the date of purchase, notify Champion of any warranty claim at the following address:

CHAMPION FIBERGLASS, INC.
6400 Spring Stuebner Rd
Spring, TX 77389
Attention: Warranty Claims
Telephone: (281) 655-8900

Notify the nearest Champion authorized representative for inspection of the Product. For the name of the nearest authorized representative, refer to our web site: www.championfiberglass.com / Locate a Rep Tab / or you can contact our corporate offices for the appropriate Representative's contact information. Any written correspondence can be mailed to our corporate offices at the address above.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

NO RETURNS ALLOWED ON PRODUCTS SHIPPED TO JOB SITES.



CHAMPION FIBERGLASS APPLICATIONS





CERTIFICATE OF REGISTRATION

This is to certify that

Champion Fiberglass Inc.

6400 Spring Stuebner Rd., Spring, Texas 77389 USA

operates a

Quality Management System

which complies with the requirements of

ISO 9001:2008

for the following scope of registration

Manufacture of fiberglass conduit and fittings.

Certificate No.: CERT-0065909

File No.: 1058413

Issue Date: September 28, 2012

Original Certification Date: November 6, 2009

Current Certification Date: November 5, 2012

Certificate Expiry Date: November 4, 2015

Chris Jouppi
President,
QMI-SAI Canada Limited

Guillaume Gignac, ing.f
Vice President, Corporate Operations, Accreditation & Quality
QMI-SAI Canada Limited



ISO 9001



Registered by:
SAI Global Certification Services Pty Ltd, 286 Sussex Street, Sydney NSW 2000 Australia with QMI-SAI Canada Limited, 20 Carlson Court, Suite 200,
Toronto, Ontario M9W 7K6 Canada (SAI GLOBAL). This registration is subject to the SAI Global Terms and Conditions for Certification. While all due care
and skill was exercised in carrying out this assessment, SAI Global accepts responsibility only for proven negligence. This certificate remains the property
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