

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 45 minutes for the CM-2040 and CM-2070 adhesives to harden at their rated temperatures. If a faster setting adhesive is desired, there are Champion Mix adhesives available that gel much faster.

The "Fast Gel" adhesives can be specified by adding the suffixes, "FG" or "SFG" to the part numbers. Because the "Fast Gel" and "Super-Fast Gel" adhesives set up quicker, additional mixing tubes may be required.

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

Part Number	Temperature Range	Approximate Curing Time
CM-2040	40° - 70° F (4° C - 21° C)	30 – 45 minutes
CM-2040 - FG	40° - 70° F (4° C - 21° C)	20 – 30 minutes
CM-2040 - SFG	40° - 70° F (4° C - 21° C)	3 – 7 minutes
CM-2070	70° F (21° C) and above	30 – 45 minutes
CM-2070 - FG	70° F (21° C) and above	20 – 30 minutes
CM-2070 - SFG	70° F (21° C) and above	3 – 7 minutes

CM-MT	Mixing Tip
CM-AG	Adhesive Gun

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		



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)

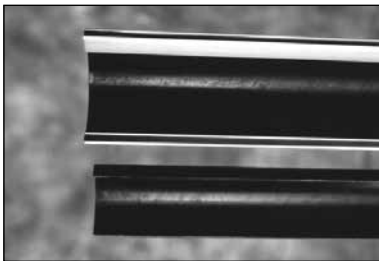


Adhesive curing time is dependent on the ambient temperature. As a guideline, the CF-1070 adhesive is cured at 75°F (29°C) in 1 hour. Contact Champion Fiberglass for curing information at extreme temperatures (high or low). Champion Fiberglass adhesive can be used for bonding fiberglass and PVC together.

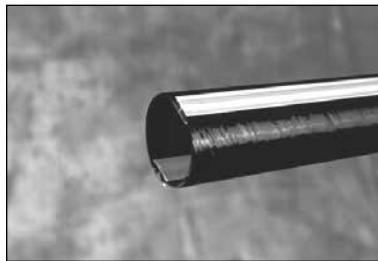
Estimated Number of Joints Per Kit (estimated only, as it varies depending on the amount of adhesive applied per application)							
¾"	40 Joints	1½"	25 Joints	3"	15 Joints	5"	8 Joints
1"	35 Joints	2"	20 Joints	3½"	13 Joints	6"	6 Joints
1¼"	30 Joints	2½"	18 Joints	4"	10 Joints	8"	4 Joints

SPLIT DUCT

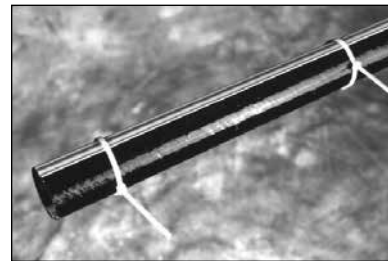
For making field repairs when the cable cannot be removed, Champion Fiberglass offers Split Duct conduit. For ease of installation, the duct is split lengthwise in two halves. The duct is then joined by using thermoplastic H-strips. Tie straps are applied every 2-3 feet for securing the duct. Champion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



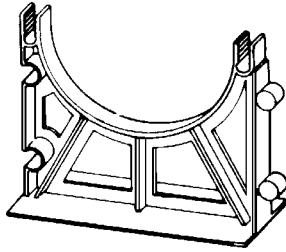
Unassembled Unit



Duct joined together with H-Strips



Assembled Unit

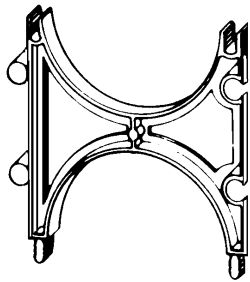


BASE SPACERS*

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			
Duct Size	Item No.	Weight	
		lbs/ft	kgs/m
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			
Duct Size	Item No.	Weight	
		lbs/ft	kgs/m
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)

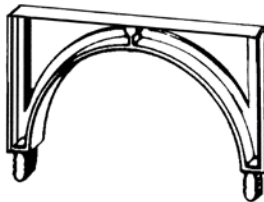


INTERMEDIATE SPACERS*

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			
Duct Size	Item No.	Weight	
		lbs/ft	kgs/m
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			
Duct Size	Item No.	Weight	
		lbs/ft	kgs/m
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)



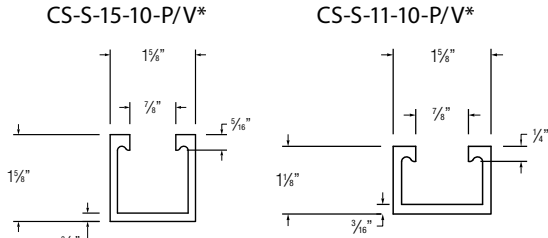
CAP-LOK*

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.

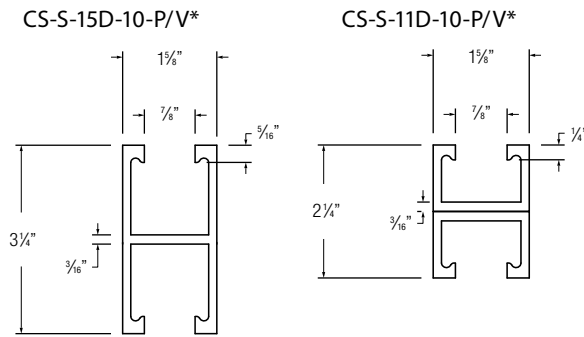
Champion Fiberglass, Inc. offers a complete support system for installations of above ground conduit. The strut, pipe clamps etc. are manufactured in house and made from high quality fiberglass. Please note that for standard support systems, only IPS type of fiberglass conduit can be used (If ID/Tubular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

SINGLE STRUT



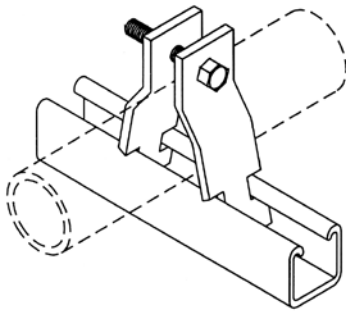
* Use P for polyester resin and V for vinyl ester resin.

DOUBLE "BACK TO BACK" STRUT



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

"NON-METALLIC" UNIVERSAL PIPE CLAMPS



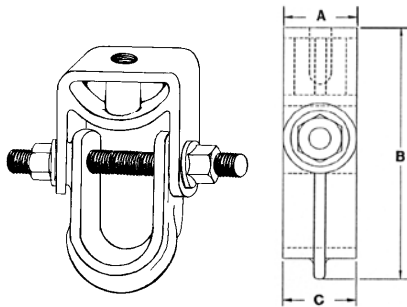
If stainless steel fasteners are preferred, add letter "S" to part nos. below.

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

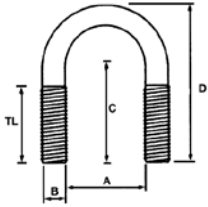


Part No.	Nominal Diameter in	Max Pipe OD in (mm)	Hanger Rod in (mm)	Maximum Load (lbs)	A in (mm)	B in (mm)	C in (mm)
CS-CH-3/4	3/4	1 (25)	1/2 (13)	200 (90)	2.53 (64)	4.52 (115)	1.25 (32)
CS-CH-1	1	1 1/2 (38)	1/2 (13)	200 (90)	2.53 (64)	4.52 (115)	1.25 (32)
CS-CH-1.25	1 1/4	1 3/4 (44)	1/2 (13)	200 (90)	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 1/8 (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.

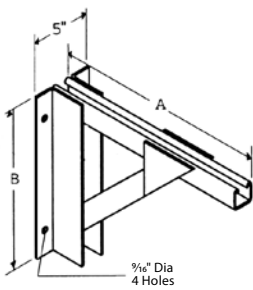
NON-METALLIC U-BOLT



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 in/lbs (Nm)
CS-UB-1/2	1/2	0.93 (24)	0.375 (10)	1.56 (40)	2.41 (61)	1.25 (32)	75 (34)	20 (2.3)
CS-UB-3/4	3/4	1.12 (28)	0.375 (10)	1.66 (42)	2.60 (66)	1.25 (32)	75 (34)	20 (2.3)
CS-UB-1	1	1.37 (35)	0.375 (10)	1.78 (45)	2.85 (72)	1.25 (32)	75 (34)	20 (2.3)
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 (2.3)
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 (2.3)
CS-UB-2	2	2.43 (62)	0.500 (13)	2.46 (62)	4.18 (106)	1.50 (38)	150 (68)	40 (4.5)
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 (4.5)
CS-UB-3	3	3.56 (90)	0.500 (13)	3.03 (77)	5.31 (135)	1.50 (38)	150 (68)	40 (4.5)
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 (4.5)
CS-UB-4	4	4.56 (116)	0.500 (13)	3.53 (90)	6.31 (160)	1.50 (38)	150 (68)	40 (4.5)

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)

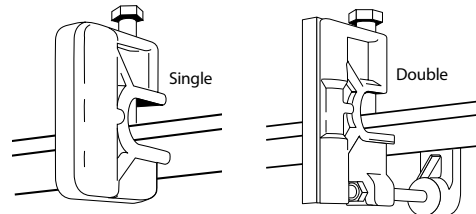
Allowable load = 750 lbs.- based on total load, uniformly distributed over the width of the rack. Safety factor = 2

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

BEAM CLAMPS

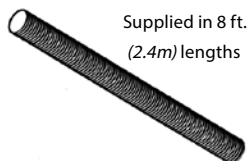
Part No.	Vinyl Ester Beam Clamps	
CS-BC-3/8	Single for 3/8	FRP Threaded Rod
CS-BC-1/2	Single for 1/2	FRP Threaded Rod
CS-DC-3/8	Double for 3/8	FRP Threaded Rod
CS-DC-1/2	Double for 1/2	FRP Threaded Rod

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



FRP THREADED RODS

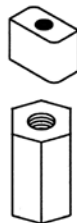
Part No.	Size
CS-TR- 3/8	3/8 - 16 UNC
CS-TR- 1/2	1/2 - 13 UNC
CS-TR- 5/8	5/8 - 11 UNC
CS-TR- 3/4	3/4 - 10 UNC
CS-TR-1	1 - 8 UNC



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

