Fiberglass

Cooper B-Line offers two fire retardant (FR) resins for strut systems, polyester and vinyl ester. Both resins are ideal for corrosive environments.

While polyester is sufficient for most uses, vinyl ester is suitable for a broader range of environments.

Please refer to the "Corrosion Resistance Guide" for specific applications, page 183.

Materials & Finishes

Cooper B-Line Fiberglass Strut systems are manufactured from glass fiber-reinforced plastic shapes that meet ASTM E-84, Class 1 Flame Rating and self-extinguishing requirements of ASTM D-635. A surface veil is applied during pultrusion to insure a resin-rich surface and ultraviolet resistance.

Fittings

The following dimensions apply to all fittings except as noted on the drawings:

Hole Size–$^{13}/_{32}$" (10.3 mm) Dia.
Hole Spacing–$^{13}/_{16}$" (20.6 mm) from end and $1^{7}/_{8}$" (47.6 mm) on center.
Width–$1^{5}/_{8}$" (41.3 mm)
Thickness–$^{1}/_{4}$" (6.3 mm)

Metric

Metric dimensions are shown in parentheses. Unless noted, all metric dimensions are in millimeters.

CHANNEL RESIN INFORMATION

Cooper B-Line offers two fire retardant (FR) resins for strut systems, polyester and vinyl ester. Both resins are ideal for corrosive environments.
While polyester is sufficient for most uses, vinyl ester is suitable for a broader range of environments.
Please refer to the "Corrosion Resistance Guide" below for specific applications.

Corrosion Resistance Guide					
Chemicals	70°F (21°C)	160°F (71°C)	Chemicals	70°F (21°C)	160°F (71°C)
Acetic acid 5%	BFP/BFV	BFP/BFV	Methyl alcohol 10%	BFP/BFV	BFV-150° **
Acetic acid 52%	BFP/BFV	BFV-210° **	Naphtha	BFP/BFV	BFP/BFV
Aluminum potassium sulfate 5%	BFP/BFV	BFP/BFV	Nitric acid 5%	BFP/BFV	BFP/BFV
Ammonium hydroxide 10%	BFP/BFV	BFV-150° **	Nitric acid 20%	BFV	BFV-120° **
Ammonium nitrate	BFP/BFV	BFP/BFV	Phosphoric acid 10%	BFP/BFV	BFP/BFV
Benzene sulfonic acid 5%	BFP/BFV	BFP/BFV	Phosphoric acid 30%	BFP/BFV	BFP/BFV
Calcium chloride	BFP/BFV	BFP/BFV	Phosphoric acid 85%	BFP/BFV	BFP/BFV
Carbon tetrachloride	BFV	BFV-100° **	Sodium bicarbonate 10%	BFP/BFV	BFP/BFV
Chlorine dioxide 15%	BFP/BFV	BFV-150° **	Sodium bisulfate	BFP/BFV	BFP/BFV
Chromic acid 5%	BFV	BFV-150° **	Sodium carbonate	BFP/BFV	BFV
Copper sulfate	BFP/BFV	BFP/BFV	Sodium chloride	BFP/BFV	BFP/BFV
Diesel fuel	BFP/BFV	BFV	Sodium hydroxide 1-50%	BFV	BFV-120° **
Ethylene glycol	BFP/BFV	BFP/BFV	Sodium hypochlorite 5%	BFP/BFV	BFV-120° **
Fatty acids 100%	BFP/BFV	BFP/BFV	Sodium nitrate	BFP/BFV	BFP/BFV
Ferrous sulfate	BFP/BFV	BFP/BFV	Sodium silicate	BFP/BFV	BFV-210° **
Fluosilicic acid 0-20%	BFV	BFV	Sodium sulfate	BFP/BFV	BFP/BFV
Gasoline	BFP/BFV	BFV	Sulfuric acid 0-30%	BFP/BFV	BFP/BFV
Hydrochloric acid 1%	BFP/BFV	BFP/BFV	Sulfuric acid 30-50%	BFV	BFV
Hydrochloric acid 15%	BFP/BFV	BFV-180° **	Sulfuric acid 50-70%	BFV	BFV-180° **
Hydrochloric acid 37%	BFP/BFV	BFV-150° **	Trisodium phosphate 25%	BFP/BFV	BFV-210° **
Kerosene	BFP/BFV	BFP/BFV	Trisodium phosphate-All	BFV	BFV-210° **
Magnesium chloride	BFP/BFV	BFP/BFV	Water, Distilled	BFP/BFV	BFP/BFV

BFP - BFP parts recommended BFV - BFV parts recommended ** - Not recommended to exceed this temperature

Information contained in this chart is based on data from raw material suppliers.

Temperatures are not the minimum nor the maximum (except where specifically stated) but represent standard test conditions. The products may be suitable at higher temperatures but individual test data should be required to establish suitability.

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

Recommended Guideline:

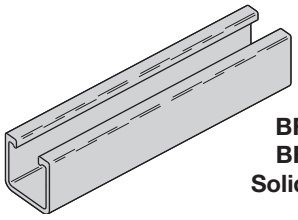
Temperature	Design Load Multiplier
75°F (24°C)	100%
100°F (38°C)	90%
125°F (52°C)	78%
150°F (66°C)	68%
175°F (79°C)	60%
200°F (93°C)	52%

Flame Retardant Properties	BFP	BFV
Flame Resistance (FTMS 406-2023) ign/burn, seconds	75/75	75/75
Intermittent Flame Test (HLT-15), rating	100	100
Flammability Test (ASTM D635) Ignition Burning Time	none 0 sec.	none 0 sec.
Surface Burning Characteristics (ASTM E84), Flame spread index	25	25
UL 94 Flame Class	V-0	V-0

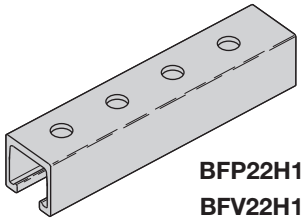
Reference page 182 for general fitting specifications.

BFP22 THRU BFV22SH

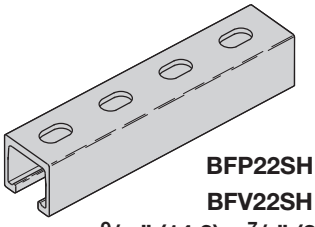
- Channel lengths: 10 Ft. (3.05 m) and 20 Ft. (6.09 m)
- Fiberglass strut meets specification of ASTM D-4385 Levels III and IV.



BFP22
BFV22
Solid Back

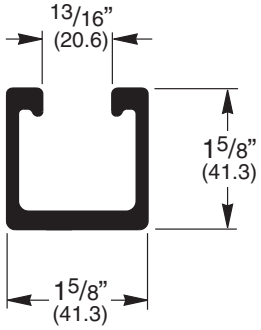


BFP22H1 7/8
BFV22H1 7/8
9/16" (14.3) holes
1 7/8" (47.6) on centers



BFP22SH
BFV22SH
9/16" (14.3) x 7/8" (22.2) slots
2" (50.8) on centers

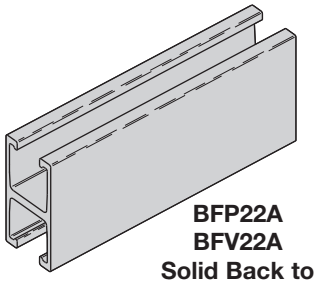
Part No.	Material	Description	Color	Weight Lbs./ft.	Weight kg/m
BFP22*	Polyester Resin	Solid Back	Gray	.63	(.94)
BFV22*	Vinyl Ester Resin	Solid Back	Beige	.63	(.94)
BFP22H1 7/8*	Polyester Resin	Holes in Back	Gray	.60	(.89)
BFV22H1 7/8*	Vinyl Ester Resin	Holes in Back	Beige	.60	(.89)
BFP22SH*	Polyester Resin	Slots in Back	Gray	.61	(.91)
BFV22SH*	Vinyl Ester Resin	Slots in Back	Beige	.61	(.91)



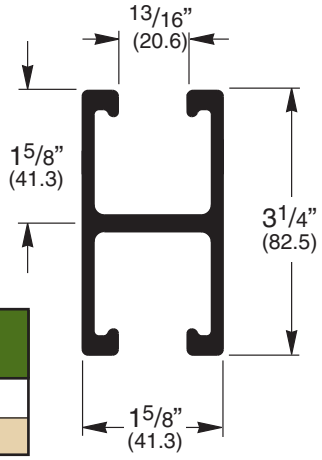
* Insert -10 for 10'-0" (3.05 m) length or -20 for 20'-0" (6.09 m) length

BFP22A
BFV22A

- Channel Lengths: 10 Ft. (3.05 m) and 20 Ft. (6.09 m)
- Fiberglass strut meets specification of ASTM D-4385 Levels III and IV.



BFP22A
BFV22A
Solid Back to Back



Part No.	Material	Description	Color	Weight Lbs./ft.	Weight kg/m
BFP22A*	Polyester Resin	Back To Back	Gray	1.15	(1.71)
BFV22A*	Vinyl Ester Resin	Back To Back	Beige	1.15	(1.71)

* Insert -10 for 10'-0" (3.05 m) length or -20 for 20'-0" (6.09 m) length

WARNING: Appropriate protective clothing and respiratory protection device should be worn when field cutting or grinding fiberglass.

Published design loads on page 185 are based on usage at 70°F (21°C) and must be reduced for continuous exposure to higher temperatures. Refer to the chart below for high temperature applications.

Temperature	Design Load Multiplier
75°F (24°C)	**100%**
100°F (38°C)	**90%**
125°F (52°C)	**78%**
150°F (66°C)	**68%**
175°F (79°C)	**60%**
200°F (93°C)	**52%**

Field Cutting Sealant Kits

RSK010 Pint Sealing Kit (473 cm^3)
includes sealant and brush applicator

• Seals exposed fibers after field cutting. •
• UV resistant •

Reference page 182 for general fitting specifications.

BEAM LOADING DATA FOR GLASS REINFORCED POLYESTER RESIN

Beam Span		Part No.	Maximum Allowable Beam Load Load		Deflection @ Maximum Allowable Beam Load		Allowable Load @ Deflection =			
							1/240 Span		1/360 Span	
in.	mm		Lbs.	kN	in.	mm	Lbs.	kN	Lbs.	kN
12”	(305)	**BFP22**	1781	(7.92)	0.064	(1.62)	1392	(6.19)	928	(4.13)
		BFP22A	2259	(10.05)	0.037	(.94)	2259	(10.05)	2051	(9.12)
24”	(609)	**BFP22**	890	(3.96)	0.256	(6.50)	347	(1.54)	231	(1.03)
		BFP22A	1127	(5.01)	0.147	(3.73)	767	(3.41)	511	(2.27)
36”	(914)	**BFP22**	592	(2.63)	0.576	(14.63)	153	(0.68)	101	(0.45)
		BFP22A	750	(3.33)	0.330	(8.38)	338	(1.50)	224	(0.99)
48”	(1219)	**BFP22**	443	(1.97)	1.024	(26.01)	85	(0.38)	55	(0.24)
		BFP22A	560	(2.49)	0.587	(14.91)	188	(0.83)	123	(0.55)
60”	(1524)	**BFP22**	353	(1.57)	1.600	(40.64)	53	(0.23)	34	(0.15)
		BFP22A	446	(1.98)	0.918	(23.32)	117	(0.52)	76	(0.34)
72”	(1829)	**BFP22**	293	(1.30)	2.303	(58.49)	35	(0.15)	22	(0.10)
		BFP22A	370	(1.64)	1.322	(33.58)	78	(0.34)	50	(0.22)
96”	(2438)	**BFP22**	218	(0.97)	4.095	(104.01)	17	(0.07)	9	(0.04)
		BFP22A	273	(1.21)	2.350	(59.69)	39	(0.17)	23	(0.10)
120”	(3048)	**BFP22**	172	(0.76)	6.398	(162.51)	8	(0.03)	3	(0.01)
		BFP22A	214	(0.95)	3.671	(93.24)	19	(0.08)	9	(0.04)

BEAM LOADING DATA FOR GLASS REINFORCED VINYL ESTER RESIN

Beam Span		Part No.	Maximum Allowable Beam Load Load		Deflection @ Maximum Allowable Beam Load		Allowable Load @ Deflection =			
							1/240 Span		1/360 Span	
in.	mm		Lbs.	kN	in.	mm	Lbs.	kN	Lbs.	kN
12”	(305)	**BFV22**	2220	(9.87)	0.071	(1.80)	1568	(6.97)	1045	(4.65)
		BFV22A	6442	(28.65)	0.039	(0.99)	6442	(29.65)	5549	(24.68)
24”	(609)	**BFV22**	1109	(4.93)	0.283	(7.19)	391	(1.74)	260	(1.15)
		BFV22A	3219	(14.32)	0.155	(3.94)	2079	(9.25)	1385	(6.16)
36”	(914)	**BFV22**	738	(3.28)	0.637	(16.18)	172	(0.76)	114	(0.51)
		BFV22A	2144	(9.53)	0.348	(8.84)	922	(4.10)	613	(2.72)
48”	(1219)	**BFV22**	553	(2.46)	1.133	(28.78)	96	(0.43)	63	(0.28)
		BFV22A	1606	(7.14)	0.619	(15.72)	516	(2.29)	342	(1.52)
60”	(1524)	**BFV22**	441	(1.96)	1.770	(44.96)	60	(0.26)	39	(0.17)
		BFV22A	1283	(5.70)	0.967	(24.56)	327	(1.45)	216	(0.96)
72”	(1829)	**BFV22**	366	(1.63)	2.549	(64.74)	40	(0.18)	25	(0.11)
		BFV22A	1067	(4.74)	1.393	(35.38)	224	(0.99)	147	(0.65)
96”	(2438)	**BFV22**	273	(1.21)	4.531	(115.09)	19	(0.08)	11	(0.05)
		BFV22A	796	(3.54)	2.477	(62.91)	121	(0.54)	78	(0.34)
120”	(3048)	**BFV22**	216	(0.96)	7.079	(179.80)	9	(0.04)	7	(0.02)
		BFV22A	633	(2.81)	3.870	(98.30)	72	(0.32)	44	(0.19)

Loading Information

Beam Loads:

The above charts list the total allowable uniform load for various simple spans based on a minimum safety factor of 2. If the load is concentrated at center span, multiply the load from the above charts by 0.5 and the corresponding deflection by 0.8.

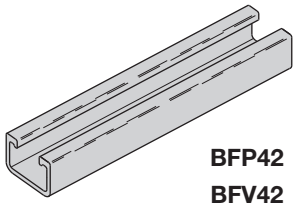
All beams should be supported in a manner to prevent rotation at supports. Long, deep beams should be tied between supports to prevent twist.

For channels with holes or slots use 90% of recommended load shown in channel loading chart.

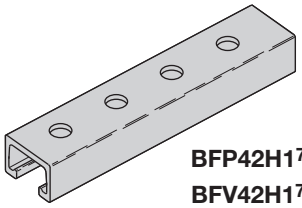
Reference page 182 for general fitting specifications.

BFP42 THRU BFV42SH

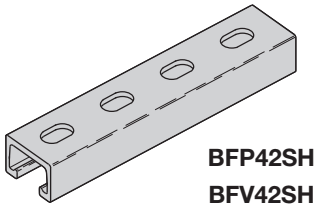
- Channel lengths: 10 Ft. (3.05 m) and 20 Ft. (6.09 m)
- Fiberglass strut meets specification of ASTM D-4385 Levels III and IV.



BFP42
BFV42
Solid Back

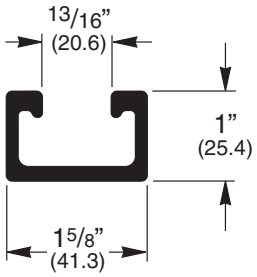


BFP42H1 7/8
BFV42H1 7/8
9/16" (14.3) holes
1 7/8" (47.6) on centers



BFP42SH
BFV42SH
9/16" (14.3) x 7/8" (22.2) slots
2" (50.8) on centers

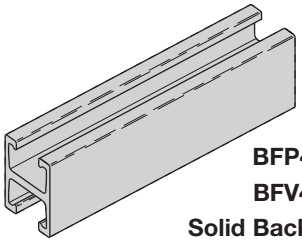
Part No.	Material	Description	Color	Weight Lbs./ft.	Weight kg/m
BFP42*	Polyester Resin	Solid Back	Gray	.48	(.71)
BFV42*	Vinyl Ester Resin	Solid Back	Beige	.48	(.71)
BFP42H1 7/8*	Polyester Resin	Holes in Back	Gray	.46	(.68)
BFV42H1 7/8*	Vinyl Ester Resin	Holes in Back	Beige	.46	(.68)
BFP42SH*	Polyester Resin	Slots in Back	Gray	.47	(.70)
BFV42SH*	Vinyl Ester Resin	Slots in Back	Beige	.47	(.70)



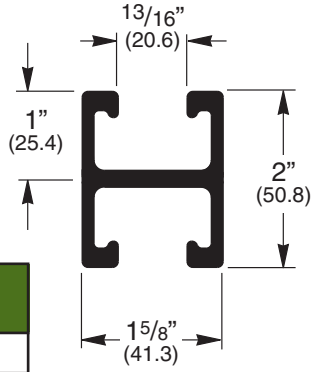
* Insert -10 for 10'-0" (3.05 m) length or -20 for 20'-0" (6.09 m) length

BFP42A
BFV42A

- Channel lengths: 10 Ft. (3.05 m) and 20 Ft. (6.09 m)
- Fiberglass strut meets specification of ASTM D-4385 Levels III and IV.



BFP42A
BFV42A
Solid Back to Back



Part No.	Material	Description	Color	Weight Lbs./ft.	Weight kg/m
BFP42A*	Polyester Resin	Back To Back	Gray	.85	(1.26)
BFV42A*	Vinyl Ester Resin	Back To Back	Beige	.85	(1.26)

* Insert -10 for 10'-0" (3.05 m) length or -20 for 20'-0" (6.09 m) length

WARNING: Appropriate protective clothing and respiratory protection device should be worn when field cutting or grinding fiberglass.

Field Cutting Sealant Kits

RSK010 Pint Sealing Kit (473 cm^3) includes sealant and brush applicator

• Seals exposed fibers after field cutting. •
• UV resistant •

Published design loads on page 187 are based on usage at 70°F (21°C) and must be reduced for continuous exposure to higher temperatures. Refer to the chart below for high temperature applications.

Temperature	Design Load Multiplier
75°F (24°C)	**100%**
100°F (38°C)	**90%**
125°F (52°C)	**78%**
150°F (66°C)	**68%**
175°F (79°C)	**60%**
200°F (93°C)	**52%**

Reference page 182 for general fitting specifications.

BEAM LOADING DATA FOR GLASS REINFORCED POLYESTER RESIN

Beam Span		Part No.	Maximum Allowable Beam Load Load		Deflection @ Maximum Allowable Beam Load		Allowable Load @ Deflection =			
							1/240 Span		1/360 Span	
in.	mm		Lbs.	kN	in.	mm	Lbs.	kN	Lbs.	kN
12”	(305)	**BFP42**	841	(3.74)	0.104	(2.64)	403	(1.79)	269	(1.19)
		BFP42A	2325	(10.34)	0.060	(1.52)	1948	(8.66)	1299	(5.78)
24”	(609)	**BFP42**	420	(1.87)	0.417	(10.59)	100	(0.44)	66	(0.29)
		BFP42A	1161	(5.16)	0.239	(6.07)	486	(2.16)	323	(1.43)
36”	(914)	**BFP42**	279	(1.24)	0.938	(23.82)	43	(0.19)	29	(0.13)
		BFP42A	773	(3.44)	0.537	(13.64)	214	(0.95)	142	(0.63)
48”	(1219)	**BFP42**	208	(0.92)	1.667	(42.34)	23	(0.10)	15	(0.06)
		BFP42A	578	(2.57)	0.955	(24.26)	119	(0.53)	78	(0.34)
60”	(1524)	**BFP42**	166	(0.74)	2.604	(66.14)	14	(0.06)	8	(0.03)
		BFP42A	461	(2.05)	1.491	(37.87)	74	(0.33)	48	(0.21)
72”	(1829)	**BFP42**	137	(0.61)	3.750	(95.25)	8	(0.03)	5	(0.02)
		BFP42A	383	(1.70)	2.148	(54.56)	49	(0.22)	31	(0.14)
96”	(2438)	**BFP42**	101	(0.45)	6.667	(169.34)	3	(0.01)	–	–
		BFP42A	284	(1.26)	3.818	(96.98)	24	(0.10)	14	(0.04)
120”	(3048)	**BFP42**	79	(0.35)	10.417	(264.59)	–	–	–	–
		BFP42A	224	(0.99)	5.966	(151.53)	11	(0.05)	5	(0.02)

BEAM LOADING DATA FOR GLASS REINFORCED VINYL ESTER RESIN

Beam Span		Part No.	Maximum Allowable Beam Load Load		Deflection @ Maximum Allowable Beam Load		Allowable Load @ Deflection =			
							1/240 Span		1/360 Span	
in.	mm		Lbs.	kN	in.	mm	Lbs.	kN	Lbs.	kN
12”	(305)	**BFV42**	988	(4.39)	0.112	(2.84)	440	(1.96)	293	(1.30)
		BFV42A	2865	(12.74)	0.063	(1.60)	2278	(10.13)	1518	(6.75)
24”	(609)	**BFV42**	493	(2.19)	0.448	(11.38)	109	(0.48)	73	(0.32)
		BFV42A	1431	(6.36)	0.252	(6.40)	568	(2.52)	378	(1.68)
36”	(914)	**BFV42**	328	(1.46)	1.009	(25.63)	48	(0.21)	31	(0.14)
		BFV42A	953	(4.24)	0.566	(14.37)	251	(1.11)	166	(0.74)
48”	(1219)	**BFV42**	245	(1.09)	1.793	(45.54)	26	(0.11)	16	(0.07)
		BFV42A	713	(3.17)	1.006	(25.55)	139	(0.62)	92	(0.41)
60”	(1524)	**BFV42**	195	(0.87)	2.802	(71.17)	15	(0.06)	9	(0.04)
		BFV42A	569	(2.53)	1.572	(39.93)	87	(0.38)	57	(0.25)
72”	(1829)	**BFV42**	162	(0.72)	4.035	(102.49)	9	(0.04)	5	(0.02)
		BFV42A	473	(2.10)	2.264	(57.50)	58	(0.26)	37	(0.16)
96”	(2438)	**BFV42**	120	(0.53)	7.173	(182.19)	3	(0.01)	1	(0.004)
		BFV42A	351	(1.56)	4.025	(102.23)	29	(0.13)	17	(0.07)
120”	(3048)	**BFV42**	94	(0.42)	11.207	(284.66)	–	–	–	–
		BFV42A	278	(1.23)	6.288	(159.71)	14	(0.06)	7	(0.03)

Loading Information

Beam Loads:

The above charts list the total allowable uniform load for various simple spans based on a minimum safety factor of 2. If the load is concentrated at center span, multiply the load from the above charts by 0.5 and the corresponding deflection by 0.8.

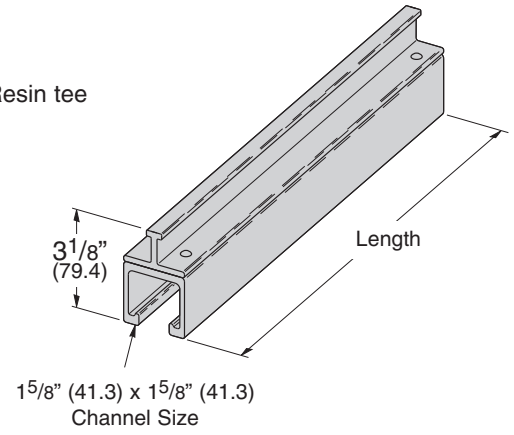
All beams should be supported in a manner to prevent rotation at supports. Long, deep beams should be tied between supports to prevent twist.

For channels with holes or slots use 90% of recommended load shown in channel loading chart.

Reference page 182 for general fitting specifications.

BF*22I
CONCRETE INSERTS

- Design Load 300 Lbs (1.47 kN)
- Safety Factor of 3
- Standard lengths: 6” (152),12” (305), 24” (609), 36” (914), 48” (1219), 60” (1524), 72” (1829), 84” (2133), 96” (2438), 108” (2743) and 120” (3048)
- Available Material:
  *Insert P for BFP - Polyester Resin channel and tee
  *Insert V for BFV - Vinyl Ester Resin channel with Polyester Resin tee
- Shipped with removable styrofoam insert



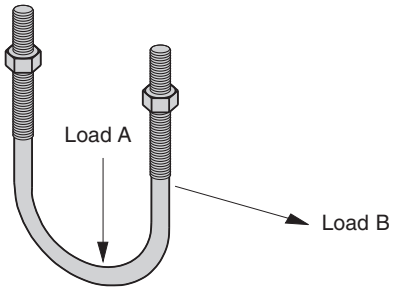
Field Cutting Sealant Kits

RSK010 ... Pint Sealing Kit (473 cm^3)
includes sealant and brush applicator

• Seals exposed fibers after field cutting. •
• UV resistant •

BFV501 SERIES
U-BOLTS WITH HEX NUTS

- Design Load Safety Factor of 3
- Load A: Straight down loading
- Load B: Side loading
- Inner surface of U-Bolt is flat to provide additional contact surface area
- Material: Glass Reinforced Polyurethane

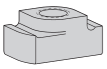


Part No.	Nominal Pipe Size in.	mm	Thread Size	Design Load A Lbs.	kN	Design Load B Lbs.	kN	Maximum Torque in.-Lbs.	N•m	Wt./C Lbs.	kg
BFV501-1/2	1/2	(15)	3/8”-16	300	(1.33)	150	(.67)	30	(3.4)	3.5	(1.59)
BFV501-3/4	3/4	(20)	3/8”-16	300	(1.33)	150	(.67)	30	(3.4)	3.9	(1.77)
BFV501-1	1	(25)	3/8”-16	300	(1.33)	150	(.67)	30	(3.4)	4.4	(1.99)
BFV501-1 1/4	1 1/4	(32)	3/8”-16	300	(1.33)	150	(.67)	30	(3.4)	4.8	(2.18)
BFV501-1 1/2	1 1/2	(40)	3/8”-16	300	(1.33)	150	(.67)	30	(3.4)	5.2	(2.36)
BFV501-2	2	(50)	1/2”-13	600	(2.67)	200	(.89)	60	(6.8)	7.7	(3.49)
BFV501-2 1/2	2 1/2	(65)	1/2”-13	600	(2.67)	200	(.89)	60	(6.8)	10.2	(4.63)
BFV501-3	3	(80)	1/2”-13	600	(2.67)	200	(.89)	60	(6.8)	12.6	(5.71)
BFV501-3 1/2	3 1/2	(90)	1/2”-13	600	(2.67)	200	(.89)	60	(6.8)	15.1	(6.85)
BFV501-4	4	(100)	1/2”-13	600	(2.67)	200	(.89)	60	(6.8)	17.6	(7.98)

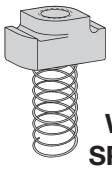
Reference page 182 for general fitting specifications.

CHANNEL NUTS

- Design Load Safety Factor of 3
- Overall Nut Height 5/8" (15.9)
- Maximum torque and slip resistance loads shown are when using stainless steel bolts. When using fiberglass hardware use Max. Torque for fiberglass bolts, and multiply slip resistance loads by .14 for 3/8" and .60 for 1/2" thread size.
- Material: Glass Reinforced Polyurethane
- Spring Material: Zinc Plated Steel



W/O (WITHOUT) SPRING



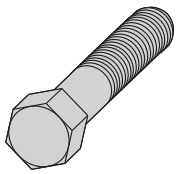
WITH SPRING

Part No. With Spring	Part No. W/O Spring	Thread Size	Pull-Out		Slip Resistance		Max. Torque		Wt./C	
			Lbs	kN	Lbs.	N	in.-Lbs.	N•m	Lbs.	kg
BFV-224	BFV-224WO	1/4"-20	300	(1.33)	150	(.67)	200	(22.6)	2.4	(1.09)
BFV-223	BFV-223WO	5/16"-18	300	(1.33)	150	(.67)	200	(22.6)	2.5	(1.13)
BFV-228	BFV-228WO	3/8"-16	300	(1.33)	150	(.67)	200	(22.6)	2.3	(1.04)
BFV-225	BFV-225WO	1/2"-13	300	(1.33)	150	(.67)	200	(22.6)	2.1	(0.95)

BFVHHCS
HEX HEAD CAP SCREWS

- Design Load Safety Factor of 3
- Material: Glass Reinforced Polyurethane

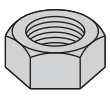
Part No.	Thread Size	Design Load (in tension)		Max. Torque		Wt./C	
		Lbs.	kN	in.-Lbs.	N•m	Lbs.	kg
BFVHHCS 5/16 x 1	5/16"-18	190	(.84)	30	(3.4)	.4	(.18)
BFVHHCS 5/16 x 1 1/4	5/16"-18	190	(.84)	30	(3.4)	.5	(.23)
BFVHHCS 5/16 x 1 1/2	5/16"-18	190	(.84)	30	(3.4)	.6	(.27)
BFVHHCS 5/16 x 2	5/16"-18	190	(.84)	30	(3.4)	.8	(.36)
BFVHHCS 3/8 x 1	3/8"-16	300	(1.33)	45	(5.1)	.9	(.41)
BFVHHCS 3/8 x 1 1/4	3/8"-16	300	(1.33)	45	(5.1)	1.1	(.50)
BFVHHCS 3/8 x 1 1/2	3/8"-16	300	(1.33)	45	(5.1)	1.3	(.59)
BFVHHCS 3/8 x 2	3/8"-16	300	(1.33)	45	(5.1)	1.3	(.59)
BFVHHCS 3/8 x 2 1/2	3/8"-16	300	(1.33)	45	(5.1)	1.5	(.68)
BFVHHCS 1/2 x 1	1/2"-13	490	(2.18)	110	(12.4)	1.4	(.63)
BFVHHCS 1/2 x 1 1/4	1/2"-13	490	(2.18)	110	(12.4)	1.8	(.81)
BFVHHCS 1/2 x 1 1/2	1/2"-13	490	(2.18)	110	(12.4)	2.2	(1.00)
BFVHHCS 1/2 x 2	1/2"-13	490	(2.18)	110	(12.4)	3.0	(1.36)
BFVHHCS 1/2 x 2 1/2	1/2"-13	490	(2.18)	110	(12.4)	3.7	(1.68)
BFVHHCS 1/2 x 3	1/2"-13	490	(2.18)	110	(12.4)	4.5	(2.04)



BFVHN
HEX NUTS

- 3/4" & 1" sizes are available. Contact inside sales for details
- Material: Glass Reinforced Polyurethane

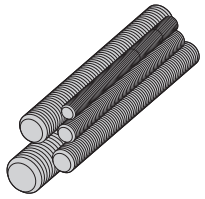
Part No.	Thread Size	Nut Thickness		Wt./C	
		in.	mm	Lbs.	kg
BFVHN 5/16	5/16"-18	17/64	(6.7)	.2	(.09)
BFVHN 3/8	3/8"-16	21/64	(8.3)	.3	(.13)
BFVHN 1/2	1/2"-13	7/16	(11.1)	.7	(.32)
BFVHN 5/8	5/8"-11	35/64	(13.9)	1.4	(.63)



Reference page 182 for general fitting specifications.

BFVATR
ALL THREADED ROD

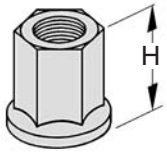
- Design Load Safety Factor of 3
- Use ATR nuts in place of hex nuts with 3/8"-16 and 1/2"-13 threaded rod in order to obtain minimum required thread engagement of 17/32" (13.5) to obtain design load shown below.
- Material: Glass Reinforced Vinyl Ester



Part No.	Thread Size	Design Load (in tension) Lbs.	kN	Max. Torque in.-Lbs.	N•m	Wt./Ft. Lbs.	kg
BFVATR 3/8 x 48"	3/8"-16	425	(1.89)	45	(5.1)	.08	(.04)
BFVATR 1/2 x 48"	1/2"-13	750	(3.33)	110	(12.4)	.13	(.06)
BFVATR 5/8 x 48"	5/8"-11	950	(4.22)	230	(26.0)	.21	(.09)

BFVATRHN
THREADED ROD NUTS

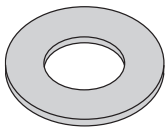
- ATR Nut is required with 3/8"-16 and 1/2"-13 ATR to provide additional thread engagement which is critical to ATR load carrying capacity.
- Material: Glass Reinforced Polyurethane



Part No.	Thread Size	H in.	mm	Wt./C Lbs.	kg
BFVATRHN 3/8	3/8"-16	3/4	(19)	.8	(.36)
BFVATRHN 1/2	1/2"-13	7/8	(22)	1.7	(.77)

BFVFW
FLAT WASHERS

- Material: PVC



Part No.	Hole Size in.	Wt./C Lbs.	kg
BFVFW 3/8	3/8	.5	(.22)
BFVFW 1/2	1/2	.5	(.22)
BFVFW 5/8	5/8	.5	(.22)
BFVFW 3/4	3/4	.5	(.22)
BFVFW 1	1	.5	(.22)

BFV655 SERIES
ROD COUPLINGS

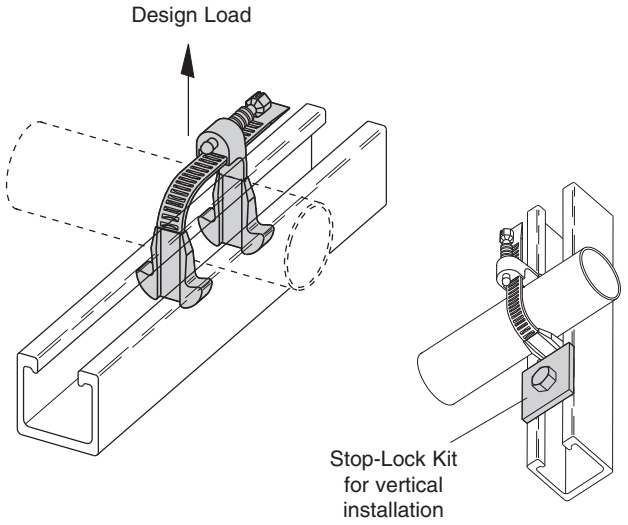
- Material: Glass Reinforced Polyurethane

Part No.	Thread Size	Wt./C Lbs.	kg
BFV655-3/8	3/8"-16	7.4	(3.35)
BFV655-1/2	1/2"-13	11.3	(5.12)
BFV655-5/8	5/8"-11	16.7	(7.57)

Reference page 182 for general fitting specifications.

BFV100 thru BFV300
ADJUSTABLE PIPE CLAMPS

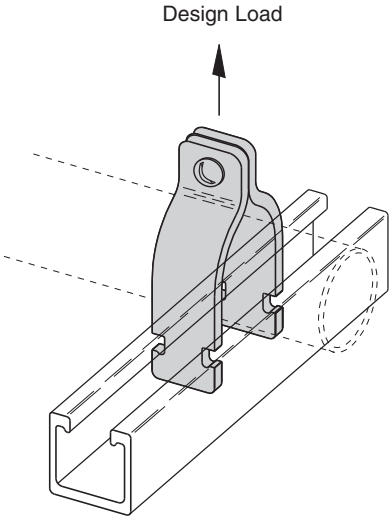
- Completely Non-Metallic
- Adjustable to U.S. & Metric Pipe Diameters
- Fits OD Sizes 3/4" (19.0) to 3 1/2" (88.9)
- Easy To Install
- No Special Tools Required
- Design Load Safety Factor of 3
- Material: Glass Reinforced Polyurethane
- Not recommended for vertical installation without additional Stop-Lock Kit. Kit includes one square washer, channel nut and hex head cap screw. Order (Stop-Lock Kit) BFVSL-3/8 for 3/8"-16 hardware or BFVSL-1/2 for 1/2"-13 hardware. Mount kit below clamp when used in vertical strut to prevent clamp slipping.



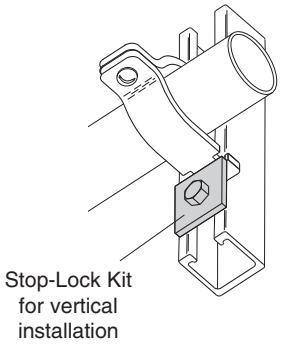
Part No.	Nominal Pipe Sizes in.	mm	Pipe O.D. Range in.	mm	Design Load Lbs.	kN	Max. Torque in.-Lbs.	N•m
BFV100	1/2 - 1 1/2	(15- 40)	.75 - 1.90	(21.3 - 48.3)	135	(.60)	10	(1.13)
BFV200	1 1/2 - 2	(40 - 51)	1.90 - 2.37	(48.3 - 60.3)	135	(.60)	36	(4.07)
BFV300	2 1/2 - 3	(63 - 76)	2.87 - 3.50	(73.0 - 88.9)	145	(.64)	36	(4.07)

BFV2000 SERIES
NON-METALLIC PIPE CLAMPS

- For rigid and PVC conduit.
- Standard hardware includes slotted round head machine screw and square nut in 316 stainless steel
- Design Load Safety Factor of 3
- Material: Glass Reinforced PPO
- Not recommended for vertical installation without additional Stop-Lock Kit. Kit includes one square washer, channel nut and hex head cap screw. Order (Stop-Lock Kit) BFVSL-3/8 for 3/8"-16 hardware or BFVSL-1/2 for 1/2"-13 hardware. Mount kit below clamp when used in vertical strut to prevent clamp slipping.
- *If non-metallic hardware is required, add N to the part number.* ***Example: BFV2008N***

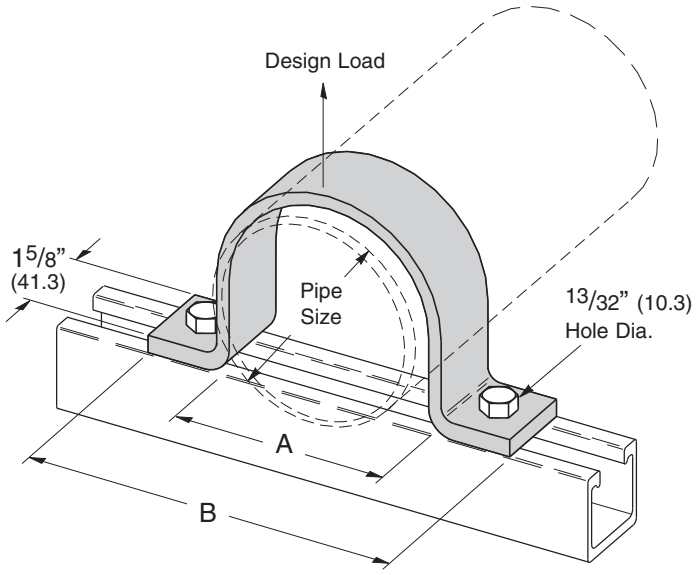


Part No.	Nominal Pipe Size in.	mm	Design Load Lbs.	kN	Maximum Torque in.-Lbs.	N•m
BFV2008	1/2	(15)	300	(1.33)	10	(1.13)
BFV2009	3/4	(20)	300	(1.33)	10	(1.13)
BFV2010	1	(25)	300	(1.33)	10	(1.13)
BFV2011	1 1/4	(32)	300	(1.33)	10	(1.13)
BFV2012	1 1/2	(40)	300	(1.33)	10	(1.13)
BFV2013	2	(50)	300	(1.33)	10	(1.13)
BFV2014	2 1/2	(65)	300	(1.33)	10	(1.13)
BFV2015	3	(80)	300	(1.33)	10	(1.13)
BFV2016	3 1/2	(90)	300	(1.33)	10	(1.13)
BFV2017	4	(100)	300	(1.33)	10	(1.13)



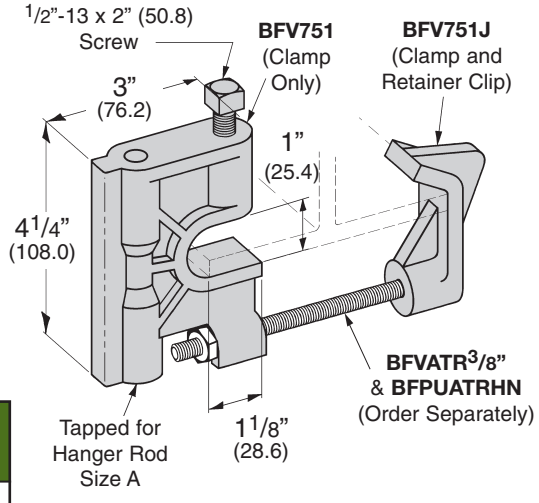
Reference page 182 for general fitting specifications.

BFP2400 SERIES
2-HOLE PIPE CLAMPS
- Design Load Safety Factor of 3
- Material: Glass Reinforced Polyester



Part No.	Nominal Pipe Size		A		B		Design Load	
	in.	mm	in.	mm	in.	mm	Lbs.	kN
BFP2400-2	2	(50)	2 3/8	(60)	5 1/2	(140)	115	(0.51)
BFP2400-3	3	(80)	3 1/2	(89)	6 3/4	(171)	130	(0.58)
BFP2400-4	4	(100)	4 1/2	(114)	7 3/4	(197)	150	(0.66)
BFP2400-6	6	(150)	6 5/8	(168)	10	(254)	150	(0.66)

BFV751 & BFV751J
BEAM CLAMP
- Design Load Safety Factor of 3
- BFV751J (clip included) must be used when installed on tapered flange beams.
- Material: Glass Reinforced Polyurethane
- Setscrew material: Stainless Steel 316 ASTM F593 Group 2, S4

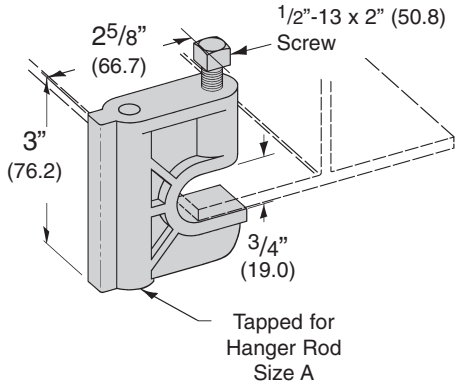


Part No.	For Hanger Rod Size A	Design Load Lbs.	kN	Torque ft.-Lbs.	N•m
BFV751-3/8	3/8"-16	500	(2.22)	10	(13)
BFV751J-3/8	3/8"-16	500	(2.22)	10	(13)
BFV751-1/2	1/2"-13	500	(2.22)	10	(13)
BFV751J-1/2	1/2"-13	500	(2.22)	10	(13)
BFV751-5/8	5/8"-11	500	(2.22)	10	(13)
BFV751J-5/8	5/8"-11	500	(2.22)	10	(13)

Reference page 182 for general fitting specifications.

BFV755
BEAM CLAMP

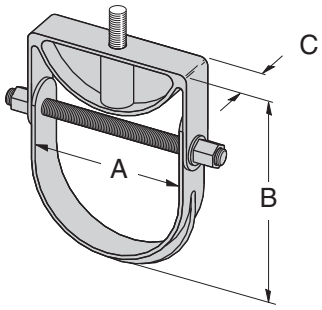
- Design Load Safety Factor of 3
- Material: Glass Reinforced Polyurethane
- Setscrew material: Stainless Steel 316 ASTM F593 Group 2, S4



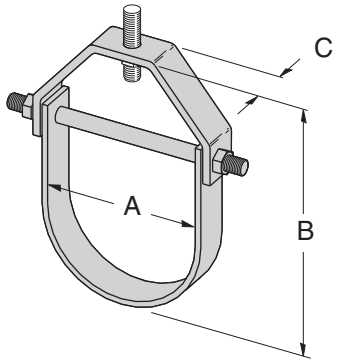
Part No.	For Hanger Rod Size A	Design Load Lbs.	kN	Torque ft.-Lbs.	N•m
BFV755-3/8	3/8"-16	400	(1.78)	10	(13)
BFV755-1/2	1/2"-13	400	(1.78)	10	(13)

BFV3104 SERIES
CLEVIS HANGERS

- Design Load Safety Factor of 3 at 120°F (49°C).
- Insulation may be required at higher temperatures.
- Order hanger rod and nuts separately.
- Material: Glass Reinforced Polyurethane For BFV3104-1 thru BFV3104-6
- Material: Glass Reinforced Polyester & Vinyl Ester For BFV3104-8 thru BFV3104-12



BFV3104-1 thru BFV3104-6



BFV3104-8 thru BFV3104-12

Part No.	Nominal Pipe Size in.	mm	A in.	mm	B in.	mm	C in.	mm	Hanger Rod Size	Design Load Lbs.	kN
BFV3104-1	1	(50)	1 1/2	(38)	4 1/4	(108)	1 1/4	(32)	1/2"-13	670	(2.98)
BFV3104-1 1/2	1 1/2	(65)	2	(51)	5 1/8	(130)	1 1/4	(32)	1/2"-13	670	(2.98)
BFV3104-2	2	(50)	2 1/2	(63)	6 1/2	(165)	1 1/4	(32)	1/2"-13	730	(3.25)
BFV3104-2 1/2, 3, 4	2 1/2-4	(65-100)	5 1/8	(130)	10	(254)	1 1/2	(38)	1/2"-13	1150	(5.11)
BFV3104-6	6	(150)	6 3/4	(171)	12 5/16	(313)	2	(51)	1/2"-13	1170	(5.20)

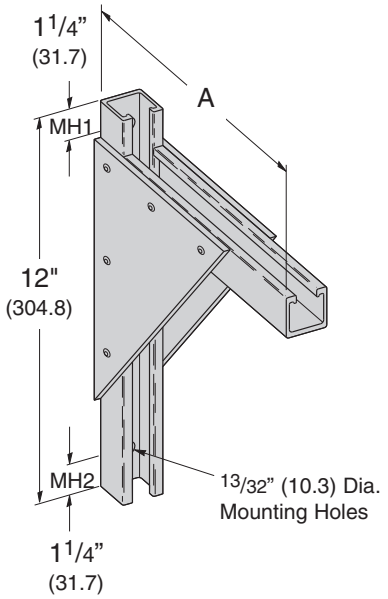
Part No.	Nominal Pipe Size in.	mm	A in.	mm	B in.	mm	C in.	mm	Hanger Rod Size	Design Load Lbs.	kN
BF*3104-8	8	(200)	9 1/4	(235)	16 5/8	(422)	3	(76)	5/8"-11	350	(1.55)
BF*3104-10	10	(250)	11 3/8	(289)	19 7/8	(505)	4	(101)	5/8"-11	450	(2.01)
BF*3104-12	12	(300)	13 1/2	(343)	22 3/8	(568)	5	(127)	5/8"-11	600	(2.69)

*Specify P for polyester or V for Vinyl ester.

Reference page 182 for general fitting specifications.

BF*409 SERIES
BRACKETS 6” (152) TO 24” (609) LONG

- Design Load Safety Factor of 3 based on uniform loading
- MH1 - From Top of Bracket to center of Mounting Hole
- MH2 - From Bottom of Bracket to center of Mounting Hole

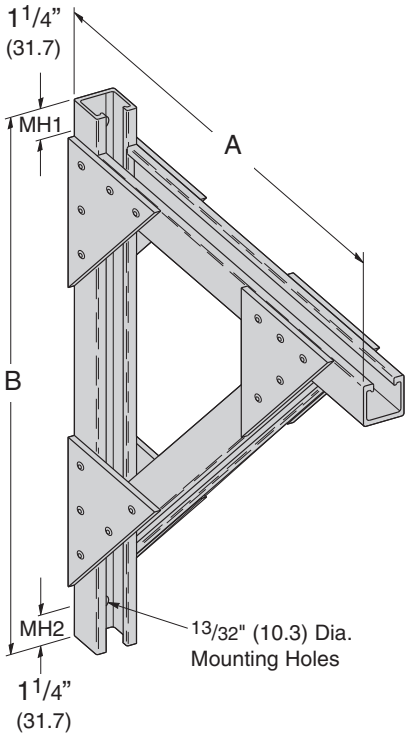


Part No.	A		Design Load	
	in.	mm	Lbs.	kN
BF*409-6	10	(250)	1400	(6.22)
BF*409-9	13	(330)	1000	(4.45)
BF*409-12	16	(406)	800	(3.56)
BF*409-18	22	(559)	675	(3.00)
BF*409-24	28	(711)	450	(2.00)

* Insert P for Glass Reinforced Polyester Resin or
V for Glass Reinforced Vinyl Ester Resin

BF*494 SERIES
BRACKETS 24” (609) TO 36” (914) LONG

- Design Load Safety Factor of 3 based on uniform loading
- MH1 - From Top of Bracket to center of Mounting Hole
- MH2 - From Bottom of Bracket to center of Mounting Hole
- Material: Glass Reinforced Vinyl Ester or Polyester

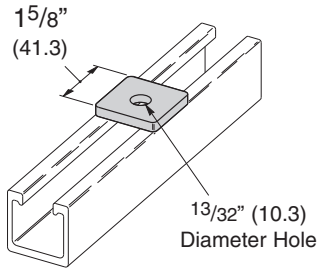


Part No.	A		B		Design Load	
	in.	mm	in.	mm	Lbs.	kN
BF*494-24	28	(711)	23	(584)	750	(3.33)
BF*494-30	34	(863)	26	(660)	750	(3.33)
BF*494-36	40	(1016)	29	(736)	750	(3.33)

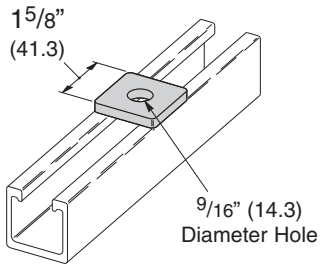
* Insert P for Glass Reinforced Polyester Resin or
V for Glass Reinforced Vinyl Ester Resin

Reference page 182 for general fitting specifications.

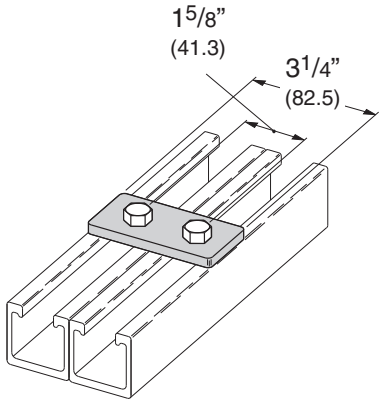
BFV201
SQUARE WASHER FOR 3/8" BOLT
- Material: Injection Molded Glass Reinforced Polyurethane



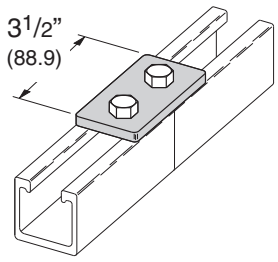
BFV202
SQUARE WASHER FOR 1/2" BOLT
- Material: Injection Molded Glass Reinforced Polyurethane



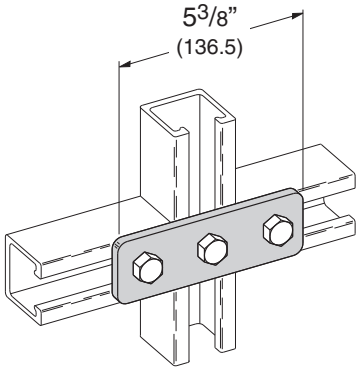
BFV340
TWO HOLE FLAT PLATE
- Material: Injection Molded Glass Reinforced Polyurethane



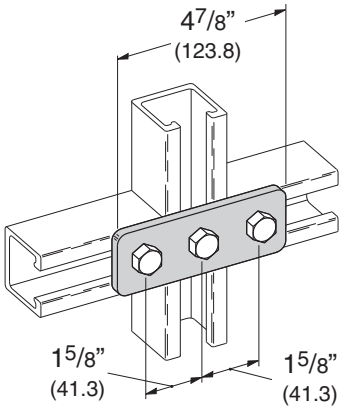
BFV129
TWO HOLE SPLICE PLATE
- Material: Injection Molded Glass Reinforced Polyurethane



BFV141
THREE HOLE FLAT PLATE
- Material: Injection Molded Glass Reinforced Polyurethane

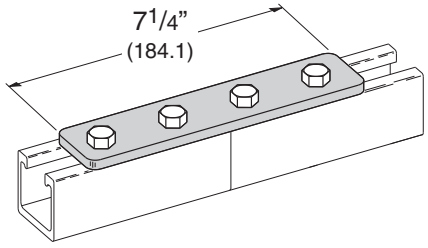


BFV557
THREE HOLE FLAT PLATE
- Material: Injection Molded Glass Reinforced Polyurethane

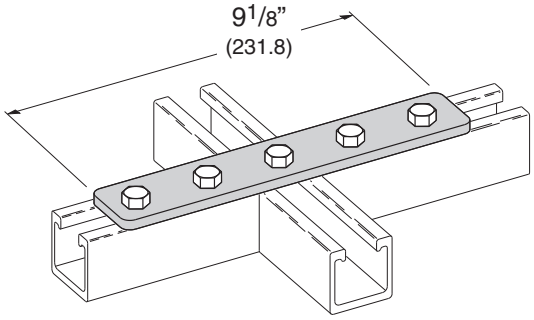


Reference page 182 for general fitting specifications.

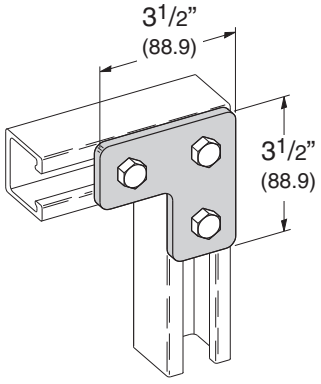
BFV341
FOUR HOLE SPLICE PLATE
• Material: Injection Molded Glass Reinforced Polyurethane



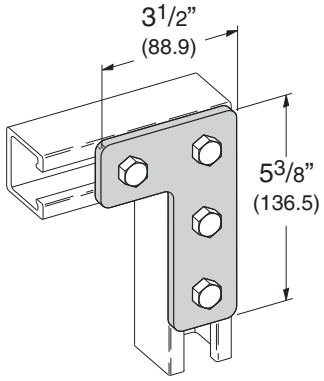
BFV342
FIVE HOLE FLAT PLATE
• Material: Injection Molded Glass Reinforced Polyurethane



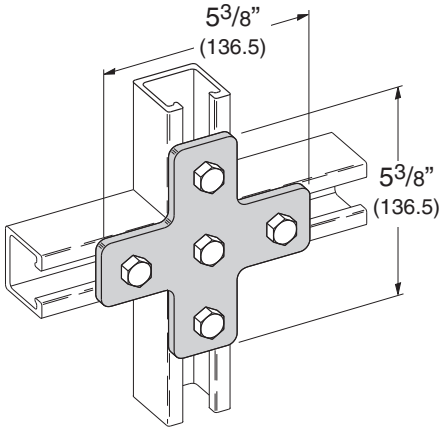
BFV140
THREE HOLE FLAT CORNER PLATE
• Material: Injection Molded Glass Reinforced Polyurethane



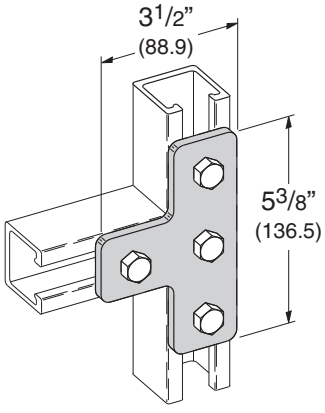
BFV143
FOUR HOLE FLAT CORNER PLATE
• Material: Injection Molded Glass Reinforced Polyurethane



BFV132
FIVE HOLE FLAT CROSS PLATE
• Material: Injection Molded Glass Reinforced Polyurethane

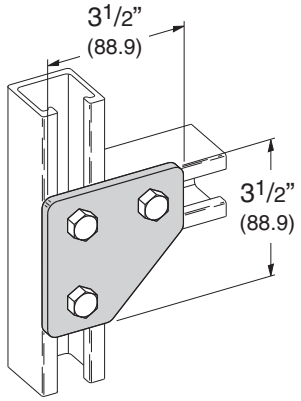


BFV133
FOUR HOLE FLAT TEE PLATE
• Material: Injection Molded Glass Reinforced Polyurethane

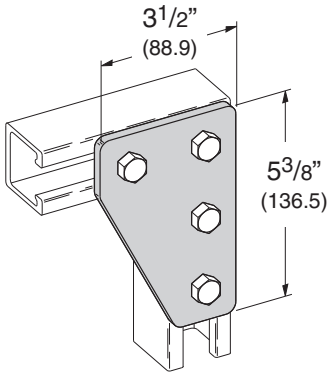


Reference page 182 for general fitting specifications.

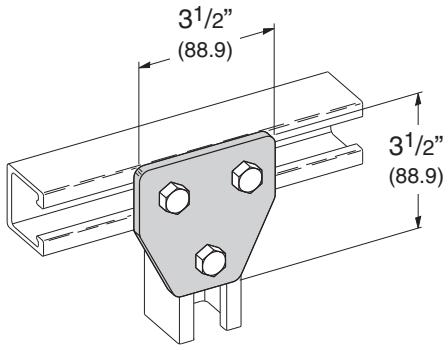
BFV135
THREE HOLE FLAT GUSSET CORNER PLATE
• Material: Injection Molded Glass Reinforced Polyurethane



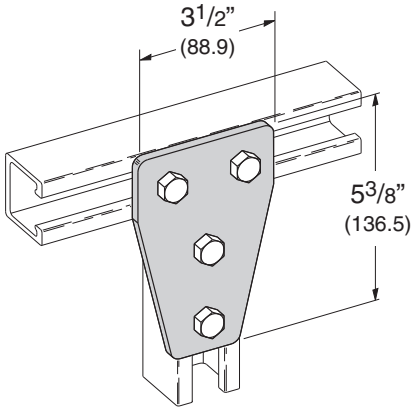
BFV142
FOUR HOLE FLAT GUSSET CORNER PLATE
• Material: Injection Molded Glass Reinforced Polyurethane



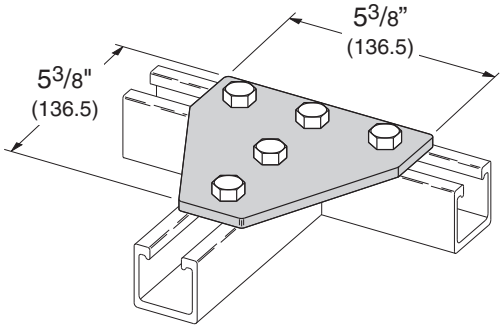
BFV337
THREE HOLE FLAT GUSSET TEE PLATE
• Material: Injection Molded Glass Reinforced Polyurethane



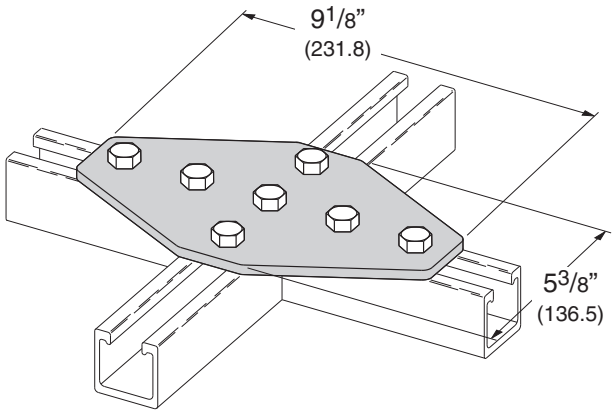
BFV136
FOUR HOLE FLAT GUSSET TEE PLATE
• Material: Injection Molded Glass Reinforced Polyurethane



BFV532
FIVE HOLE FLAT GUSSET TEE PLATE
• Material: Injection Molded Glass Reinforced Polyurethane

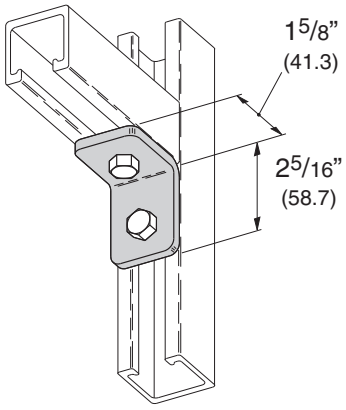


BFV334
SEVEN HOLE FLAT GUSSET CROSS PLATE
• Material: Injection Molded Glass Reinforced Polyurethane

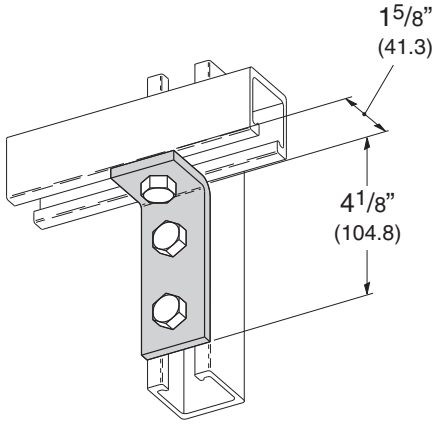


Reference page 182 for general fitting specifications.

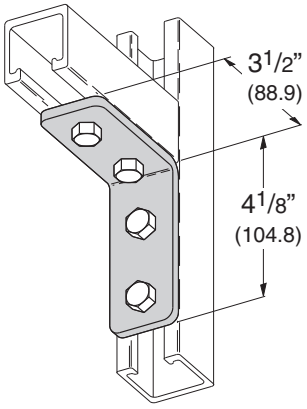
BFV101
TWO HOLE 90° CORNER ANGLE
• Material: Injection Molded Glass Reinforced Polyurethane



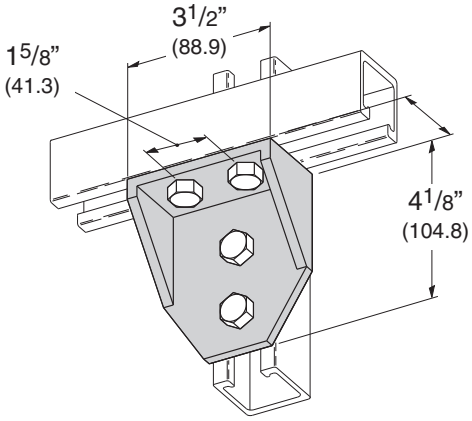
BFV103
THREE HOLE 90° CORNER ANGLE
• Material: Injection Molded Glass Reinforced Polyurethane



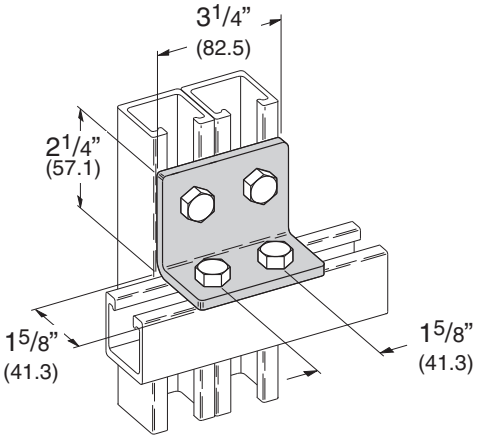
BFV104
FOUR HOLE 90° CORNER ANGLE
• Material: Injection Molded Glass Reinforced Polyurethane



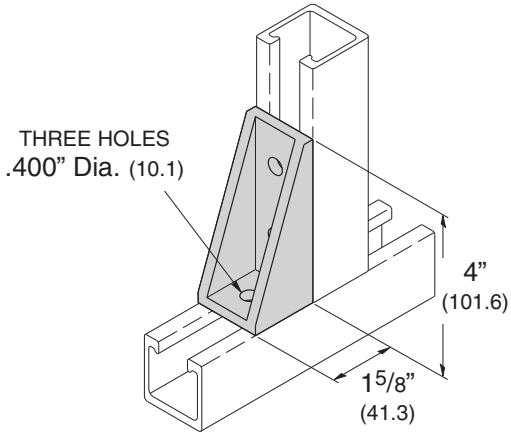
BFV118
FOUR HOLE 90° GUSSETTED SHELF ANGLE
• Material: Injection Molded Glass Reinforced Polyurethane



BFV558
FOUR HOLE 90° CORNER ANGLE
• Material: Injection Molded Glass Reinforced Polyurethane

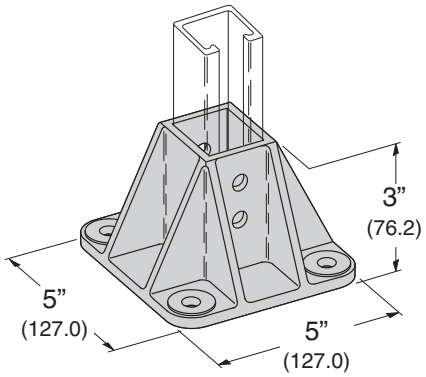


BFV371-2G
THREE HOLE 90° GUSSETTED CORNER ANGLE
• Material: Injection Molded Glass Reinforced Polyurethane

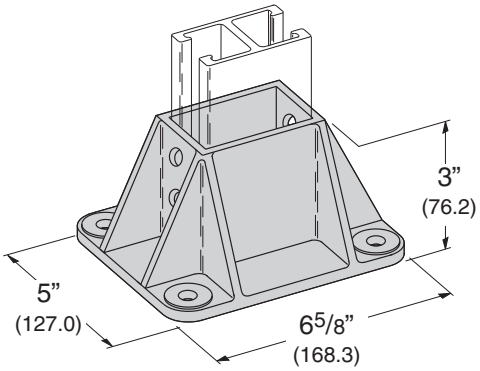


Reference page 182 for general fitting specifications.

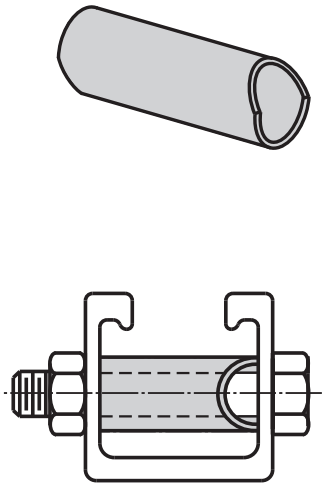
BFV280SQ
POST BASE FOR BF*22
- Material: Glass Reinforced Polyurethane



BFV281SQ
POST BASE FOR BF*22A
- Material: Glass Reinforced Polyurethane

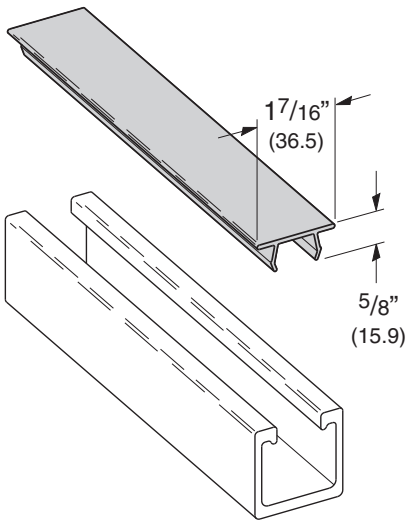


BFV650
CHANNEL SPACER
- Spacer I.D. accommodates 3/8" rod or bolts.
- Material: Polyurethane



Used when attaching fittings to side walls of channel. This channel spacer prevents wall compression in heavy load conditions.

B217P
PLASTIC CLOSURE STRIP
- Available in 10 Ft. (3.05 m) lengths.
- Material: PVC



Reference page 182 for general fitting specifications.