

## Fiberglass Channel Systems

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.



### 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 17/8" (47.6 mm) on center.
Width	15/8" (41.3 mm)
Thickness	1/4" (6.3 mm)

## Channel Resin Information

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.

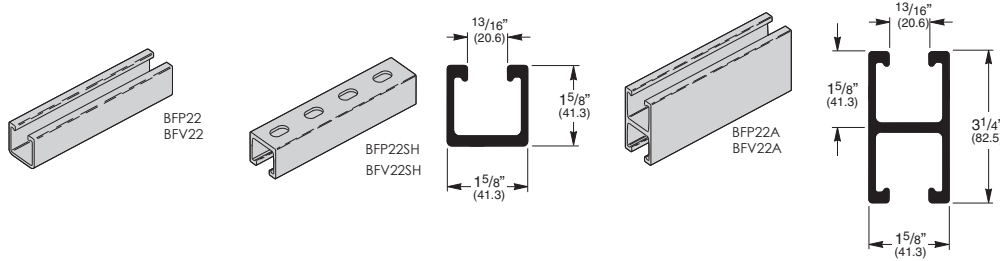
The recommendations or suggestions contained in this chart are made without guarantee or representation as to results.

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	Flame Retardant Properties	BFP	BFV
75°F (24°C)	100%	Flame Resistance (FTMS 406-2023) ign/burn, seconds	75/75	75/75
100°F (38°C)	90%			
125°F (52°C)	78%	Intermittent Flame Test (HLT-15), rating	100	100
150°F (66°C)	68%			
175°F (79°C)	60%	Flammability Test (ASTM D635) Ignition Burning Time	none	none
200°F (93°C)	52%			
		Surface Burning Characteristics (ASTM E84), Flame spread index	25	25

## BFP22 / BFV22 / BFP22A / BFV22A



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

### Field Cutting Sealant Kits

RSK010 Pint Sealing Kit (473 cm<sup>3</sup>) includes sealant and brush applicator

- Seals exposed fibers after field cutting.

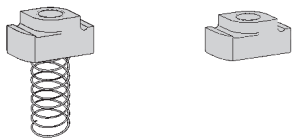
- UV resistant

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

### BEAM LOADING DATA

Beam Span		Part No.	Maximum Allowable Beam Load		Deflection @ Maximum Allowable Beam Load		Allowable Load @ Deflection =			
in.	mm		Lbs.	kN	in.	mm	1/240 Span		1/360 Span	
						Lbs.	kN	Lbs.	kN	
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)
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)
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)
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)
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)
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)
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)

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.

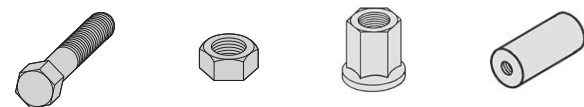


### Channel Nuts

- Overall Nut Height 5/8" (15.9)
- Material: Glass Reinforced Polyurethane
- Spring Material: Zinc Plated Steel

Part No. With Spring	Part No. W/O Spring	Thread Size	Pull-Out		Slip Resistance		Max. Torque	
			Lbs.	kN	Lbs.	N	in.-Lbs.	Nm
BFV-224	BFV-224WO	1/4"-20	300	(1.33)	150	(.67)	200	(22.6)
BFV-223	BFV-223WO	5/16"-18	300	(1.33)	150	(.67)	200	(22.6)
BFV-228	BFV-228WO	3/8"-16	300	(1.33)	150	(.67)	200	(22.6)
BFV-225	BFV-225WO	1/2"-13	300	(1.33)	150	(.67)	200	(22.6)

### Cap Screws / Hex Nuts / Rod Nuts / Rod Couplings



Material: Glass Reinforced Polyurethane

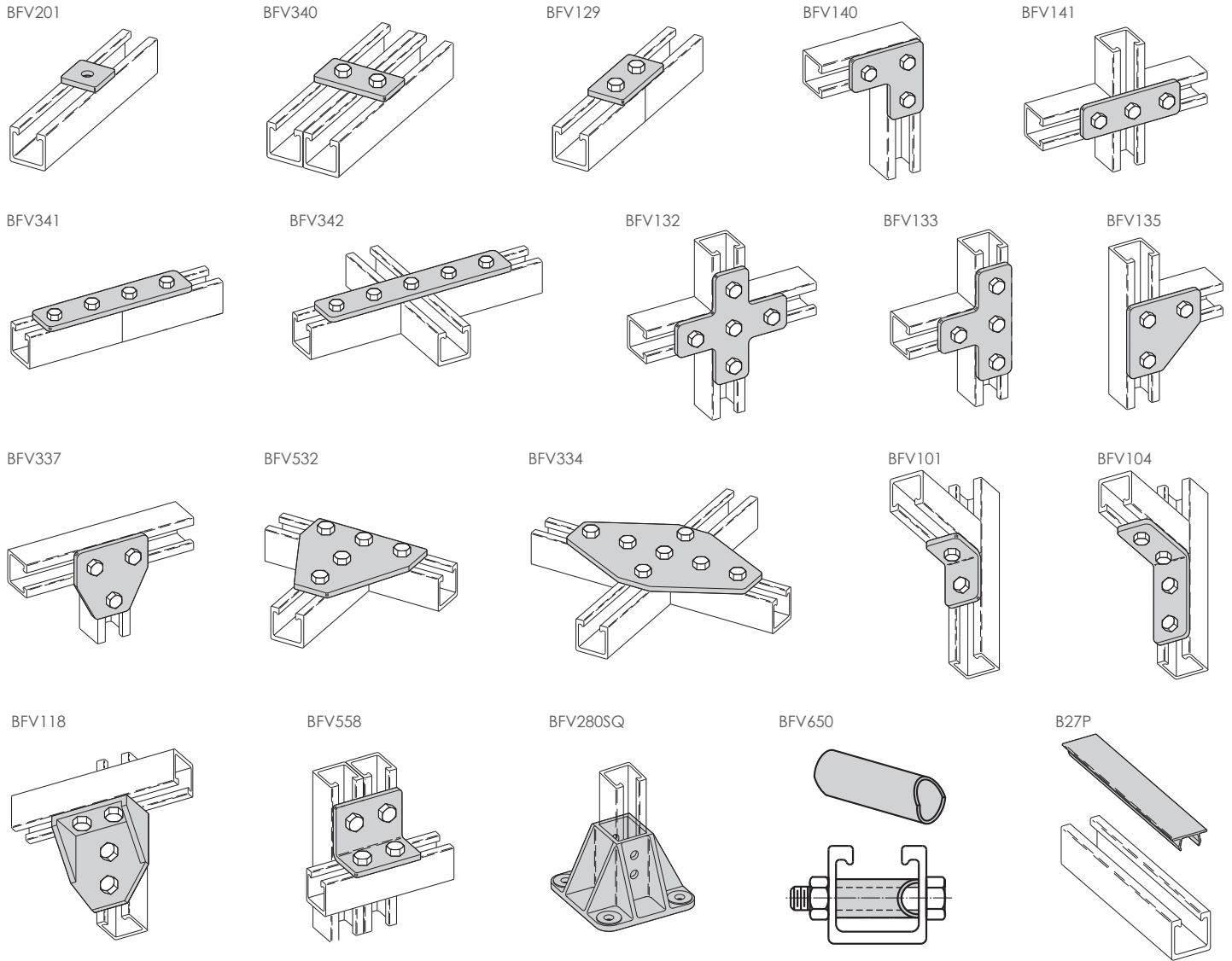
### All Threaded Rod



Material: Glass Reinforced Vinyl Ester

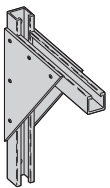
**Fittings for Fiberglass Channel**

• Material: Injection Molded Glass Reinforced Polyurethane

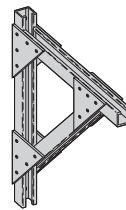


**Other Accessories for Fiberglass Channel**

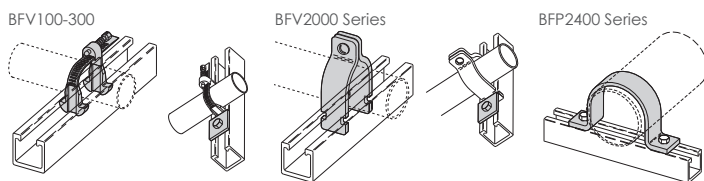
**BF\*409 Series Brackets 6" (152) to 24" (609) Long**



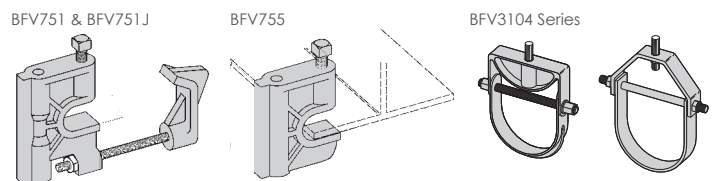
**BF\*494 Series Brackets 24" (609) to 36" (914) Long**



**BFV100-300 / BFV2000 Series / BFP2400 Series**



**BFV751 & BFV751J / BFV755 / BFV3104 Series**



\*Please refer to Cooper B-Line catalogue for full range of fittings and accessories, together with material specifications and loading information.