

# Fiberglass

We offer 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

Our 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**— $1\frac{3}{32}$ " (10.3 mm) Dia.

**Hole Spacing**— $1\frac{3}{16}$ " (20.6 mm) from end and  $1\frac{7}{8}$ " (47.6 mm) on center.

**Width**— $1\frac{5}{8}$ " (41.3 mm)

**Thickness**— $\frac{1}{4}$ " (6.3 mm)

## Metric

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



## CHANNEL RESIN INFORMATION

We offer 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.

Fiberglass Materials

### 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

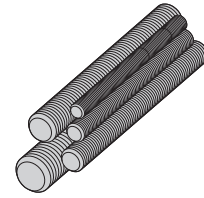
Reference page 182 for general fitting specifications.

# Fiberglass

## 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 1 7/32" (13.5) to obtain design load shown below.
- Material: Glass Reinforced Vinyl Ester

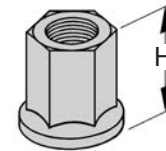
Part No.	Thread Size	Design Load (in tension)		Max. Torque		Wt./Ft.	
		Lbs.	kN	in.-Lbs.	N•m	Lbs.	kg
BFVATR 3/8 x 48"	3/8"-16	425	(1.89)	45	(5.1)	.08	(.04)
BFVATR 1/2 x 48"	1/2"-13	750	(3.33)	110	(12.4)	.13	(.06)
BFVATR 5/8 x 48"	5/8"-11	950	(4.22)	230	(26.0)	.21	(.09)



## 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

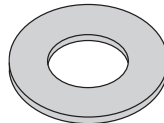
Part No.	Thread Size	H		Wt./C	
		in.	mm	Lbs.	kg
BFVATRHN 3/8	3/8"-16	3/4	(19)	.8	(.36)
BFVATRHN 1/2	1/2"-13	7/8	(22)	1.7	(.77)



## BFVFW FLAT WASHERS

- Material: PVC

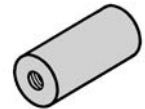
Part No.	Hole Size in.	Wt./C	
		Lbs.	kg
BFVFW 3/8	3/8	.5	(.22)
BFVFW 1/2	1/2	.5	(.22)
BFVFW 5/8	5/8	.5	(.22)
BFVFW 3/4	3/4	.5	(.22)
BFVFW 1	1	.5	(.22)



## BFV655 SERIES ROD COUPLINGS

- Material: Glass Reinforced Polyurethane

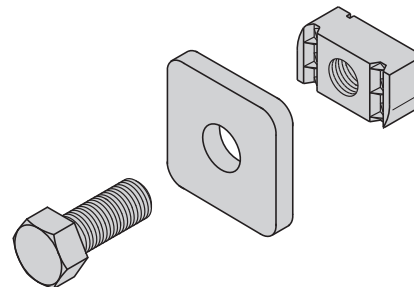
Part No.	Thread Size	Wt./C	
		Lbs.	kg
BFV655-3/8	3/8"-16	7.4	(3.35)
BFV655-1/2	1/2"-13	11.3	(5.12)
BFV655-5/8	5/8"-11	16.7	(7.57)



## BFVSL SERIES STOP-LOCK KITS

- Material: Glass Reinforced Polyurethane

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



Reference page 182 for general fitting specifications.