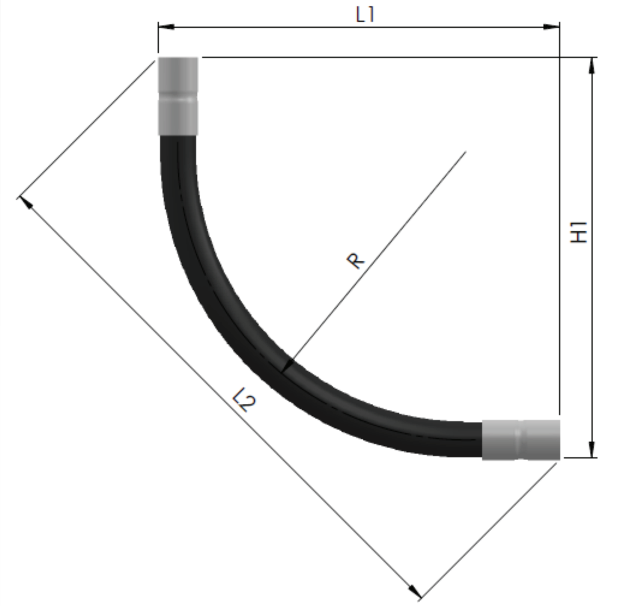
Atkore
FRE Composites

FRE® Composites Fiberglass Elbows



Weight and Dimensions				
Part Number	Wall Thickness	Weight of Elbow + PVC Couplings (lbs)	H1=L1 (in.)	L2 (in.)
10-2030R36-PVC	0.070"	2.82	46	66
10-4030R36-PVC	0.070"	8.44	50	71
10-6030R36-PVC	0.110"	20.19	53	74

Why you should consider using FRE Elbow

RTRC Standards
Manufactured according to the latest UL, CSA and NEMA standards.

Easy installation
Elbows with PVC couplings can be easily bonded with PVC solvent cement.

No burn-through
Unlike PVC, epoxy fiberglass bends and elbows have a strong resistance to being cavitated or pierced as a result of rope pull or wire pull.

Low coefficient of friction
The coefficient of friction is lower than steel and considerably lower than PVC. This means electrical cable are easier to pull through, resulting in labor saving, longer conduit runs and less strain on the cable.

Corrosion resistant
Our Fiberglass Elbows are not affected by water, salt and most other chemicals due to prolonged exposure to harsh environmental and weather.

Lightweight
Considerably lighter than steel and lighter than PVC SCH 40.

Excellent insulator
Fiberglass elbows are non-conductive, they provide full protection during a cable fault.

Best solution for your needs
Different configurations, radii, couplings, and bending angle available

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Technical information

Material	Test Results	Test Protocol
Resin	Epoxy (no filters)	
Glass	Fiberglass (E or E-CR Glass)	
Toxicity (Toxic Gas Emmisions)	<0.2% halogens by weight	UL 2515
Physical Properties	**Test Results**	**Test Protocol**
Glass Content	<7 000 Psi (48,26 Mpa)	API 15LR
Specific Gravity	1.94 g/cm^3	ASTM D792
Barcol Hardness	54 ± 2	ASTM D2583
Water Absorption	< 1%	ASTM D570
U.V. Resistance	> 3500 Hrs (Xenon Arc)	CSA C22.2 No. 2515
Mechanical Data	**Test Results**	**Test Protocol**
Tensile Strength (axial)	≥7 000 Psi (48,26 Mpa)	API 15LR
Elasticity Modulus (4") (103 mm)	1.3 E6 Psi (8 963 Mpa)	ASTM D2105
Thermal Properties	**Test Results**	**Test Protocol**
Coefficient of Thermal Expansion	1.37 E-^{5} in./in./°F (2.47 E-^{5} m./m./ °C)	ASTM D696
Thermal Conductivity	2 Btu.in/ft^2.h. °F (0.288W/ m.K)	ASTM D335
Thermal Resistivity	0.5°F. ft^2.h/Btu.in (3.47 mK/W)	ASTM D335
Heat Deflection Temperature (HDT)	312°F (156°C)	ASTM D648
Electrical Data	**Test Results**	**Test Protocol**
Dielectric Strength	500 volts/mil (19.68 kV/mm)	ASTM D149
Dielectric Breakdown Voltage	29.7 kV	ASTM D149
Dissipation Factor	0.5%	ASTM D150
Coefficient of Friction	**Test Results**	**Test Protocol**
Cross Linked Polyethylene Cable	0.233 ± .02	CSA B196.1
PVC Jacketed Cable	0.385 ± .06	CSA B196.1
Concentric Neutral Cable	0.160 ± .03	CSA B196.1
Teck (Armored) Cable	0.161 ± .03	CSA B196.1

Chemical Resistance

	After 45 Days	After 90 Days
Sodium chloride, 10% aq. sin.	E	E
Diesel fuel	E	E
Unleaded gasoline	E	E
Jet fuel	E	E
Hydrochloric acid, 10% aq.	E	E
Sulfuric acid, 10% aq. sin.	E	E
Nitric acid, 10% aq. sin.	E	E
Sodium carbonate, 10% aq.	E	E
Benzene	NR	NR
Toluene	E	E
Xylenesin.	E	E
Acetone	NR	NR

E: excellent chemical resistance

NR: not recommended for long term contact.

Chemical resistance tests reported here were conducted according to UL-651 section 38. Samples were immersed in the specified chemical reagent for 45 and 90 days, respectively. Weight gains or weight losses at the end of the immersion period were recorded. Mechanical integrity was determined by the parallel plate crush (ASTM D2412) test. Loads were measured at 5% deflection and at failure at the end of the immersion period and compared to the reference values of control specimens not exposed to any chemical attack. Weight gains or losses above 2% and drops in crushing resistance (load at 5% deflection or load at failure) above 15% were considered as evidence of insufficient chemical resistance.