



**CHAMPION  
FIBERGLASS**

Quality Fiberglass Products for the Electrical Industry

## PRODUCT COMPARISON CHART

	Epoxy Fiberglass	PVC Sch 40	PVC Sch 80	Galvanized Rigid Steel	PVC Coated Steel	Aluminum
<b>Cable Fault</b> <i>Fiberglass conduit will not melt or weld the wire to the inside of the conduit under fault conditions as can happen with PVC, steel and aluminum conduit.</i>	Not Affected	Melt/ Fuse	Melt/ Fuse	Weld	Weld	Weld
<b>Corrosion Resistance</b> <i>Fiberglass conduit has the broadest range of corrosion resistance of all of these conduit materials.</i>	Wide Range	Limited	Limited	Poor	Limited	Limited
<b>Relative Cost, 4" Conduit</b> <i>(Relative for Labor and Material Cost)</i>	1	0.75	1	4	6	3.5
<b>Toxicity/Halogens</b> <i>Fiberglass conduit does not release toxic halogens (i.e. chlorine and bromine) when burning.</i>	No	Yes	Yes	No	Yes	No
<b>Weight Comparison</b> <i>(lbs. per 100 ft., approx.) Fiberglass conduit offers the lowest weight and is still very rigid.</i>						
¾"	27	23	29	105	105	36
1"	30	34	43	153	153	53
1 ¼"	35	46	59	201	201	70
1 ½"	38	55	99	246	246	86
2"	40	73	99	334	334	116
2 ½"	50	125	152	527	527	183
3"	59	164	212	690	690	239
3 ½"	65	198	262	831	831	288
4"	78	234	310	982	982	340
5"	97	318	431	1344	1344	465
6"	117	412	592	1770	1770	612
8"	150	640	N/A	N/A	N/A	N/A
<b>Support Spacing for 4" Conduit (ft)</b> <i>See Engineering Section of this catalog for further information.</i>	12	7	7	20	20	15
<b>Temperature Range (°F)</b> <i>Fiberglass has an excellent wide temperature range.</i>	-60° to +250°	+40° to +150°	+40° to +150°	N/A	N/A	N/A
<b>Handling in Low Temperatures</b> <i>Fiberglass conduit has been shown to retain its properties at low temperatures allowing year round installations.</i>	Excellent	Brittle	Brittle	Excellent	Excellent	Excellent
<b>Burn Through (Cable Pull)</b> <i>Fiberglass conduit is an excellent material for avoiding "burn through" when pulling cable.</i>	No	Yes	Yes	No	No	No

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<b>Coefficient of Friction Using PVC Jacketed Cable</b> <i>Fiberglass conduit offers one of the lowest coefficient of friction available today for conduit systems. It is completely resistant to any of the current pulling lubricants corrosive properties.</i>	0.38	0.90	0.90	0.55	0.90	0.25
<b>Conductivity</b> <i>Fiberglass conduit acts as an excellent insulator.</i>	No	No	No	Yes	Yes	Yes
<b>UV Stable (Sunlight Resistance)</b> <i>(Per UL 1684 &amp; CSA-C22.2 No. 211.3-96)</i>	Good	Poor	Poor	Excellent	Poor	Excellent
<b>Coefficient of Thermal Expansion (10<sup>-5</sup> inch/inch/°F)</b> <i>*The coefficient is .7 for the steel and 3.5 for the PVC layer. Because of the broad difference between the two materials, adhesion is severely affected during temperature contraction and expansion.</i>	1.0	3.5	3.5	0.7	3.5/0.7*	3.5
<b>Distance Between Expansion Joints (ft)</b>	200	50	50	200	200	50
<b>Impact from Earthquake</b> <i>Due to the flexibility of fiberglass conduit (low modulus of elasticity) it is less likely to be damaged during an earthquake and other similar conditions. During the Northridge earthquake in Los Angeles, CA, 1994, concrete encased PVC conduit melted due to mechanical friction. No damage was found to encased fiberglass conduit.</i>	Excellent	Poor	Poor	Poor	Poor	Excellent
<b>Resistance to Rodents &amp; Fire Ants</b> <i>Fiberglass conduit is extremely resistant to attack from rodents as well as to the aggressive chemicals secreted from fire ants.</i>	Excellent	Poor	Poor	Excellent	Excellent	Excellent
<b>Field Handling</b> <i>Due to its light weight, ease of cutting and integral bell, fiberglass conduit is very easy to install.</i>	Excellent	Good	Good	Very Poor	Very Poor	Poor
<b>Memory</b> <i>Fiberglass conduit will retain its original shape after impact or compression.</i>	Yes	No	No	No	No	No

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