



# ENGINEERING DATA SHEET

## GRADE: SPAULDITE® G-10-CR TUBING

Reprint of: \_\_\_\_\_ Issued: \_\_\_\_\_

Spauldite® Grade G-10-CR rolled tube is made using the same resin formula and glass fabric as is used in Spauldite® G-10-CR laminate sheet. This is the resin system/glass laminate that has been recognized as the standard epoxy/glass for cryogenic applications. This recognition by the National Bureau of Standards was based on extensive testing of laminate sheet at cryogenic temperatures by Oak Ridge National Laboratories, Spaulding Composites Inc. and others.

While rolled tubing is made differently than laminate sheet, tub is expected to perform similar to the sheet form at cryogenic temperatures. Spauldite G-10-CR tube has been selected and used in cryogenic applications. The tube form is more suitable than flat sheet for certain types of machined parts.

### MAJOR FEATURES

- Good properties at cryogenic temperatures
- History of successful use in cryogenic/radiation application
- Formula accepted as the standard for cryogenic epoxy/glass laminates

### PROPERTY CHARACTERISTICS

PROPERTY	ASTM TEST METHOD	CONDITIONING & TYPE OF TEST	WALL THICKNESS (INCHES)	AVERAGE TYPICAL VALUES <sup>1</sup>		NEMA G-10 or MIL-I-24768/2	
				ENGLISH	SI	ENGLISH	SI
<b>ELECTRICAL</b>							
Dielectric Strength Perpendicular	D-348	A	.125	350 V/M	13.8kV/mm	≥250 V/M	≥9.8 kV/mm
<b>MECHANICAL</b>							
Tensile Strength	D-348	A	.125	43.5 ksi	299.9 MPa	NA	NA
Compressive Strength Axial	D-348	A (295°K)	.125	37.0 ksi	255.1 MPa	≥20.0 ksi	≥137.9 MPa
Compressive Strength Axial	D-348	A (at 77°K)	.125	79.5 ksi	548.1 MPa	NR	NR
Modulus of Elasticity in Compression	-	A (295°K)	.125	2.5 msi	-	NR	NR
Modulus of Elasticity in Compression	-	A (77°K)	.125	1.9 msi	-	NR	NR
<b>PHYSICAL</b>							
Density	D-348	A	.125	.063 lb/in <sup>3</sup>	1.75 g/cm <sup>3</sup>	≥.061 lb/in <sup>3</sup>	≥1.70 g/cm <sup>3</sup>
Water Absorption	D-348	D-24/23	.125	.10%	.10%	≤.70%	≤.70%

<sup>1</sup> Data shown is based on tube size 0.875" I.D. x 1.125" O.D.

"To the best of our knowledge the information contained herein is accurate; however, Spaulding Composites Company, Inc. does not accept any liability regarding the accuracy or completeness of such information. Further, such information is based on standard base material and thus may change if the product ordered by purchaser requires further processing of base material by us and/or the purchaser. Purchaser has the sole responsibility in determining the suitability of any material described herein for the use contemplated and the processing of such material by purchaser."