

Acculam[®] Epoxyglas G10 CR *cryogenic* Product Data Sheet

Product Description

Acculam[®] Epoxyglas G10 CR - Laminate sheet comprised of a halogen free epoxy resin binder and a woven fiberglass substrate.

Typical Applications

This material exhibits high mechanical strength and electrical insulating qualities under both dry, humid and extreme temperature conditions. Developed for use in cryogenic applications, including liquid nitrogen and for use in superconducting magnets. ***Under normal atmospheric pressure, nitrogen can exist as a liquid between 63 & 77.2 Kelvin (-346F & 320.44F).

Below 63 K, nitrogen freezes into a solid. Above 77.2K, it boils into a gas.***

Typical Properties

Physical Data

	<u>Typical Value</u>	<u>Units</u>
Specific Gravity	1.85	
Water Absorption-.125"	< 0.1	%
Temperature Index	140 \ 284	°C \ °F
Rockwell Hardness	110	M scale
Bond Strength	> 2,200 \ 1,000	LBS \ kgs
Flexural Strength-LW-A-.125"	> 65,000 \ 448	PSI \ MPa
Flexural Strength-CW-A-.125"	> 50,000 \ 345	PSI \ MPa
Izod Impact Strength-LW	> 10	ft-lbs/in
Izod Impact Strength-CW	> 8	ft-lbs/in
Compressive Strength-Flatwise	> 60,000 \ 415	PSI \ MPa

Electrical Data

Dielectric Breakdown-A	> 50	KV
Dielectric Breakdown-D48/50	> 50	KV
Permittivity-A	4.8	
Permativity-D24/23	4.8	
Dissipation Factor-A	0.017	
Dissipation Factor-D24/23	0.018	

Note: Actual testing on glass/epoxy laminates at cryogenic temperatures poses a significant problem with conventional test apparatus and fixtures in this environment. Acculam Epoxyglas CR has performed in such cryogenic applications with no to date failures.

Accurate provides this data as information only and does not imply any warranty for its use or application.