G-9 Glass-Melamine Laminate Phenolic

High-Temperature Phenolic

Description and Overview

G-9 phenolic is a thermoset composite material with high resistances to heat, flame, and arc. Continuous woven glass fabric is laminated with melamine resin to create G-9. It has excellent mechanical properties and resists most strong alkali solutions.

Its high arc resistance in dry and humid environments makes it ideal for electrical applications like arc barriers or switch mounts. G-9 is an exact substitute for G-5 phenolic.

Max sheet size: 36” x 48” (0.062” to 2” thick)

Applications and Uses

G-9 has good mechanical properties under wet conditions and is recommended for use in humid environments. G-9 is used for electrical or electronic applications.

G-9 phenolic meets Mil-I-24768/1, Type GME specifications.

- Circuit breaker components
- Arc barriers
- Terminal boards
- Switchboard panels
- Switch mounts
- Specialty terminal blocks

Properties and Specifications

GLASS MELAMINE G-9	
Military / Fed Spec	Mil-I-24768/1 Type GME
SPECIFIC GRAVITY	1.89
TENSILE STRENGTH (psi)	39,000
COMP. STRENGTH (psi)	70,000
FLEXURAL STRENGTH (psi)	55,000
HARDNESS, M SCALE	115
BOND STRENGTH (psi)	1,900

Properties are typical.
Chem is an abbreviation for chemically affixed with glues, chemicals, or adhesive.
Mech is an abbreviation for mechanically affixed bonding.
Field testing is recommended for any application.

330 Commerce Circle
Sacramento, CA 95815
800-742-3444
interstateam.com

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Typical Properties

Property	GLASS MELAMINE G-9
Military / Fed Spec	Mil-I-24768/1 Type GME
SHEAR STRENGTH (psi)	18,000
DISSIPATION FACTOR 106 cycles, Cond A	0.015
DIELECTRIC CONSTANT 106 cycles, Cond A	7.00
ELECTRIC STRENGTH V/MIL Cond A	450
FLAMMABILITY RATING	94V-O
MAX OPER. TEMP°C/F	140/284
COEFF. THERMAL EXP. IN/IN/°C X 10^{-5}	1.50
WATER ABSORPTION % - 24 hrs	0.60
IZOD IMPACT STRENGTH (ft/lb/in) @49°C	12.50

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