

G7 Glass-Silicone Laminate Phenolic



Description and Overview

G-7 phenolic differs from other glass composites in that its resin is silicone-based. Silicone laminate gives G-7 a few advantages: it has the highest maximum operating temperature of phenolic glass composites as well as an incredibly low dissipation factor compared to other phenolic materials. These properties make G-7 a natural fit for parts that will have prolonged exposure to high heat or arc. However, this material has moderate structural strength when compared to other heat-resistant phenolic grades like G-10 or G-11.

With a fire rating of UL94 V-0, G-7 phenolic is a self-extinguishing material.

Applications and Uses

G-7 phenolic's electrical qualities and high heat resistance make it a desirable material for electrical applications. It is also preferred for heating and appliance insulation. Arc plates, transformers, and sleeves all have parts typically made from G-7 phenolic.

G-7 phenolic complies with Mil-I-24768/17, Type GSG specifications.

- Spacers
- Arc plates
- Terminal boards
- Welding tips
- Sleeves
- Transformers
- Heating and appliance insulation

Max sheet size: 36" x 48" (.062" to 1.5" thickness)

GLASS SILICONE G-7	
Military / Fed Spec	Mil-I-24768/17 Type GSG
SPECIFIC GRAVITY	1.78
TENSILE STRENGTH (psi)	18,000
COMP. STRENGTH (psi)	45,000
FLEXURAL STRENGTH (psi)	25,000
HARDNESS, M SCALE	105
BOND STRENGTH (psi)	900
SHEAR STRENGTH (psi)	17,000
DISSIPATION FACTOR 10 ⁶ cycles, Cond A	0.003
DIELECTRIC CONSTANT 10 ⁶ cycles, Cond A	4.20
ELECTRIC STRENGTH V/MIL Cond A	400
FLAMMABILITY RATING	94V-0
MAX OPER. TEMP°C/F	220/428
COEFF. THERMAL EXP. IN/IN°C X 10-5	1.00
WATER ABSORPTION % - 24 hrs	0.20
Izod Impact Strength (ft/lb/in) @49°C	6.50