



G-3 Glass Phenolic Laminate

High-Temperature Phenolic

Description and Overview

G-3 phenolic is a high performance material composed of glass fabric impregnated with a binding phenolic resin. It is known for retaining its mechanical properties at higher temperatures. It offers superb impact, tensile, compressive, and flexural strengths in addition to high creep resistance. G-3 phenolic is best used in low-moisture environments. This material sees use in several industries, including the aerospace and appliance industries.

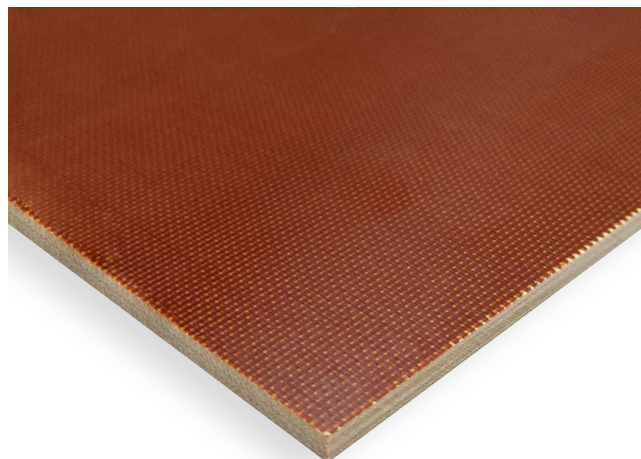
G-3 phenolic is also known as NP-504.

Applications and Uses

G-3 phenolic is used to make acid resistant parts, including seals and gaskets in the aerospace industry. Parts manufactured from G-3 benefit from high heat resistance. This allows G-3 based parts to be used for internal parts in ovens and other applications where a combination of good mechanical properties and heat resistance are necessary.

G-3 phenolic meets the requirements for Mil-I-24768/18, Type GPG.

- Seals
- Gaskets & grommets
- Relays
- Internal parts for ovens
- Aerospace seals and gaskets
- Structural applications



Max sheet size: 36" x 48" (.125" to 2" thickness)

Properties and Specifications

GLASS PHENOLIC G-3	
Military / Fed Spec	Mil-I-24768/18 Type GPG
SPECIFIC GRAVITY	1.85
TENSILE STRENGTH (psi)	42,000
COMP. STRENGTH (psi)	76,000
FLEXURAL STRENGTH (psi)	55,000
HARDNESS, M SCALE	110
BOND STRENGTH (psi)	1,500

Continued - See Table Below

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.

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Typical Properties

Property	GLASS PHENOLIC G-3
Military / Fed Spec	Mil-I-24768/18 Type GPG
SHEAR STRENGTH (psi)	18,000
DISSIPATION FACTOR 106 cycles, Cond A	0.023
DIELECTRIC CONSTANT 106 cycles, Cond A	7.30
ELECTRIC STRENGTH V/MIL Cond A	600
FLAMMABILITY RATING	94HB
MAX OPER. TEMP°C/F	140/284
COEFF. THERMAL EXP. IN/IN/°C X 10 ⁻⁵	1.00
WATER ABSORPTION % - 24 hrs	2.00
Izod Impact Strength (ft/lb/in) @49°C	12.00

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