CE Grade Phenolic

Electrical Grade Canvas Phenolic Laminate

Description and Overview

Canvas "CE" grade phenolic is a thermoset material made from a coarse cotton fabric base and a phenolic resin. At nearly half the weight of aluminum, this material withstands abrasion, impact, friction, and material fatigue. Compared to standard Canvas C grade, Canvas CE is an electrical-grade material that is well suited for electrical insulation components. It serves as a superior, corrosion-resistant alternative to metal, offering quieter operation while maintaining its structural integrity in demanding environments.

Canvas CE phenolic is easy to machine and generally provides greater toughness, impact resistance, and compressive strength than paper-based phenolic grades such as Grade XXX. It meets NEMA CE and MIL-I-24768/14, Type FBG requirements.

CE Grade Phenolic is available in full sheet and cut-to-size options.
Full sheet: 48” x 96”
Thicknesses: .031” to 2”

Applications and Uses

Canvas CE phenolic is engineered for durability and reliable electrical insulation in heavy-duty industrial settings. This material is highly machinable and offers a tough, low-wear solution for mechanical components - it operates with significantly less noise than metal and is less abrasive than fiberglass alternatives. Its coarse weave makes it suitable for larger, heavy-duty parts, but it is not recommended for parts requiring intricate machining or fine, clean threads.

- Gears
- Pulleys
- Sheaves
- Rollers
- Electrical insulators
- Bushings
- Washers
- Wear and friction components

Properties and Specifications

Property	CE Phenolic
Specific Gravity	1.37 g/cc
Water Absorption @ 24 hrs.	2%
Tensile Strength	10,000 psi
Flexural Strength	17,000 psi
Izod Impact Strength	1.70 ft-lbs/in.
Hardness	M100
Compressive Strength	36,000 psi
UL Flammability	HB
Linear Expansion Coefficient	2 x 10^{-5} in./in./°C
Dielectric Constant	5.5
Dissipation Factor	0.048
Affixable Properties	Chem/Mech

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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