

TECHNICAL DATA SHEET

Canvas Reinforced Phenolic

Is a phenolic laminate produced by applying heat and pressure to layers of canvas cotton cloth impregnated with synthetic thermosetting resins, thus it is classified as a "thermoset". This material is easy to machine and operates with much less noise than metal. Additionally, this material is less abrasive than fiberglass alternatives when used in wear applications. Since the material will not spark when struck, canvas phenolic can be used in explosion-proof environments. Canvas phenolic is available in 2 grades:

NEMA C MIL-I-24768/16 TYPE FBM NEMA CE MIL-I-24768/14 TYPE FBG

TYPICAL PROPERTIES of PHENOLIC LAMINATES (SHEET FORM)

(mechanical properties of rod and tube forms may differ)

ASTM or UL test	Property	Paper	Canvas	Linen
PHYSICAL				
D792	Density (lb/in ³) (g/cm ³)	0.049 1.35	0.050 1.37	0.048 1.34
D570	Water Absorption, 24 hrs (%)	2.0	2.5	1.8
MECHANICAL				
D638	Tensile Strength (psi) -lengthwise -crosswise	15,000 12,000	11,000 9,000	13,000 9,000
D790	Flexural Strength (psi)-lengthwise -crosswise	16,000 13,200	17,500 15,000	22,000 16,000
D790	Flexural Modulus (psi)-lengthwise -crosswise	1,100,000 900,000	1,600,000 1,500,000	1,600,000 1,200,000
D256	IZOD Notched Impact (ft-lb/in)-lengthwise -crosswise	0.65 0.60	1.70 1.50	1.35 1.10
D695	Compressive Strength (psi)	32,000	37,000	37,000
D785	Hardness, Rockwell M	M100	M100	M100
THERMAL				
D696	Coefficient of Linear Thermal Expansion (x 10 ⁻⁵ in./in./°F) -lengthwise -crosswise	0.80 1.20	1.10 1.22	1.00 1.06
-	Max Operating Temp (°F / °C)	257 / 125	257 / 125	285 / 140
C177	Thermal Conductivity (BTU-in/ft ² -hr-°F) (x 10 ⁻⁴ cal/cm-sec-°C)	2.03 7.0	2.03 7.0	2.03 7.0
UL94	Flammability Rating	H-B	H-B	H-B
ELECTRICAL				
D149	Dielectric Strength (V/mil) short time, 1/8" thick	750(XX)	550(CE)	625(LE)
D150	Dielectric Constant at 1 MHz	5	5	6
D150	Dissipation Factor at 1 MHz	0.045	-	0.045
D495	Arc Resistance (sec)	110	15	15

Benefits

- Ease of machining and fabrication
- Mechanical support
- Impact strength
- Less abrasive than fiberglass
- Good electrical properties

Applications

- Gears
- Pulleys
- Rollers
- Guides
- Switches
- Bearings
- Gaskets
- Washers
- Transformers
- Machining components

SHAPES AVAILABLE



NOTE: The information contained herein are typical values intended for reference and comparison purposes only. They should NOT be used as a basis for design specifications or quality control. Contact us for manufacturers' complete material property datasheets.

All values at 73°F (23°C) unless otherwise noted.