



MANUFACTURING CORPORATION

- Plastics Machining
- Spring Energized Seals
- Rotary Lip Seals

Material Data Sheet

Material: NEMA Grade G - 7

Grade G-7 is constructed from a continuous filament woven glass fabric with a silicone resin binder. The resin system is flame retardant and arc resistant. Extremely good dielectric loss properties under dry conditions and good electrical properties under humid conditions, although the percentage of change from dry to humid conditions is high. Excellent flame, heat, and arc resistance. Meets UL94, Class V0, flame resistance.

This material is flame and arc resistant and exhibits excellent high temperature properties. It is designed for mechanical support in electrical equipment applications. This material is available in sheets and round rolled tubes.

Physical Properties	Value	Units
Density	0.068	lb/in ³
Water Absorption	0.03	%
Mechanical Properties		
Hardness, Rockwell M	105	
Tensile Strength @ Break Crosswise	20,500	psi
Tensile Strength @ Break Lengthwise	----	psi
Flexural Modulus Crosswise	----	ksi
Flexural Modulus Lengthwise	25,000	ksi
Flexural Strength Crosswise	----	psi
Flexural Strength Lengthwise	25,000	psi
Compressive Strength	41,000	psi
Izod Impact, Notched Crosswise	13	ft-lb/in
Izod Impact, Notched Lengthwise	----	ft-lb/in
Electrical Properties		
Dielectric Constant	4.2	
Dielectric Strength	350	V/mil
Dissipation Factor	0.012	
Arc Resistance	240	sec
Thermal Properties		
CTE, linear 68°F	7.2	µin/in-°F
CTE, linear 20°C Transverse to Flow	9	µin/in-°F
Thermal Conductivity	2	BTU-in/hr-ft ² -°F
Maximum Service Temperature, Air	428°	°F
Flammability, UL94	HB	

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*The values shown in these and the following charts are typical, average properties. Actual values may differ due to variations in resin formulations and processing methods. These values are obtained from sources believed to be reliable, including the resin manufacturers, converters and other published sources. However, they should not be used for specification or design purposes.