EMERSON & CUMING MICROWAVE PRODUCTS

RoHS Compliant

ECCOSTOCK® HT0003

High Temperature, Low Loss Rod and Sheet

Material Characteristics

- Rigid, low loss, high temperature, inert material
- Based on a thermosetting hydrocarbon resin and is filled with polytetrafluoroethylene giving it many of the desirable features of Teflon®. These include low loss, low friction surface, chemical resistance, etc.
- ECCOSTOCK® HT0003 will not flow at the high temperatures, but the surface may darken with no effect on the bulk properties of the material.
- It can be bonded without etching

Applications

- ECCOSTOCK® HT0003 is used for a variety of electrical insulating applications, stand-offs, dielectric windows, cavity tuning probes, patch antennas, and support pieces

Availability

- ECCOSTOCK® HT0003 is available in the following standard sizes:
- Sheets 12" x 12" (30.5cm x 30.5cm) in thicknesses of 1/8, 1/4, 3/8, 1/2, 5/8, 3/4, 1.0, 1.5, 2.0, 2.5 & 3.0" (0.32, 0.64, 0.95, 1.27, 1.59, 1.91, 2.54, 3.81, 5.08, 6.35 & 7.62 cm)
- Rods 12" long (30.5cm) in diameters of 1/8, 1/4, 3/8, 1/2, 5/8, 3/4, 1.0, 1.5, 2.0, 2.5 & 3.0" (0.32, 0.64, 0.95, 1.27, 1.59, 1.91, 2.54, 3.81, 5.08, 6.35 & 7.62 cm)
- Other sizes, shapes, thicknesses, and configurations are available on special order
- Upon special requests, custom shapes may be available with a Pressure Sensitive Adhesive (PSA)

Machining

- ECCOSTOCK® HT0003 is easy to machine and a smooth low friction surface is readily obtainable. It will not gum on machining which can be done with standard cutting and grinding tools

Typical Properties

Appearance	White, opaque stock
Service Temperature, °F (°C)	<300 (<149)
Dielectric Constant, 100 Hz to 10 GHz	2.2
Dissipation Factor, 100 Hz to 10 GHz	<0.0003
Dielectric Strength, volts/mil (kv/mm)	500 (19.5)
Insulation Resistance, ohm-cm	10^{16}
Specific Gravity	1.50
Flexural Strength, psi (kg/cm^2)	2,250 (157.5)
Coefficient of Linear Expansion, (cm/cm/°C)	90 x 10^{-6}
Water absorption, % gain in 24 hours at 25°C	0.02
Tensile Strength/Yield Strength, (psi)	1,400
Modulus of Elasticity, (psi)	20,450
%TML	2.44
%CVCM	0.241