

C-STOCK™ .0005

Low loss polystyrene sheet and rod stock

Description

C-STOCK™ .0005 is a specialty plastic material with a low loss tangent. The material is a crosslinked polystyrene, which is a thermosetting plastic, thus it does not melt at elevated temperatures.

C-STOCK™ .0005 is useful in many RF and microwave applications. It has been used extensively for microwave lenses, antenna insulators, and as supports and machined parts in waveguide and coaxial transmission lines.

C-STOCK™ .0005 has good optical clarity and is readily machined using standard practices for rigid plastics machining. It may be bonded in place using most epoxy adhesives or flexible urethane adhesives.

Availability

C-STOCK™ .0005 is available in 12"x 12" sheet size ranging from 0.125" to 2.0" thick. Rods 12" long from 0.125" to 6.0" diameter.

C-STOCK™ .0005 can be supplied in other sizes, thickness or per customer specified configurations.

Typical properties

Loss tangent	0.0005
Dielectric constant	2.54
Homogeneity of dielectric constant	±0.01
Volume resistivity, ohm-cm	>10 ¹⁶
Dielectric strength – volts/mil	500
Thermal conductivity, (BTU x in/hr x ft ² °F)	0.87
Coefficient of linear expansion	35x10 ⁻⁶ /°F
Water absorption – weight percentage	0.003
Density, g/cc	1.06
Tensile strength – psi	11,000
Flexural strength – psi	17,000
Modules of elasticity – psi	300,000
Service temperature	-60 to +100 °C (-76 to +212 °F)

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Made in the USA
Issue Date: 06/24
Supersedes: New
Lit: #4873