CUMING MICROWAVE

C-STOCK .0005

RoHS Compliant

TECHNICAL BULLETIN 210-3

VERY LOW LOSS POLYSTYRENE SHEET AND ROD STOCK

C-STOCK .0005 is a specialty plastic product with very low loss tangent (dissipation factor), homogeneity of dielectric constant and loss tangent, and excellent temperature stability. 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 for a multitude of uses 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, acrylates or flexible urethane adhesives.

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^2ºF):	0.87
Coefficient of linear expansion:	$35x10^{-6}$/ºF
Water absorption – weight Percentage:	0.003
Operating temperature Range, ºF:	-94 + 257, 390, short term
Specific gravity:	1.06
Tensile strength – psi	11,000
Flexural strength – psi	17,000
Modules of elasticity – psi	300,000

AVAILABILITY

C-STOCK .0005 is available in 12 x 12in. sheets ranging from 0.125 to 6.0in. thickness and rods 12in long from 0.125 to 6.0in. diameter. Larger sheets and rods can be supplied on special order.

Cuming Microwave can also machine and fabricate custom parts to drawings. Please call our Technical Service Dept. for details.

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