

C-STOCK™ Low K

Low loss, low dielectric constant plastic stock

Description

C-STOCK™ Low K is a series of sheet stock materials with a low dielectric constant and low loss. These materials have densities well below conventional dielectrics.

C-STOCK™ Low K is a rigid, low density, very fine-textured syntactic foam with excellent physical properties, and can be easily machined.

Available in two grades, Low K-39 and Low K-34.

Availability

C-STOCK™ Low K is available in standard sheet size 12" x 12" (305 x 305 mm), in thicknesses of 1/8, 1/4, 3/8, 1/2, 1, 2, 3 and 4 inches thick. Unless tolerances are specified, the sheets are normally supplied "as cast", with skins approx. 0.125 to 0.200 inches over the nominal thickness.

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

Also available in 12" (305 mm) rods and bars in standard diameters/thickness of 1/8, 1/4, 3/8, 1/2, 1, 2 and 3 inches as well as in other custom diameters and thickness.

Applications

Antenna, waveguide and coaxial support applications, dielectric spacer or circuit substrate, radome, RF lens.

All recommendations, statements, and technical data contained herein are based on tests we believe to be reliable and correct, but accuracy and completeness of said tests are not guaranteed and are not to be construed as a warranty, either expressed or implied. User shall rely on his own information and tests to determine suitability of the product for the intended use and assumes all risks and liability resulting from his use of the product. Seller's and manufacturer's sole responsibility shall be to replace that portion of the product of this manufacturer which proves to be defective. Neither seller nor manufacturer shall be liable to the buyer or any third person for any injury, loss, or damage directly or indirectly resulting from use of, or inability to use, the product. Recommendations or statements other than those contained in a written agreement signed by an officer of the manufacturer shall not be binding upon the manufacturer or seller.

This document has been reviewed by the PPG Aerospace Export Control Department and has been determined to contain only EAR99 controlled data.

Properties

	<u>Low K-39</u>	<u>Low K-34</u>
Dielectric constant	1.9	1.7
Dissipation factor	<0.004	<0.004
Volume resistivity, ohm-cm	10x10 ¹⁴	10x10 ¹⁴
Dielectric strength, volts/mil	300	260

Physical Properties

	<u>Low K-39</u>	<u>Low K-34</u>
Service temp., °C	-70 to +150	
Density, lb/ft ³	39	34
Specific gravity	0.63	0.54
Thermal conductivity, BTU-in/hr-ft ² °F	0.70	0.60
Cal-cm/sec-cm ² °C	2.4 x 10 ⁻⁴	2.1 x 10 ⁻⁴
Coefficient of linear expansion, per °C	50 x 10 ⁻⁶	50 x 10 ⁻⁶
Water absorption, % gain in 24 hr @ 30 °C	<0.1	<0.1

Machining

C-STOCK™ Low K can be machined using carbide or diamond tools. Relatively slow speeds should be used.

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Made in the USA
Issue Date: 06/24
Supersedes: New
Lit: #4876