



CYANATE ESTER SYNTACTIC FOAMS

RoHS
Compliant

TECHNICAL BULLETIN 370-2

Cuming Microwave offers a series of syntactic foams, both low loss dielectric, and treated lossy materials. These lightweight, high strength materials can be tailored to meet specific program requirements. Both the dielectric and lossy properties can be adjusted to meet unique project applications.

Cuming Microwave's cyanate ester syntactic materials are available in uncured, pack-in-place, cured sheet stock and molded to shape. The Pack-In-Place has the consistency of wet sand, and is readily packed into complex shapes. The product can be purchased as a 250 °F cure or a 350°F cure material. Please contact Cuming Microwave's Technical Staff to discuss the specifics of your application.

Low loss dielectric parameters can be adjusted with the use of metallic fillers. We can also add loss to the material with various lossy fillers.

Range of Properties of Syntactic Foams:

Mechanical Properties

Density, lb/ft ³ :	12 – 20
Tensile Strength, psi:	300 – 1000
Compressive Strength, psi:	400 – 1200
Shear strength, psi:	50 – 200
CTE:	13 x 10 ⁻⁶ /°F
T _g (°C), minimum:	175 – 205
Service Temp., °F:	275 – 350
	depending on grade and postcure

Electrical Properties

Dielectric constant, 10 GHz:	1.22 – 3.00
Loss tangent, 10 GHz:	0.004 – 0.37

Typical Properties for Unloaded Cyanate Ester Syntactic Foam (two density grades):

<u>Mechanical Data</u>	<u>13.5 PCF</u>	<u>17.5 PCF</u>
Density, lbs./ft ³ :	13.5	17.5
Tensile Strength, psi:	320	680
Compressive Strength, psi:	510	900
 <u>Electrical Data</u>		
Dielectric Constant:	1.27	1.32
Loss Tangent:	0.004	0.005

The information in this technical bulletin, although believed to be accurate, is not to be taken as a warranty for which Cuming Microwave assumes legal responsibility, nor as permission or recommendation to practice any patented invention without license. It is offered for verification by the customer, who must make the final judgment of suitability for any application.

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