Technical Data Sheet

Engineered Materials

C-RAM™ MT

Lossy, carbon filled, flexible foam sheet stock

Description

C-RAM™ MT is a series of flexible, lightweight lossy polyurethane foam sheet material.

Material is carbon loaded and therefore, electrically conductive.

Low cost solution for many applications.

C-RAM™ MT is available in several grades with varying levels of carbon loading.

Availability

Standard sheets are 24” x 24” (610 mm x 610 mm).

Standard thickness are 1/8” (3.2 mm), 1/4" (6.4 mm), 3/8” (9.6 mm), 1/2” (12.7 mm), 3/4” (19.1 mm), 1” (25.4 mm), 1.5” (38 mm), 2.0” (51 mm), 2.5” (64 mm) and 3.0” (76 mm).

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

C-RAM™ MT can be supplied with an anti-dust clear coat (-CL) to prevent carbon fallout.

C-RAM™ MT can be supplied with a rubber coating (-RC) to prevent moisture uptake in high humidity environments or it can be wrapped in a weatherproof fabric (-W or –HCN) for outdoor use. Material can be supplied with a pressure sensitive adhesive (/PSA).

Applications

Isolation of antennas or elements by insertion loss.
Lower the Q of cavities containing any RF radiating elements.
Reduce surface currents on radiating elements.
Eliminate crosstalk between adjacent antennas.
Lining the inside of RF shielded boxes.

Instructions for use

C-RAM™ MT can be easily cut with a sharp knife, scissors, steel rule die or a waterjet machine.

C-RAM™ MT can be securely applied to a substrate or to itself using a neoprene contact adhesive when not supplied with PSA.

Typical Properties

Frequency range	≥ 500 MHz
Service temperature, °F (°C)	-40 to +250 (-40 to +121)
Density (dependent upon grade)	4 to 8 lb/ft^3
Tensile strength	12 psi
Elongation, min.	50%
Tear strength	1.5lb/inch
Fire Retardancy	UL94-HBF

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Grade	Insertion loss dB/cm (dB/inch)			Attenuation, dB/cm (dB/inch)
	1 GHz	3 GHz	10 GHz	3 GHz
MT-14	0.2 (0.5)	0.4 (1.0)	0.9 (2.2)	0.4 (1.0)
MT-16	0.7 (1.8)	1.5 (3.8)	2.0 (5.0)	1.4 (3.5)
MT-18	0.9 (2.3)	1.8 (4.0)	2.8 (7.0)	1.5 (3.7)
MT-20	1.8 (4.5)	3.2 (8.0)	5.1 (13.0)	3.0 (7.5)
MT-22	2.2 (5.5)	3.9 (10.0)	6.3 (16)	3.7 (9.5)
MT-24	3.5 (14)	11 (32)	24 (60)	11 (27)
MT-26	4.9 (19)	16 (46)	34 (89)	16 (39)
MT-28	11 (30)	20 (52)	37 (94)	17.5 (43)
MT-30	16 (40)	24 (60)	43 (110)	19 (49)

NOTE: Insertion loss measurements include the effects of surface reflections; the above values are close to, but not exactly, linear with thickness. For example, a 1/4" thick piece has somewhat more than 1/4th as much insertion loss as a 1" thick piece.

Attenuation is a measure of loss within a homogeneous material, and does not take into account any reflections at interfaces. It is independent of thickness. This is a calculated, not measured, value.

Cuming Microwave Corporation
Engineered Materials
264 Bodwell Street
Avon, MA 02322
Telephone +1 (508) 521-6700
Fax +1 (508) 584-2309
www.cumingmicrowave.com
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