

NoiseSorb NS1000 Series

EMI Noise Suppression Absorber

EMI NOISE SUPPRESSION ABSORBER:

ECCOSORB NS1000 series is an ultrathin near field noise suppression absorber product used for EMI control in electronic devices. The absorber is designed for the frequency range from 50 MHz up to 2 GHz. It is used to mitigate EM energy; it interacts and suppresses the magnetic field at the noise source.



FEATURES AND BENEFITS

- High magnetic permeability
- RoHs, Halogen Free
- Outstanding temperature stability
- Low outgassing

MARKETS

- Consumer electronics including smart phones & tablets
- Industrial electronics including automotive/infotainment

SPECIFICATIONS

TYPICAL PROPERTY	ECCOSORB NS1000 SERIES
Initial permeability @ 1 MHz	110
Effective frequency range	20 MHz – 2 GHz
Specific gravity (g/cc)	3.5
Thickness (mm)	0.10, 0.20, 0.40
Operating temperature range (°C)	-40 up to 105
Surface resistivity (Ω)	10^6 min.
Thermal conductivity (W/mK)	1.0
Tensile strength (Mpa)	35
Outgassing (%TML) (%CVCM)*	0.186/0.011

Data for design engineer guidance only. Observed performance varies in application.

Engineers are reminded to test the material in application.

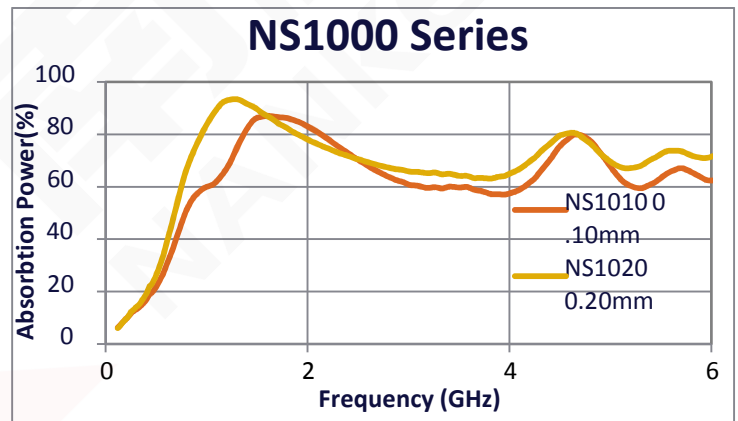
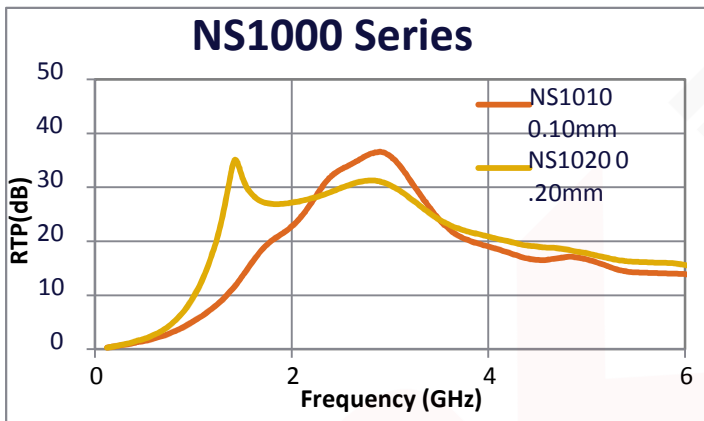
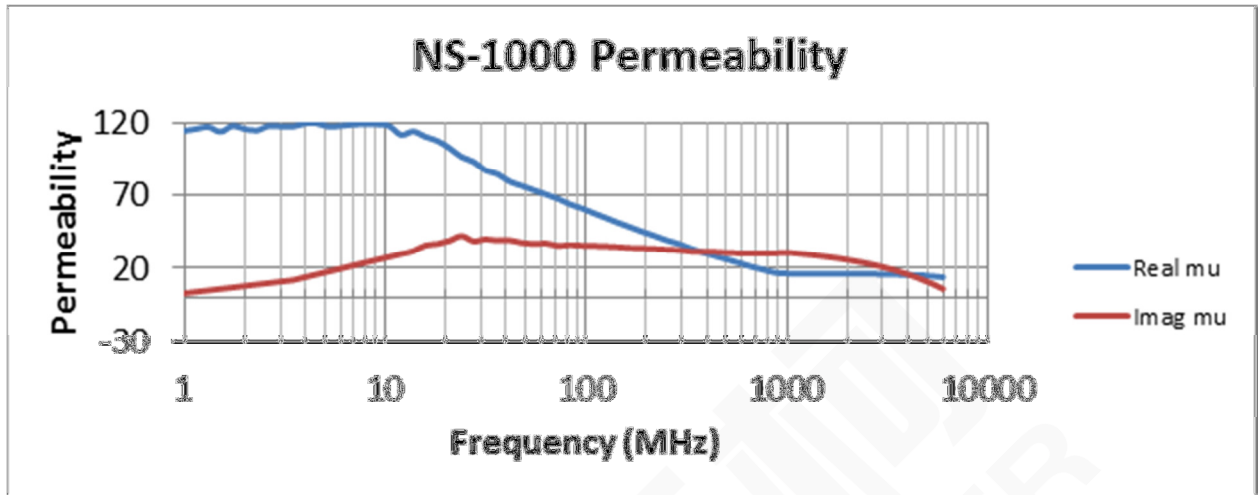
*Outgassing data per ASTM E595-07; criteria for acceptability is 1.00% TML and 0.10% CVCM.

APPLICATIONS

- Eccosorb NS1000 series absorber can be placed over CPUs, main chip sets and other memory and power IC devices to suppress radiated noise causing interference with RF functions, crosstalk or SAR emissions
- It can be used to suppress noise currents from circuit trace lines and flat cables that act like radiating antennas causing EMI problems and crosstalk issues
- It can also be applied to high speed transmission lines, LCD displays and circuit board elements that are radiating energy and causing EMI issues
- When placed within a cavity that is operating in the lower microwave frequencies, Eccosorb NS1000 series has proven to be effective in damping resonances and reducing surface currents.

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AVAILABILITY

- Available in three standard thicknesses: 0.10mm (.004"). 0.20mm (.008") and 0.40mm (.016)
- Standard sheet size 210mm X 300mm
- Includes 0.05mm transfer tape for self-adhesive application
- Product can be supplied as cut parts to customer print.
- Samples available upon request; standard sample size is 100mm X 100mm

NS1000 SERIES ORDERING SYSTEM

- Last two digits represent thickness of sheet in hundredths of a millimeter (XX/100mm)
- For example, P/N NS10XX where XX is 10 = 0.10mm X 210mm X 300mm (standard sheet size)
- Suffix after P/N represents sample size. For example, NS1020S = 0.20mm X 100mm X 100mm

EMI-DS-NS1000 070815

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High-Loss, Thin, Elastomeric Microwave Absorber



HIGH-LOSS ELASTOMERIC ABSORBER

Eccosorb MCS is a thin, flexible, high-loss, magnetically loaded, electrically non-conductive silicone rubber sheet. It is designed for the frequency range from 800 MHz to 18 GHz. The material is impervious to moisture and can be subjected to high altitudes with no adverse effects. Being a silicone based absorber, it has low out-gassing properties for space applications.

FEATURES AND BENEFITS

- High power performance
- Low outgassing properties
- High magnetic loss

MARKETS

- Commercial Telecom
- Security and Defense
- Automotive and Industrial Electronics

SPECIFICATIONS

TYPICAL PROPERTIES	ECCOSORB MCS
Frequency Range (GHz)	0.8 to 18
Max Service Temperature °C (°F)	170 (338)
Fire Retardancy	UL94 V-0
Hardness (Shore A)	>80
Volume Resistivity (ohm-cm)	2×10^8
Weight kg/m ² (lbs/ft ²)	4.4 (0.9)
Relative Impedance	0.66 – 0.23
Tensile Strength (MPa)	>3.5
Elongation (%)	>20
Dielectric Strength (volts/mil)	>20
Outgassing (%TML) (%CVCM)*	0.3/0.05

Data for design engineer guidance only. Observed performance varies in application. Engineers are reminded to test the material in application.

* Outgassing data per ASTM E595-07; criteria for acceptability is 1.00% TML and 0.10% CVCM.

APPLICATIONS

- When placed within a cavity, Eccosorb MCS has proven to be very effective at dampening resonances due to the absorbers high permittivity and permeability as well as high loss values, which in turn reduces the overall VSWR.
- It is designed for the suppression of surface currents over a wide range of frequencies.
- It can be used for the suppression of creeping waves and reduction of cavity resonances in microwave modules.
- It is also useful in reducing RF coupling of antennas and microwave components.

AVAILABILITY

- Standard sheets are 305 x 305mm (12"x12"), standard thickness is 1 mm (.040")
- It can be supplied with a Pressure Sensitive Adhesive (PSA)
- Eccosorb MCS is available in other sizes, thicknesses and customer specified configurations upon request.

INSTRUCTIONS FOR USE

- Eccosorb MCS is designed to function directly in front of a metallic surface.
- The material can be bonded by use of an RTV silicone based adhesive in conjunction with a suitable primer.
- To obtain a strong bond of the absorber to the object, the metallic surface should first be thoroughly cleaned with a degreasing solvent.
- Eccosorb MCS can be readily cut with a sharp knife and template.
It is a very flexible material and conforms to contoured surfaces.

Typical Attenuation Eccosorb MCS

