

# ECCOSORB<sup>®</sup> DSF

THIN, FLEXIBLE, WEATHERPROOF, CORROSION-RESISTANT, RESONANT, MICROWAVE ABSORBER

## Description:

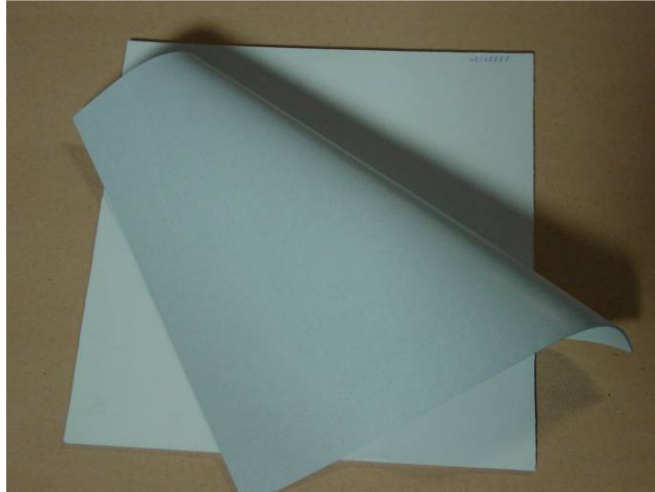
Eccosorb DSF is a series of thin, flexible, flat sheet, resonant absorbers which reflect -20 dB or less of normally incident microwave energy at the design frequency in the range of 3 to 40 GHz.

It concerns dielectric loaded silicone rubber sheets which are designed to be bonded to flat or curved metallic surfaces to reduce the reflectivity in a narrow band of frequencies.

The material is impervious to moisture and may be used outdoors. Due to the chemical nature of the patented dielectric pigmentation system, no oxidation is possible.

Eccosorb DSF is compliant with MIL-STD-810D and MIL-A-1716D.

If a self adhesive backing is required, the urethane version Eccosorb DSF-U is recommended.



## Application:

Eccosorb DSF is suited for applications requiring absorption at a specific frequency or in a narrow frequency band, including:

- lining radar nacelles, particularly where high power is present.
- attaching to masts of ships, walls, etc. to reduce reflections and echoes to nearby antennas.
- attaching to vehicles to reduce overall radar signature.

Eccosorb DSF is especially recommended for use in saline environment where rusting may be considered a problem. Indeed, the materials are impervious to salt water and may be used in marine applications.

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**Laird**<sup>™</sup>



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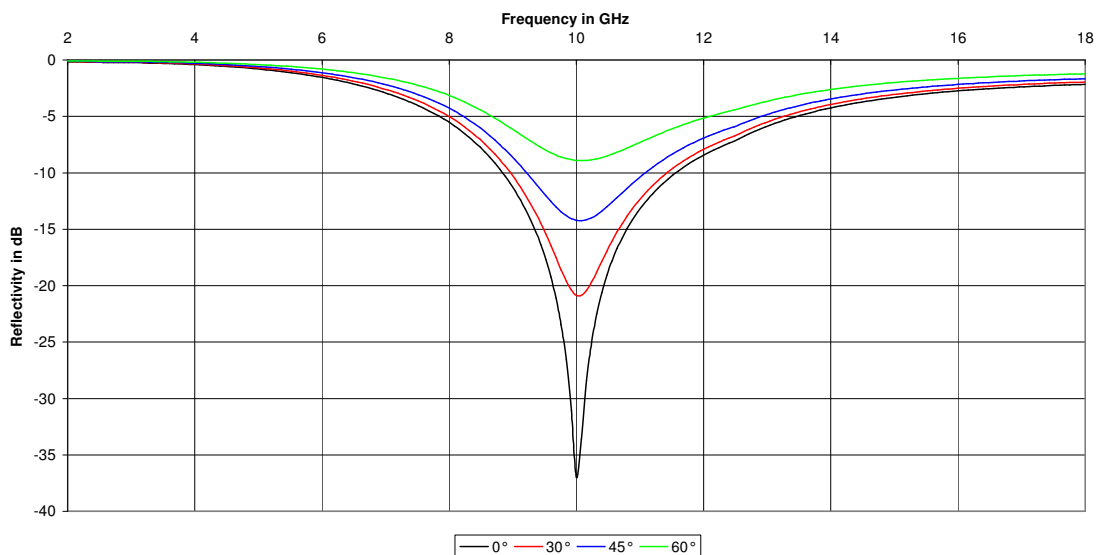
## Physical Properties:

Colour	blue - grey
Dimensions (mm)	305x305
Thickness range (mm)	0.6 to 5.3
Surface density range (kg/m <sup>2</sup> )	1.2 to 11
Density range (g/cm <sup>3</sup> )	1.9 to 2.2
Tensile strength (MPa)	3.2 to 3.5
Elongation at break (%)	39 to 51
Tear strength (N/mm)	1.1 to 2.2
Hardness (Shore A)	80
Maximum service temperature (°C)	165

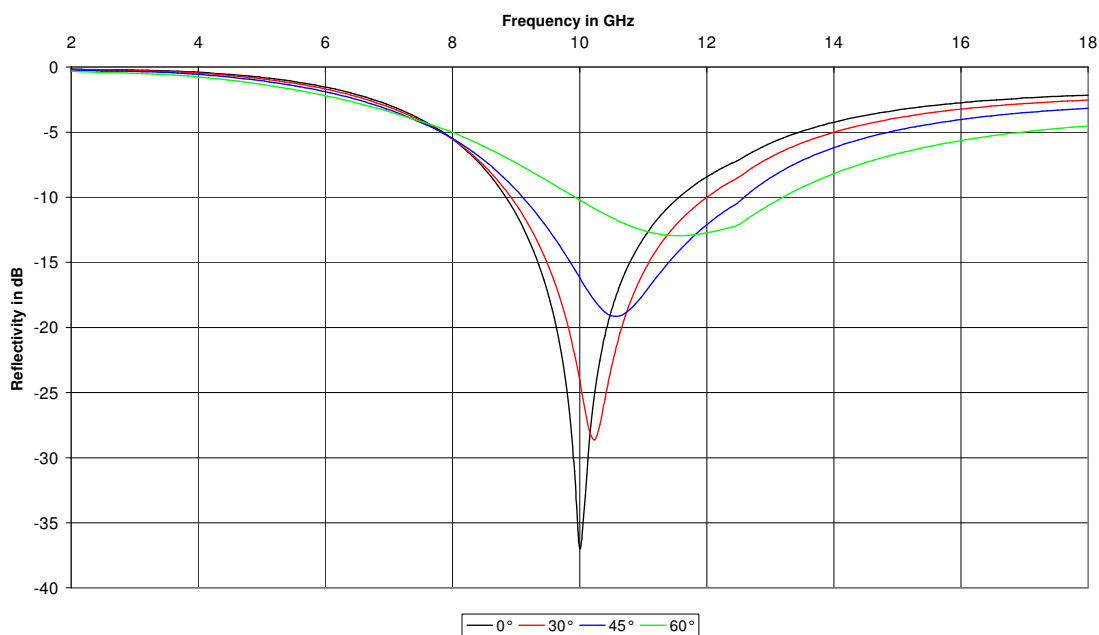
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**Electromagnetic Properties:**

Typical reflectivity at various angles of incidence  
 ECCOSORB DSF-10  
 Perpendicular polarization



Typical reflectivity at various angles of incidence  
 ECCOSORB DSF-10  
 Parallel polarization



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## Availability:

Eccosorb DSF is available in square sheets of 305 mm x 305 mm with varying thickness according to the desired resonant frequency.

Grades are designated by a suffix corresponding to the resonant frequency.

For example: Eccosorb DSF-10.0 will be resonant at 10 GHz.

On special order the material can also be supplied in customized shapes.

## Instructions for use:

Eccosorb DSF is designed to function directly in front of a metallic surface.

If this is not the case, a metallic foil should first be bonded to the object.

As it is a homogeneous material, there is no distinction between its front and back face.

To obtain a strong bond of the absorber to the object, the metallic surface should be first thoroughly cleaned with a degreasing solvent.

The material can be bonded by use of an RTV silicone based adhesive in conjunction with a suitable primer.

Eccosorb DSF can be readily cut with a sharp knife and template.

It is a very flexible material and will conform to mild curvatures.



**Safety Considerations:** It is recommended to consult the EMERSON & CUMING MICROWAVE PRODUCTS product literature, including material safety data sheets, prior to use EMERSON & CUMING MICROWAVE PRODUCTS products. These may be obtained from your local sales office.

**WARRANTY:** Values shown are based on testing of laboratory test specimens and represent data that falls within the normal range of properties of the material. These values are not intended for use in establishing maximum, minimum or ranges of values for specification purposes. Any determination of the suitability of the material or any use contemplated by the user and the manner of such use is the sole responsibility of the user who must assure that the material as subsequently processed meets the needs of this particular product or use.

We hope the information given here will be helpful. It is based on data and knowledge considered to be true and accurate and is offered for the user's consideration, investigation and verify action but we do not warrant the results to be obtained. Please read all statements, recommendations or suggestions in conjunction with our conditions of sale INCLUDING THOSE LIMITING WARRANTIES AND REMEDIES which apply to all goods supplied by us. We assume no responsibility for the use of these statements, recommendations or suggestions nor do we intend them as a recommendation for any use which would infringe any patent or copyright.

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