ECCOSORB® DSF
Thin, Flexible, Weatherproof, Oxidation-Resistant, Resonant Microwave Absorbers

Material Characteristics
- Thin, flexible, narrowband resonant absorber
- Dielectrically loaded silicone rubber sheets
- Frequency range from 3-17 GHz
- Reflectivity of 1% (~20dB) or less of the normal incident microwave energy at the design frequency
- Unlike typical iron-filled silicone absorbers, no oxidation is possible due to the chemical nature of the dielectric pigmentation system
- Can be readily cut with a sharp knife and template and conforms to mild curvatures

Applications
- ECCOSORB® DSF is ideally suited for applications requiring absorption at a specific frequency or in a narrow frequency band.
- No distinction between front and back sides
- Lining radar nacelles, masts of ships, walls, etc.
- Reduction of reflections and echoes to nearby antennas and attaching to vehicles to reduce overall radar signature

Availability
- Standard sheets are 12” x 12” (30.5cm x 30.5cm)
- Thickness depends on resonant frequency desired
- Grades are designated by their suffix corresponding to the resonant frequency desired
- Other resonant frequencies up to 40 GHz can be supplied on special order
- ECCOSORB® DSF is available in customer specified configurations

Instructions for Use
- The performance of ECCOSORB® DSF requires that it be intimately backed with a metal surface. Otherwise, an aluminum backing should be bonded to the surface of the object.
- To ensure a strong bond, the metallic surface should be thoroughly cleaned with a solvent to remove any oil, grease, or dusts.
- Apply a thin coat of Primer S-11 to the metal and allow to dry. Coverage is 147 sq ft/lb per 1 mil thickness.
- Apply a thin coat of STYCAST® 4952 two-part RTV silicone over the primer.
- Firmly press ECCOSORB® DSF into place and hold until cure is complete

Typical Properties

<table>
<thead>
<tr>
<th>Service Temperature, °F (°C)</th>
<th>-65 to 329 (-54 to 165)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Absorption after 14 days</td>
<td>0.001 %</td>
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Physical Characteristics

<table>
<thead>
<tr>
<th>Designation</th>
<th>Thickness</th>
<th>Weight</th>
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<tbody>
<tr>
<td>DSF-3</td>
<td>0.21 5.4</td>
<td>2.35 11.47</td>
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<tr>
<td>DSF-10</td>
<td>0.07 1.8</td>
<td>0.77  3.7</td>
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Typical Reflectivity Performance

The performance of ECCOSORB® DSF is defined by reflectivity at a single frequency. A generalized performance curve is shown above. The design frequency $f_0$ has a ±5% bandwidth, designated as $f_1$ and $f_2$. 

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