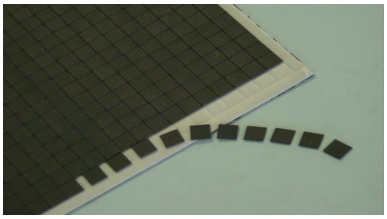
# Eccosorb® SF-U

## Thin, Flexible, Resonant Microwave Absorber



## THIN, FLEXIBLE, RESONANT ABSORBER

Eccosorb SF-U is a narrow banded, magnetically loaded resonant absorber sheet for free-space applications. These polyurethane rubber sheets are designed to be bonded to flat or curved metallic surfaces to reduce the reflectivity in a narrow band of frequencies. Eccosorb SF-U reflects -20 dB or less of normally incident microwave energy at the design frequency in the range of 1 to 26 GHz.

## FEATURES AND BENEFITS

- High mechanical strength
- ease of bonding
- excellent abrasion resistance
- Silicone-free

## MARKETS

- Commercial Telecom
- Security and Defense
- Automotive

## SPECIFICATIONS

| TYPICAL PROPERTIES | ECCOSORB SF-U |
|---|---|
| **Max service temperature °C (°F)** | 120 (325) |
| **Hardness (Shore A)** | 80 |
| **Surface Density Range** | 3 to 21.5 |
| **Density Range g/cm³** | 2.6 – 4.7 |
| **Tensile Strength MPa** | 2. – 5.5 |
| **Elongation at break %** | 60 – 225 |
| **Tear Strength N/mm** | 3.0 to 15 |

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

## APPLICATIONS

- Lining radar nacelles and the exterior of airframes particularly where high power is present.
- Lining of cavity backed and shrouded telecommunication antennas where narrowband performance is required.
- Lining metal surfaces of vehicles to reduce overall radar signature.
- Attaching to masts of ships, walls, etc to reduce reflections and echoes from nearby antennas.
- Lining magnetron housings to prevent detuning.
- Fabricating into tapered shapes for impedance matching in waveguide or microstrip applications.
- Lining metal surfaces to attenuate surface currents, suppressing reflections inside microwave modules, and dampening cavity resonances in microwave modules.
- For module interference, cavity resonance and surface current problems, ECCOSORB® GDS-U, ECCOSORB® MCS-U and ECCOSORB® BSR-U are recommended due to their high magnetic loss properties, broadband performance, as well as the availability of a wider range of thicknesses (0.010” to 0.100”)

Italia: +39 039 6042234
Francia: + 33 1 41735417
Germania: +49 8031 35211-0
Cina: +86 21 37565597
Usa: +1 803-892-2822
Messico: + 52 33 13 68 04 69

www.euro-technologies.eu

## AVAILABILITY

- Standard sheets are 305 x 305mm (12”x12”)
- Thickness varies depending on resonant frequency desired.
- Other resonant frequencies can be supplied on special order.
- The material can also be supplied in customized shapes.
- It can be supplied with a pressure sensitive adhesive (PSA).

## INSTRUCTIONS FOR USE

- Eccosorb SF-U 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.
- To obtain a strong bond of the absorber to the object, clean the surface with a degreasing solvent, apply a thin coat of primer to the dried surface and apply a RTV silicone adhesive.
- Eccosorb SF-U can be readily cut with a sharp knife and template. It is a very flexible material and will conform to mild curvatures.