CUMING MICROWAVE

Application Note 300-10

PRESSURE SENSITIVE ADHESIVE OPTION FOR ABSORBER SHEET

RoHS Compliant

Several grades of C-RAM absorber materials can be supplied with a peel-and-stick pressure sensitive adhesive (PSA). This adhesive can be supplied to most grades of carbon loaded foam absorbers, such as C-RAM MT, as well as to many iron or ferrite loaded silicone and urethane rubber sheet materials, such as C-RAM GDSS, FLX, FLX-U, RGD-S, and FF-2.

This adhesive has been selected because of its high tackiness and strength at a very low thickness -- 0.002 inches. This low thickness keeps the absorber material in close contact with the substrate material, allowing good attenuation of surface currents. For resonant grades of absorbers, such as C-RAM FLX, for which material thickness is critical, this adhesive has a minimal effect on frequency response.

We do not recommend using PSA on very heavy grades of iron or ferrite filled rubber sheets, such as those greater than 0.125 inches (3.2 mm).

It should be noted that many of the silicone based sheet materials have service temperature ranges of -50 to +200 ^{o}C (-65 to +400 ^{o}F). Using the pressure sensitive adhesive will restrict this as given in the typical properties below. For high reliability applications, such as temperature extremes, high and continuous vibration, or space applications, we do not recommend the use of a pressure sensitive adhesive. In these cases, a silicone RTV adhesive, such as C-BOND 255, should be used.

METHOD OF APPLICATION

Absorber material is applied simply by peeling the backing paper from the adhesive layer, and pressing the absorber piece into place. The adhesive has a initial medium tack, and develops an ultimate high tack within 24 hours.

The adhesive layer, which is acrylic based, will adhere to most common plastics, metals, and ceramics. Substrate surfaces should be cleaned with alcohol to remove any dirt or machine oils.

TYPICAL PROPERTIES

Adhesive type: unsupported acrylic
Nom. thickness: .002 in (0.05 mm)
Release liner: coated paper
Service Temp: -40 to +121 ^{o}C
(-40 to +250 ^{o}F)
Peel strength: 180° PSTC#1 -- initial medium
ultimate high
Shear strength: PSTC#7 -- medium

AVAILABILITY

Pressure sensitive adhesive can be applied to many absorber types, including those mentioned above. The suffix “/PSA” is added to the part number of the absorber material.

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