DynaDamp™ – DD10C5M
Constrained Layer Damper

Product Description:
DynaDamp™ – DD10C5M is a light weight Constrained Layer Damping (CLD) treatment consisting of a pre-preg carbon fiber outer constraining layer laminated with a layer of Roush RA640, a high damping viscoelastic polymer. The DynaDamp CLD treatment is engineered to reduce noise radiated from surfaces by dissipating the vibration energy through shearing of the viscoelastic polymer layer.

Features:
The DynaDamp CLD treatment series can be optimized by tuning the type, thickness and number of layers to achieve maximum performance on your specific application. Constraining layer materials can range from aluminum and steel (with various coatings) to plastics and carbon fiber. Our adhesives offer superior damping performance with high adhesion and cohesion properties, resistance to UV exposure, and excellent thermal aging properties, resulting in consistent performance over a long product life. With our extensive database of adhesive materials we can offer materials with excellent damping performance over a broad temperature and frequency range tailored to your application.

Typical Applications:
<table>
<thead>
<tr>
<th>Automotive</th>
<th>Office Equipment</th>
<th>Home Appliance</th>
<th>Aircraft</th>
<th>Industrial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Covers</td>
<td>Server Cabinets</td>
<td>Dishwashers</td>
<td>Fuselage Skin</td>
<td>Roofing Panels</td>
</tr>
<tr>
<td>Body Panels</td>
<td>Hard Disk Drives</td>
<td>Washing Machines</td>
<td>Fuselage Frame</td>
<td>Sheet Metal Enclosures</td>
</tr>
</tbody>
</table>

Typical Physical Properties of DD10C5M:
- Constraining Layer Type: Carbon Fiber¹
- Constraining Layer Thickness: 11 mils
- Adhesive Type: Roush RA640
- Adhesive Thickness: 5 mils
- Release Liner: 2 mils thick / Clear Polyester
- Peel Adhesion²: >5 lbs/in
- Shear Adhesion²: >150 hours
- Water, Humidity and Solvent Resistance: Excellent
- Temperature Stability: Excellent
- Peak Damping Temperature Range: 32 to 160°F
- Standard Operating Temperature Range: -40 to 200°F

Shelf Life: One year when stored under cool, dry conditions out of direct sunlight (70°F, 50% RH)

Notes:
(1) 199 g/m², 2 x 2 twill weave, 3K fiber with FAR25.853 compliant resin
(2) ASTM D3330 - 72 hour, RT, 180° Peel, 2 mil Al Foil on SS panels
(3) ASTM D3654 - 1" x 1" sample area, 70°F, 2 kg, 2 mil Al Foil on SS panels
Constrained Layer Damper Background Information

Constrained layer damping systems have long been used to control vibration and noise resulting from highly resonant panels. CLD systems are composed of a viscoelastic damping adhesive material and a constraining layer that are adhered to vibrating structures, as shown in the figure below.

Application Instructions

For maximum damping performance and adhesion, the steps below should be followed when adhering a CLD to the base structure.

1. Bonding surface must be clean, dry and free of dirt, oil, moisture, etc. A wipe with acetone or similar solvent is recommended.
2. Remove protective liner from DynaDamp CLD.
3. Apply exposed adhesive of CLD to one side of the mating surface and roll across the surface to ensure no air is trapped between the adhesive and base structure.