Applications

The CLDM damping material has three layers: a viscoelastic damping material, a polyester constraining layer, and a protective release paper. The CLDM material is designed to offer the maximum amount of structural damping to circuit boards and panel structures by shearing the highly damped viscoelastic layer.

Material Properties

- Temperature range: -60°F to 200°F
- Thermal Conductivity: 1.712 BTU-IN/HR/FT²/F
- Tensile Strength: 52 PSI
- Adhesive Peel Strength: 122 OZ/IN after 5 MIN, 156 OZ/IN after 24 HR
- Breakdown Voltage: 45 KVAC
- Specific Gravity: 1.234 Grams/CM³
- Dielectric Strength: 490 Volts/MM
- Shear Strength: 45PSI
- Fungus Resistance: No Growth
- Shelf Life: One Year from Date of Manufacture

Installation Data

To install the CLDM material, simply remove the protective release paper and place the damping material on the undamped structure. In circuit board application, the CLDM material must cover at least 60% of the back of the circuit board. Hand pressure is all that is required to adhere the CLDM damper. No additional pressure or curing is needed. The CLDM material is flexible enough to adhere to slightly imperfect surfaces.

Attributes

The CLDM material effectively and efficiently reduces the amount of vibration transmitted to a structure resulting in longer fatigue life of the structure or circuit board components. Typically, undamped structures have resonant transmissibility's of 30:1 to 50:1 compared to the input. Damped systems have transmissibility's of 3:1 to 10:1. This significant decrease in transmissibility directly correlates to a reduction in sound power transmission from the structure at resonance. Circuit boards can be ruggedized efficiently and cost effectively without changes to the components of the circuit board.

Dimensions

The CLDM material is available in sheets of different sizes and shapes as well as different constraining layer materials polyester, stainless steel, aluminum, galvanized steel as well other unique materials. The thickness of the constraining and viscoelastic layers can be varied depending on the application’s requirements. The data below is based on a .020 inch thick polyester layer and a .060 inch thick viscoelastic layer. We have found that this configuration provides optimal damping of circuit boards and undamped structures.

Input

A Sine sweep of 2G’s at 30 to 500 HZ

Specifications subject to change without notice. Check with factory for latest revisions. The Federal Trade Commission considers no existing test methods or standards regarding flammability as accurate indicators of the performance of cellular plastic materials under actual fire conditions. Results of existing test methods, such as UL-94, MVSS-302, SAE J-369, and FAR 25.853 are intended only as measurements of the performance of such materials under specific controlled test conditions. Any flammability ratings shown are not intended to reflect hazards presented by these materials under actual fire conditions. The information contained herein is based on laboratory test data developed for PTI and is believed to be reliable, but its accuracy or completeness is not guaranteed. The buyer must test any product to determine the suitability for his specific application before use. PTI DISCLAIMS ANY RESPONSIBILITY FOR: 1) WARRANTIES OF FITNESS AND PURPOSE, 2) VERBAL RECOMMENDATIONS, 3) CONSEQUENTIAL DAMAGES FROM USE AND 4) VIOLATION OF ANY PATENTS OF TRADEMARKS HELD BY OTHERS.
VIBRATION CHARACTERISTICS

RANDOM INPUT
CREASED STIFFNESS 27%
DECREASE IN TRANSMISSIBILITY 59%

SINUSOIDAL INPUT
CREASED STIFFNESS 11%
DECREASE IN TRANSMISSIBILITY 60%

OUTGASSING CHARACTERISTICS

MATERIAL OUTGASSING TOTAL MASS LOSS 3.23%
CVCM 0.52%

FLAMMABILITY CHARACTERISTICS

TYPICAL CLDM TRANSMISSIBILITY DATA

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