

Damping Compound

032090

A viscous water-based material formulated to provide vibration damping by converting the vibrational energy into heat, reducing resonant vibrations, and decreasing ringing of thin metals and plastics.

The material can be spray-applied or troweled onto the surface.

Available in 5-gallon container.



Specifications and Physical Properties

Application:

Damping liquid is used to reduce vibration of thin materials and improve the sound quality of various equipment such as transit and off-road vehicles, fabricated metal cabinets, appliances, stainless steel sinks, ventilation ducting, computer printers, and various other applications.

Typical Values:

Color:	Beige
Total solids:	62%
Viscosity (@ 25° C):	280,000 cP
	Thixotropic paste
Wet density:	1.43 g/cm ³
Dry density:	1.73 g/cm ³
Flash point:	None
Hardness, shore D:	58
Flammability:	FMVSS 302 (Pass)
	UL 94V-0, 5VA (on substrate)
	ASTM E162: Is = 2
	ASTM E662:
	Ds (1.5) = 1 (flaming mode)
	Ds (4.0) = 25 (flaming mode)
	Ds (1.5) = 1 (non-flaming mode)
	Ds (4.0) = 3 (non-flaming mode)
Fungus/mold:	0 Rating (ASTM G 21)
Shelf life:	1 Year

The maximum continuous use temperature has not been established for this product, but we would not recommend use above 392°F (200°C)

Resistance to Two Day Immersion:

Diesel fuel:	Excellent
Mineral spirits:	Excellent
Lubricating oil:	Very Good
Gasoline:	Fair
Water:	Fair

The resistance to immersion in various substances is shown in the above table. There was no actual degradation after two days of exposure, but there was swelling and softening. After being allowed to dry at room temperature for a few days, complete recovery occurred.

Weights and Thicknesses of Damping Required for a Dry Thickness Ratio of 1:1:

Sheet Metal Thickness Gauge	in.	Damping Compound Wet Weight lb/ft ²	Wet Thickness in.	Dry Weight lb/ft ²
12	0.104	1.11	0.149	0.65
14	0.074	0.79	0.107	0.47
16	0.059	0.63	0.085	0.37
18	0.047	0.51	0.068	0.30
20	0.035	0.38	0.051	0.22
22	0.029	0.32	0.043	0.19
24	0.023	0.25	0.034	0.15

Application Instructions:

How to Apply Damping Compound

For extensional damping applications, if the material is to be effective, it must be bonded well to the surface. The bond between the dry product and the substrate depends to a large extent on the nature of the substrate and how it has been cleaned and prepared prior to application of the damping material. Frequently, the substrate must be coated with a primer before the damping compound is applied. These products can be applied by trowel or with a stiff brush, but is best applied by spraying to a maximum of 1/8" thick coating. Regardless of the application method used, all surfaces to be coated must be free from dirt and any film which would interfere with the bond to the substrate. Spray equipment suitable for the application of viscous materials is required to apply our damping compound.

Drying Rates for Damping Compound

The rate of drying depends heavily upon the following variables: thickness of coating and velocity, temperature, and relative humidity of the air. When the wet weight is 0.63 lb/ft² (approx. 0.085" or 2.17 mm), drying is complete after several hours at room temperature and low relative humidity. Thick one pass applications sometimes skin over and dry very slowly. Fast drying can be achieved with high air temperatures and high air flow rates. For example, if the wet weight is 0.15 lb/ft² (approx. 0.02" or 0.6 mm), the air temperature is 150°F and the air flow rate is 700 ft/min, the material is dry after about 8 minutes. When the air temperature is increased to 290°F, the drying time is about 2 minutes in this case.

