Mass Loaded Vinyl

Product Data Sheet



What is MLV?

Mass Loaded Vinyl (MLV) is a specially developed mass layer product offering superior acoustic transmission loss combined with good vibration damping properties. MLV is available in surface densities from 0.5lb/ft2 to 2lb/ft2. MLV offers STC ratings as high as 33.

How Does MLV Work?

The combined mass and stiffness properties of Mass Loaded Vinyl gives it excellent performance as both a mass layer and damper when applied to partitions, lightweight panels, walls, or enclosures and effectively reduces transmission of both airborne and structure-borne noise.

How to Apply MLV?

Application direct to panels is best done with pre-applied pressure sensitive adhesive (PSA), in conjunction with minimal fasteners or staples where necessary. Mass Loaded Vinyl exhibits the strength and workability of conventional reinforced barrier materials without using a reinforcing layer. This innovation of integral strength and tear resistance provides a barrier that is suitable for suspension with mechanical fastenings, without the cost normally associated with a fabric reinforced laminated product.

Why Use MLV?

Mass Loaded Vinyl has application in creating a quieter working environment as well as quieter products. Low levels of noise from process equipment and materials handling can be an annoyance and hamper communication. At higher levels noise can be danger and may be subject to OSHA regulations. MLV can be suspended around equipment or applied to machinery enclosures, greatly reducing problem noises. Mass Loaded Vinyl also has application in the manufacturing of quiet, smooth running products that are synonymous with quality.

Sample Applications:

- Walls, Ceilings and Floors
- Machinery enclosures
- Appliance housings
- Work space partitions
- Test cells
- Wood, gypsum, and foam composites
- Speakers

Advantages

- High tear resistance
- Easily fabricated
- STCs as high as 33
- Available with pressure sensitive adhesive

148 Horton Drive, Suite B
Monsey, New York, 10952

Phone: 845.388.1200
Fax: 845.367.4657

www.TMSoundproofing.com

Trademark SOUNDPROOFING

Mass Loaded Vinyl

Product Data Sheet

Physical Properties

Tear Strength	12.5 Kg/cm (70 lbs./in.)
Tensile Strength	2,750 KPa (400 psi)
Ultimate Elongation	200%
Flammability	SE "0" in/min.
Temperature Range	-40°F to 180°F

Transmission Loss of MLV

Noise transmission Loss (dB)/Frequency (Hz)							
Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**	**STC**
db reduction by density:							
.5 LB / sq ft	8	13	17	22	27	31	20
1 LB / sq ft	16	17	22	27	31	36	26
1.5 LB / sq ft	17	19	25	31	36	44	29
2 LB / sq ft	16	22	26	32	35	40	31

* per ASTM E-90-97 E413-87

Material Data

Property	Test method		0.5lb/ft2	1.0lb/ft2	1.5lb/ft2	2.0lb/ft2
Color			black	black	black	black
Thickness			0.0625"	0.125"	0.1875"	0.25"
Tensile Strength	ASTM D412	MD	1350 kPa (196psi) min	1350 kPa (196psi) min	1350 kPa (196psi) min	1350 kPa (196psi) min
		AMD	1350 kPa (196psi) min	1350 kPa (196psi) min	1350 kPa (196psi) min	1350 kPa (196psi) min
Ultimate Elongation	ASTM D412	MD	45% / min	45% / min	45% / min	45% / min
		AMD	45% / min	45% / min	45% / min	45% / min
Tear Strength	ASTM D624 Doe C	MD	4500N/m (26psi) / min	4500N/m (26psi) / min	4500N/m (26psi) / min	4500N/m (26psi) / min
		AMD	4500N/m (26psi) / min	4500N/m (26psi) / min	4500N/m (26psi) / min	4500N/m (26psi) / min
Stiffness	ASTM D747		16-65 Mpa	15-55 Mpa	not tested	not tested
Specific Gravity	ASTM D792		1.67 - 2.04	1.67 - 2.04	1.67 - 2.04	1.67 - 2.04
Cold Flex	SP - No.14		100% must pass	75% must pass	not	not tested
Shrinkage	SP -No.11		5% ave - 10% max	4% ave - 7% max	4% ave - 7% max	4% ave - 7% max
Fogging	SAE J1756		60 units min	60 units min	60 units min	60 units min
Odor	SAE J1351		3 rating max	3 rating max	3 rating max	3 rating max
Flammability	FMVSS 302		meets	meets	meets	meets

148 Horton Drive, Suite B
Monsey, New York, 10952

Phone: 845.388.1200
Fax: 845.367.4657

www.TMSoundproofing.com