



## Technical Specifications

# TuffMass



### Applications

- 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

SOUNDOWN TuffMass is a specially developed mass layer product offering superior acoustic transmission loss combined with good vibration damping properties. TuffMass is available in surface densities from 0.5lb/ft<sup>2</sup> to 2lb/ft<sup>2</sup>. TuffMass offers STC ratings as high as 33.

The combined mass and stiffness properties of TuffMass 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 structureborne noise. Application direct to panels is best done with preapplied pressure sensitive adhesive (PSA), in conjunction with minimal fasteners or staples where necessary.

TuffMass 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.

TuffMass 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. TuffMass can be suspended around equipment or applied to machinery enclosures, greatly reducing problem noises.

TuffMass also has application in the manufacturing of quiet, smooth running products that are synonymous with quality. TuffMass is easily handled in a production environment where it can be supplied as pre-cut kits. For applications where on-site fabrication is preferable Tuffmass is easily fabricated using tools available in most work shops. Standard applications include any products with an engine or motor that can create noise or light gauge metal that is subject to rattling or ringing.

## The Material

Soundown Tuff-Mass is produced on 48" (1.22m) and 54" (1.37m) wide rolls. Length of roll varies by product density. These products are available on a per square foot basis.

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

## Acoustic Performance

### Transmission Loss of Tuff-Mass

Frequency (Hz)	100	125	160	200	250	315	400	500	630	800	1k	1.25k	1.6k	2k	2.5k	3.15k	4k	5k	STC
0.5 lb/ft2	13	12	12	11	12	13	15	16	18	20	22	23	25	26	28	29	31	33	21
1 lb/ft2	18	17	16	16	17	18	20	22	24	26	27	29	30	32	34	35	36	38	26
1.5 lb/ft2	21	21	19	20	21	22	24	26	27	29	31	32	34	36	37	39	40	42	30
2.0 lb/ft2	25	23	22	22	24	25	27	28	30	32	34	35	37	38	40	41	43	45	33