Why use TEROSON acoustic coatings?

Basically, there are two options for controlling noise: insulation or absorption. As both options can be applied to airborne and to structure-borne sound, there are in fact four different types of noise control:

1. Absorption of structure-borne sound
Absorption of structure-borne sound is achieved by converting part of the sound energy into thermal energy while the sound travels through homogeneous materials attached or bonded to a solid body. In this way, the structure-borne sound is absorbed before it generates air-borne sound. The better the absorption properties of such damping materials, the better the structure-borne sound absorption. The "loss factor" is a parameter for measuring this effect.

2. Insulation against structure-borne sound
Insulation against structure-borne sound is achieved by attenuating the propagation of sound by using a flexible material for sound insulation. The softer and more voluminous this material, the better the structure-borne sound insulation.

3. Absorption of air-borne sound
Absorption of air-borne sound is achieved by converting part of the air-borne sound energy into thermal energy as the sound penetrates into fibrous or foam materials. The thicker the fibrous or foam materials, the better the air-borne sound absorption.

4. Insulation against air-borne sound
Insulation against air-borne sound is achieved when part of the sound energy is reflected by a wall. The remaining sound energy is transmitted through the wall and re-radiated on the opposite side in the form of air-borne sound. The heavier and more flexible the partitioning wall, the better the air-borne sound insulation.

Sound Measurement and Evaluation

The pressure of air-borne sound waves is measured by means of a sound level meter with a microphone. Sound levels are measured in units of decibels (dB). As the subjective response to noise as perceived by the human ear is largely dependent on the frequency or the frequency spectrum of a sound, level meters are provided with weighting filters for equalisation. The A-weighted sound level, expressed as dBA, will be sufficiently accurate for most comparative noise measurements.

Loss Factor "d"

The acoustic loss factor "d" is used as a measure of the noise absorption capability of a material. This factor indicates how much of the sound energy propagated in the form of flexural waves will be absorbed and converted into heat energy. The loss factor of a material depends on frequency and temperature. It does not, however, provide a meaningful indication of the actual reduction of noise level which can be achieved. It must therefore be measured on site. Striking a reasonable compromise between economic cost and benefit, a loss factor of approx. 0.1 has been found acceptable for a wide range of applications.

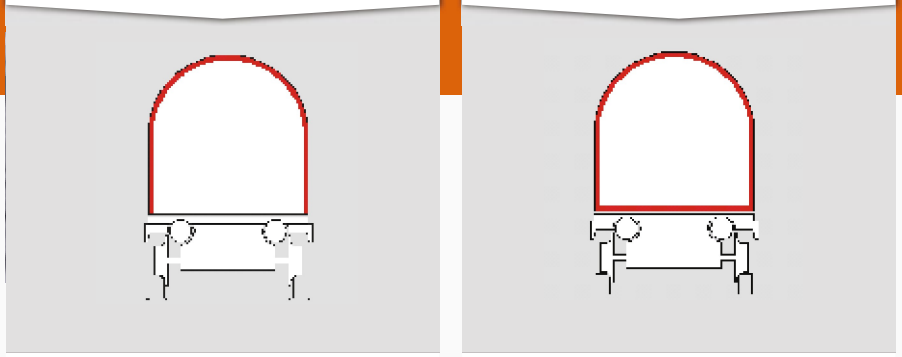
Air-Borne Sound Absorption Coefficient α

The absorption capability of a material is expressed as an air-borne sound absorption coefficient α. It describes the percentage of incident sound energy which is absorbed and converted into heat energy. The absorption coefficient α depends to a great extent on frequency. The lower (deeper) the frequency, the thicker the absorbent material that needs to be used!

Soundproofing

- Highly efficient paste-type soundproofing materials
- Offer outstanding absorption capabilities
- Reduction of structure-borne noise
- Can be coated in any thickness to meet the most exacting requirements for universal structure-borne sound absorption
- Can be applied by spatula or spray gun
- Approved according DIN 5510 Part 2, class S4-SR2-ST2 (Fire Behaviour)

Solution

	TEROSON WT 112 DB	TEROSON WT 129
		
Chemical base	Aqueous synthetic resin dispersion	Aqueous synthetic resin dispersion
Density wet/dry	1.4 g/cm³ / 1.2 g/cm³	1.35 g/cm³ / 1.15 g/cm³
Solids content	65%	70%
Drying time (4 mm wet film) (DIN EN ISO 291)	24 hr	20 hr
Temperature resistance	-50°C to +120°C	-50°C to +120°C
Pack size	40kg, 250kg drum	Not available in the U.K.

Handy Hints

- Never apply TEROSON water-based products to bare steel sheets because there is serious risk of corrosion
- The Henkel range includes other soundproofing products which are available on request

TEROSON WT 112 DB

- Solvent-free
- Ready to apply from spray guns
- Excellent fire resistance
- Low flammability
- Good thermal insulation properties

TEROSON WT 112 DB is used for damping vibrating planar surfaces. Examples are rail coaches, ships, plant and equipment, buildings, ventilation ducts, fan housings, lifts, waste disposal units, facade elements or containers. TEROSON WT 112 DB coatings must not be directly exposed to water.

TEROSON WT 129

- Solvent-free
- Ready to apply from spray guns
- Moisture resistant
- Low flammability
- Good thermal insulation properties

TEROSON WT 129 is used for damping of thin walled metal structures. Examples are similar to TEROSON WT 112 DB. TEROSON WT 129 can be exposed to standing water for a longer period of time.