



## CHAPTER 1: SOUND DEADENING

Sound deadening must be divided into:

- *Sandwich sound deadening*
- *Single sound deadening*

### *Sandwich sound deadening:*

Sandwich sound deadening (constrained layer application) is mainly used for steel structures with a ratio of 4:1:1 or 2:1:1. For aluminium structures the ratio is 4:3:1. This means:

#### **Example 1: Structure is 8 mm STEEL**

Apply a 2 mm SLP-COMP product with a 2 mm perforated (10%) steel counter (plates).

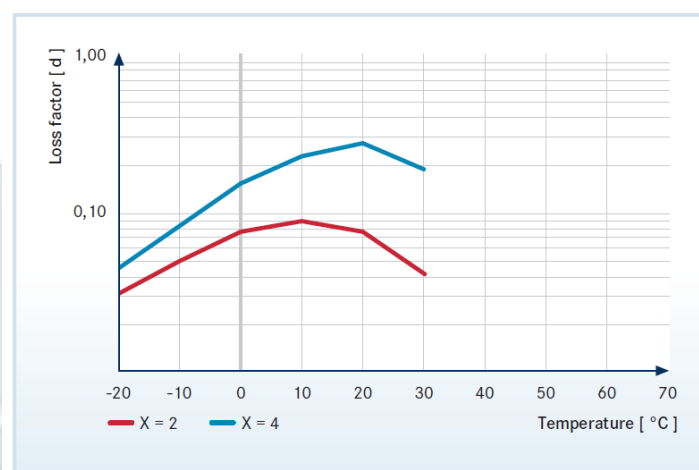
#### **Example 2: Structure is 8 mm ALUMINIUM**

Apply a 2 mm SLP-COMP product with a 2 mm perforated (10%) aluminium counter plate(s).

#### - **Important note:**

Various products are on the market as sandwich sound deadening materials. The loss factor (as shown below) is the most important parameter related to sound deadening and this factor must be compared with alternative products (loss factor versus temperature).

**Damping on steel sheet according to ISO 6721**



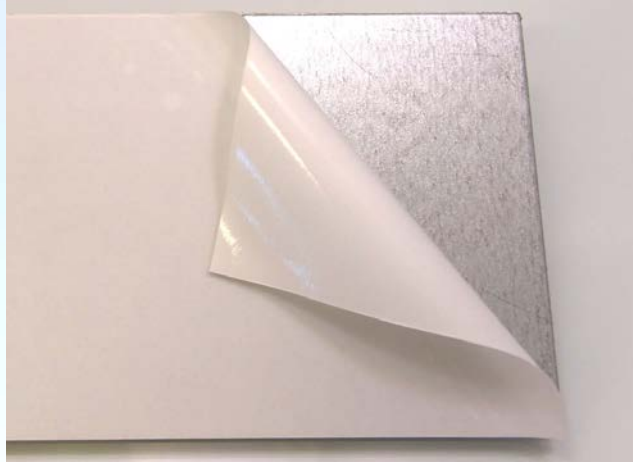
Base: steel

$X$  = thickness ratio of layer/steel sheet

Frequency:  $f = 200$  Hz



- ✓ Adhesive metal plates (see image below)



*Image above: Aluminium plate with an adhesive visco-elastic layer*

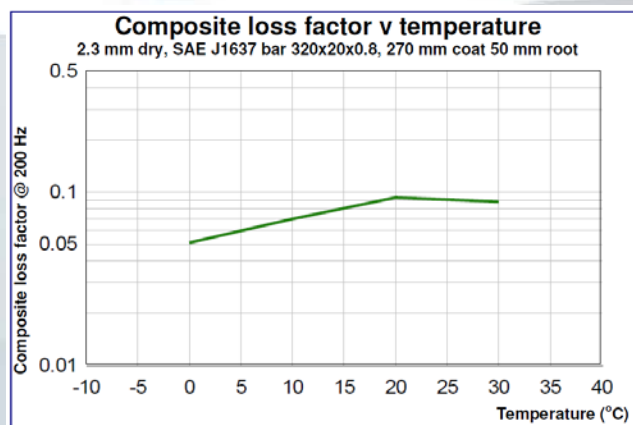
### Single sound deadening:

Various options are offered related to single sound deadening treatments knowing:

- ✓ Spray-able compound (SLP-DAMP Products)
- ✓ Mass layer (SLP-MASS) or Cork Rubber (SLP-CR)

- **Important note:**

Various products are on the market as single sound deadening materials (Mascoat, Delta dB, Noxudol etc.) The loss factor (as shown below) is the most important parameter related to sound deadening and this factor must be compared with alternative products.





### *Silent Line recommendation related to Single Sound Deadening:*

- *Aluminium structures:*

Pending on the allowable weight and noise levels (targets) to be achieved we either recommend:

- *Sandwich sound deadening material **SLP-COMP** (with lightweight counter plate) or*
- *Single sound deadening **SLP-DAMP** or Cork Rubber (SLP-CR) or*
- *Adhesive aluminium plate*

***Please contact us in case additional information is required.***

- *Wooden structures:*

- *Mass layer (SLP-MASS)*

The weight (thickness) of the mass layer is pending on the weight of the wooden structure. **SLP-MASS IS** recommended.

- *Composite structures:*

Pending on the allowable weight and noise levels (targets) to be achieved we either recommend:

- *Sandwich sound deadening material **SLP-COMP** (with lightweight counter plate) or*
- *Single sound deadening **SLP-DAMP** or*
- *Adhesive aluminium plate*

#### ***Silent Line Products:***

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