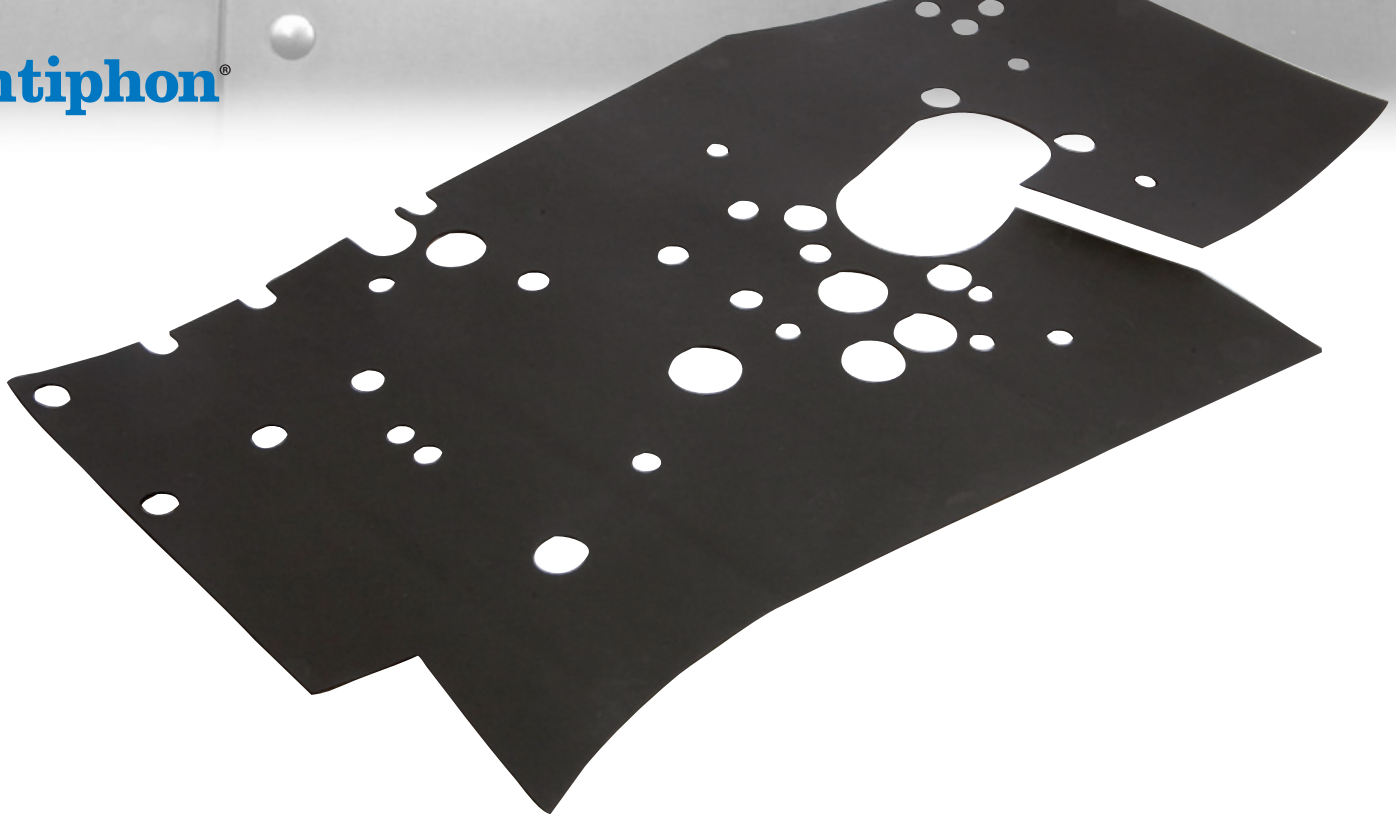
antiphon LD

STRUCTURE-BORNE SOUND DAMPING PADS

antiphon®

The silent sound of Quality

antiphon®



antiphon LD – structure-borne sound damping pads

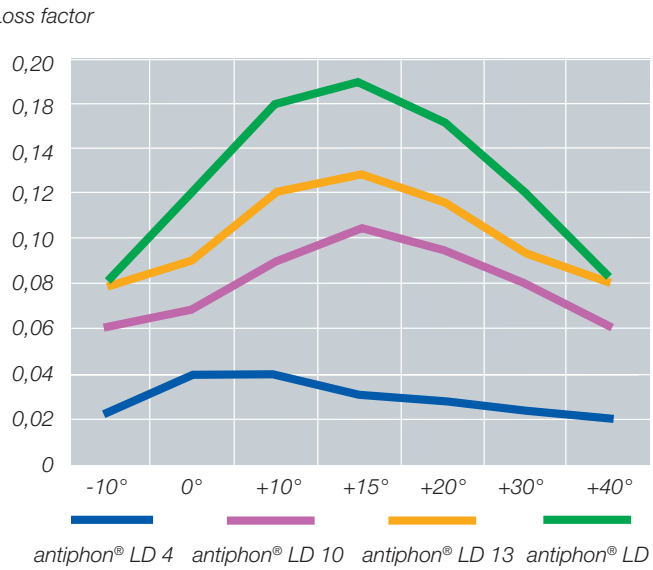
antiphon® LD is the name of a range of self-adhesive materials for damping structure-borne sound from metal sheets and plastic components. They are characterized by their low weight in relation to their sound damping properties, making it possible to reduce the weight of vehicles, office machines and other equipment. antiphon® LD materials weigh only half as much as bitumen pads with the same sound damping properties.

Easy to apply

All antiphon® LD structure-borne sound damping materials are provided with a specially developed pressure sensitive adhesive coating, which gives a smooth surface and thus gives excellent contact with the surface to be damped. The excellent adhesion makes the product easy to apply and its excellent ageing properties mean that the products can also withstand harsh environments.

The products are almost odourless, are durable, have high water resistance and can comply with most requirements made by the automotive industry. The surfaces can be painted, but the products have discreet colouring already, so that they can mostly serve without being noticed. The materials can also be supplied without the self-adhesive glue and then called antiphon® D.

antiphon® LD can even be supplied with glue on both sides to be laminated into structures and is then called antiphon® LDL.



The illustration above gives an example of the way in which our structure-borne sound damping materials, from antiphon®LD4 to antiphon®LD17 varies with temperature. The measurements were made on 1mm sheet steel at 200 Hz.

Acoustic properties

The acoustic loss factor η is generally used as a measure of the ability to damp structure borne sound. This specifies the proportion of vibration energy, in a steel plate e.g., which is converted to heat and does not generate noise. A high loss factor reduces the vibration level in a structure and thus reduces the noise given off. An un-damped steel structure has a loss factor of between 0.001 and 0.01. The highest theoretical possible loss factor is 1.0.

In structures, which contain several layers the combined loss factor η_{comb} is used. This is a factor of both the properties of the damping material and the stiffness and thickness of the structure. A thinner structure is damped more than a thicker structure, given the same thickness of damping material.

The properties of all damping materials depend on temperature and frequency. This must be considered, together with the influence of the thickness of the structure, when an assessment of different damping materials is made.

Applications

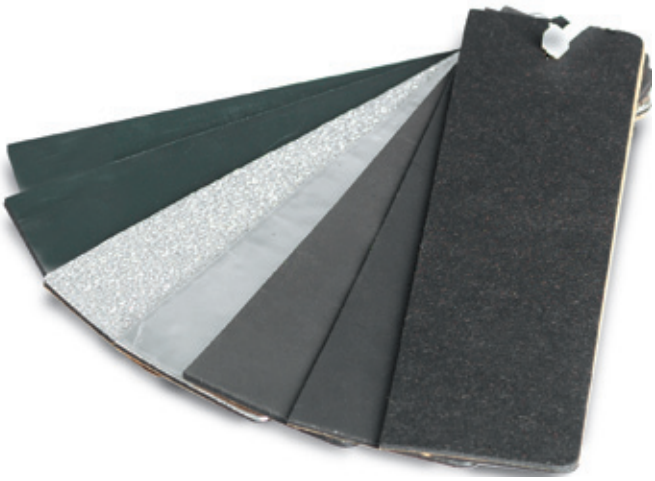
antiphon® LD structure-borne sound damping materials are used to a large extent in the automotive industry for damping structure-borne sound in steel and plastic constructions, such as doors, partitions, roofs, floors and wheel housings. In office machinery, antiphon® LD structure-borne sound damping materials can be used to damp metal and plastic housings or other components in computers and printers. antiphon® LD structure-borne sound damping materials are also used in many industrial applications such as railway wagons, boats, aircraft, conveyors, ventilation ducts, household machinery, steel furniture, draining boards and machine tools, where structure-borne sound needs to be damped on various sheet metal or plastic surfaces.

Method of application

The products can be punched or cut to most dimensions and shapes.
The substrate must be free from grease, dust, damp or other contamination before application.
antiphon® LD must be pressed down securely across its entire surface, and in such a way that air inclusions are avoided.
If possible, a roller or magnetic tool should be used to facilitate installation.
Material and substrate should be at room temperature when being applied.
The products should be stored and transported horizontal.

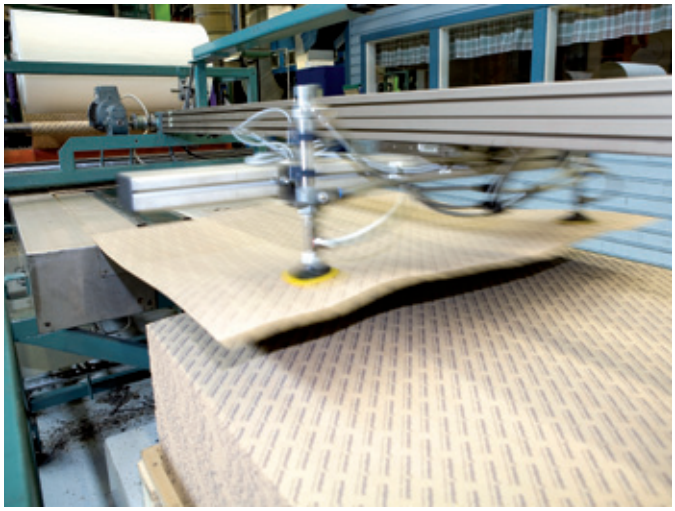
Delivery format

Some antiphon® LD structure-borne sound damping materials are delivered in the standard size of 1020 x 1020 mm, whereas others are available in rolls. Other sizes and punched blanks can be offered upon request.



Recycling

In most cases, the products can not be removed from the substrate they were once applied to. This does not cause any environmental problem since the sheet metal to which antiphon® LD materials have been applied can be melted down without any problems and recycled in the same way as “clean” sheet metal.



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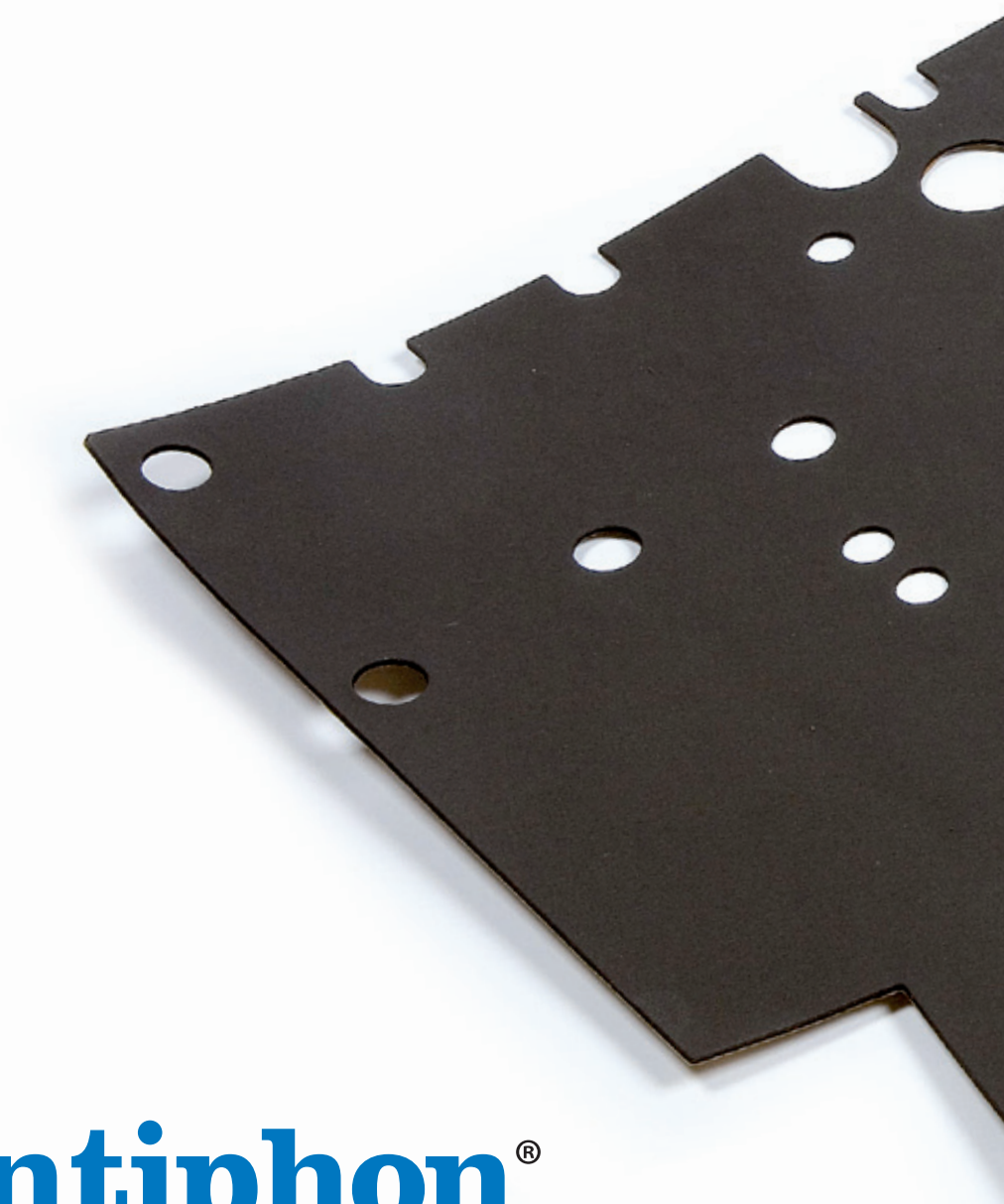

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