SOUND INSULATION

SONODAMP SOUND-INSULATING ENCLOSURES AND CABINS

Product description

The Sonodamp tailor-made sound-insulating and sound-absorbing enclosure are available in steel, stainless steel or aluminium
The enclosure is composed of sound-insulating and sound-absorbing self-supporting elements.
A steel structure is integrated in large enclosures.
A Sonodamp sound-absorbing and sound-insulating element is constructed of a 1.5-mm single-sheet thermal galvanized steel plate; this plate is mounted and the element is filled with a special sound-absorbing glass wool with a compression of 20 kg/m³.
This absorption material produces a high absorption coefficient over a wide frequency range.
The layer of glass wool is covered with an acoustic transparent cover fleece layer; if the glass wool can come into contact with water, oil or chemicals, an acoustic transparent PE foil is applied.
For protection, a 1.0-mm single-sheet galvanized perforated steel plate is applied to the side of the cover fleece layer.
The degree of perforation is 33%, which guarantees the optimal functioning of the absorption material.
The total element thickness is 55 or 105 mm respectively; the mass is 21 or 22 kg/m² respectively.
The panel and filling are germ-free and anti-rot and are not combustible in accordance with NEN 6065, class 1.
The sophisticated production method enables you to choose the dimensions, within certain limits, allowing the housing to be supplied tailor-made.
What's more, other plate thicknesses and materials (e.g. aluminum or alloyed types of steel can easily be processed); if desired, the housing can be supplied in a color.

Properties

- High sound-insulating value
- Vibration-free set-up
- Quick assembly
- (If necessary) easy to move
- Robust construction

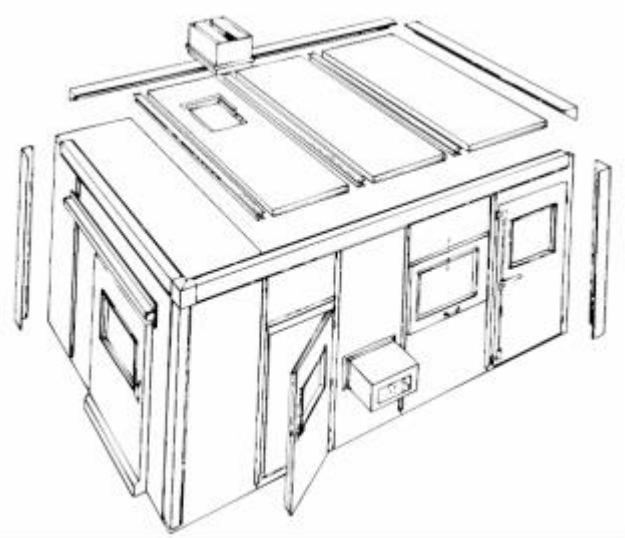
Design

An enclosure that functions properly should not only meet acoustic requirements,
but also have the required structural properties.
In principle, the cabinet is made of self-supporting elements; depending on the necessity and the desired speed of assembly, different connecting systems are used for the panels.

During the design the accessibility of the sound-producing machine is taken into account, ensuring that control and maintenance are affected as little as possible.

Other points which require attention:
- dissipation of the heat produced by the machine
- explosion and fire hazard
- lighting and daylight access within the housing
- accessibility

For an optimal functioning of the enclosure it is possible to install the following facilities:
- sliding doors
- sliding hatches
- window (in wall or door)
- sound-silencing inlet and outlet openings
- ventilation system with sound silencers and ventilator
- lighting



Furthermore, extras like doors with panic bars, double glazing, hydraulically operated hatches and air-conditioning are other options.

2019 version 01

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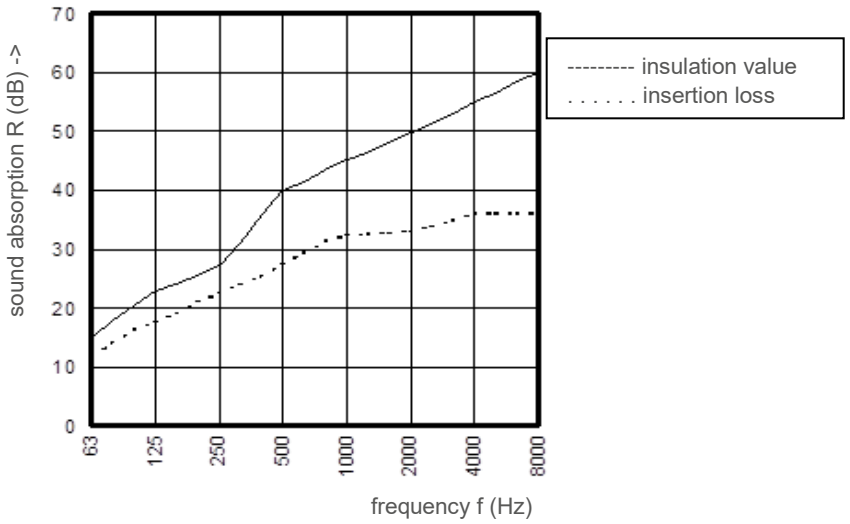
Application

- Enclosures of sound sources
- Creating a low-noise space (control area)

Sound reduction

For sound reduction, the sound insulation values of the elements that constitute the enclosure and the total insertion loss of the enclosure are important.
The sound-insulating value of an element is determined by means of laboratory measurement
the insertion loss is the difference between the measured sound levels *before* and *after* installation of the enclosure, measured in the same conditions and in the same place.
The insulation value of an element is almost always higher than the insertion loss;
reasons for which are:
- gaps and cracks, for example at hatches and doors
- required openings for the supply and removal of products and ventilation
- transfer of vibrations from the machine to the wall of the housing

Sonodamp enclosures ensure, due to precise finishing, a high insertion loss; depending on the sound source, values between 20 and 30 dB are achievable with a standard enclosure.
Higher values are achievable with adjusted elements or with the application of a double-wall structure; the insertion loss is calculated and guaranteed by ATIS.



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SOUND-INSULATING CABINS

Product description

Sound-insulating cabins are largely similar to sound-insulating enclosures with respect to construction and structure.

Exceptions are:
- the walls are not always perforated on the inside
- the floor is usually suspended

Golden Wonder Deventer

Project	Golden Wonder Center
Client	Dalgety Foods Breda
Former situation	There was a great deal of noise nuisance from the oven section of the crisp factory to the packaging department.
solution	ATIS used an acoustic composite wall to divide the hall into two sections, preserving a good passage; due to aesthetic requirements the entire wall was colour-coated.
Result	The sound level in the packaging department dropped below the mandatory 80 dB(A).

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Bijenkorf Arnhem

Client	Korstanje Klimaattechniek
Former situation	Two large cooling units, mounted on the 16-metre-high roof of the Bijenkorf, were causing too much noise nuisance to the surrounding area.
Solution	ATIS packaged the compressors and installed a three-sided composite wall around the cooling units; they include a baffle silencer for 20,000 m³/hour.
Result	The mandatory 23 dB(A) reduction was easily met.

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