Recommendation
for sound insulation
of jet ejectors

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THE
EJECTOR
COMPANY

General points

The methods described below for insulating jet ejectors, condensers, sound absorbers and pipes are merely suggestions. With this type of insulation, we expect a reduction in noise emissions of about 20 dB(A). Insulate both the pipes connected and the jet ejector.

If specifications guarantee particular sound pressure levels, insulation thicknesses have to be calculated individually. If required, we can give you a quote for carrying out the work involved.

Insulation structure

The materials described below apply to all sound insulation of jet ejectors, condensers, pipes and sound absorbers. We recommend mineral wool as the insulating material with a maximum bulk density of 140 kg/m^3 (when fitted) in the form of mats and/or pipe sleeves. The thickness of the insulation layer must be at least 60 mm. The layers of mineral wool are covered with galvanised sheet steel that should be < 1.5 mm. Apply a sound insulation layer 3 mm thick to the inside of the sheet steel jacket. The sound insulation layer must comply with the following physical specifications:

- Bulk density > 1 000 kg/m^3
- Multiply the loss factor and elastic modulus < 10^9 N/m^2 for a temperature range of 0° C to 60 °C.

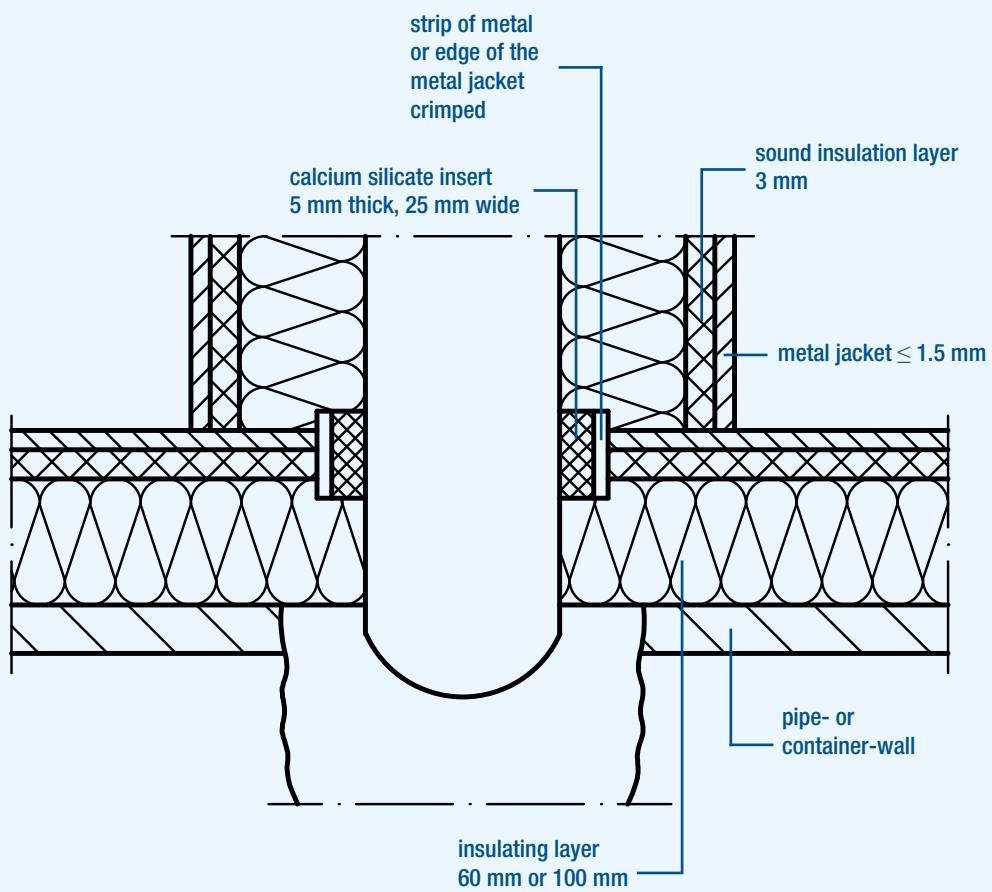Ensure that the sound insulation layer and the steel jacket are securely bonded with one another.

When apply sound insulation to jet ejectors, condensers, elbows and silencers, ensure that no rigid bonds occur between the metal jacket on the exterior and the pipe- or container-walls. In particular, do not use any spacers. Figures 1 to 3 show the structure of the insulation concerned.

Sound insulation is also added to the flange and fittings. Figures 4 and 5 give examples of the types of insulation.
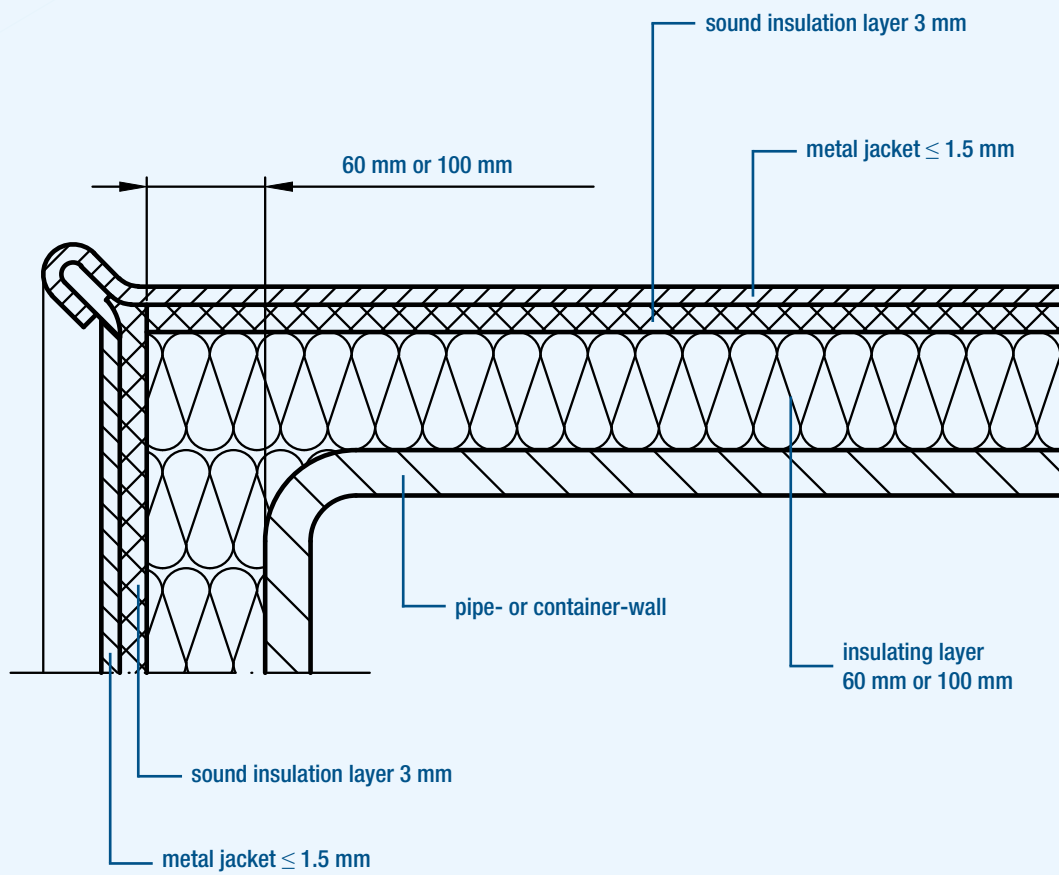
Figures and examples

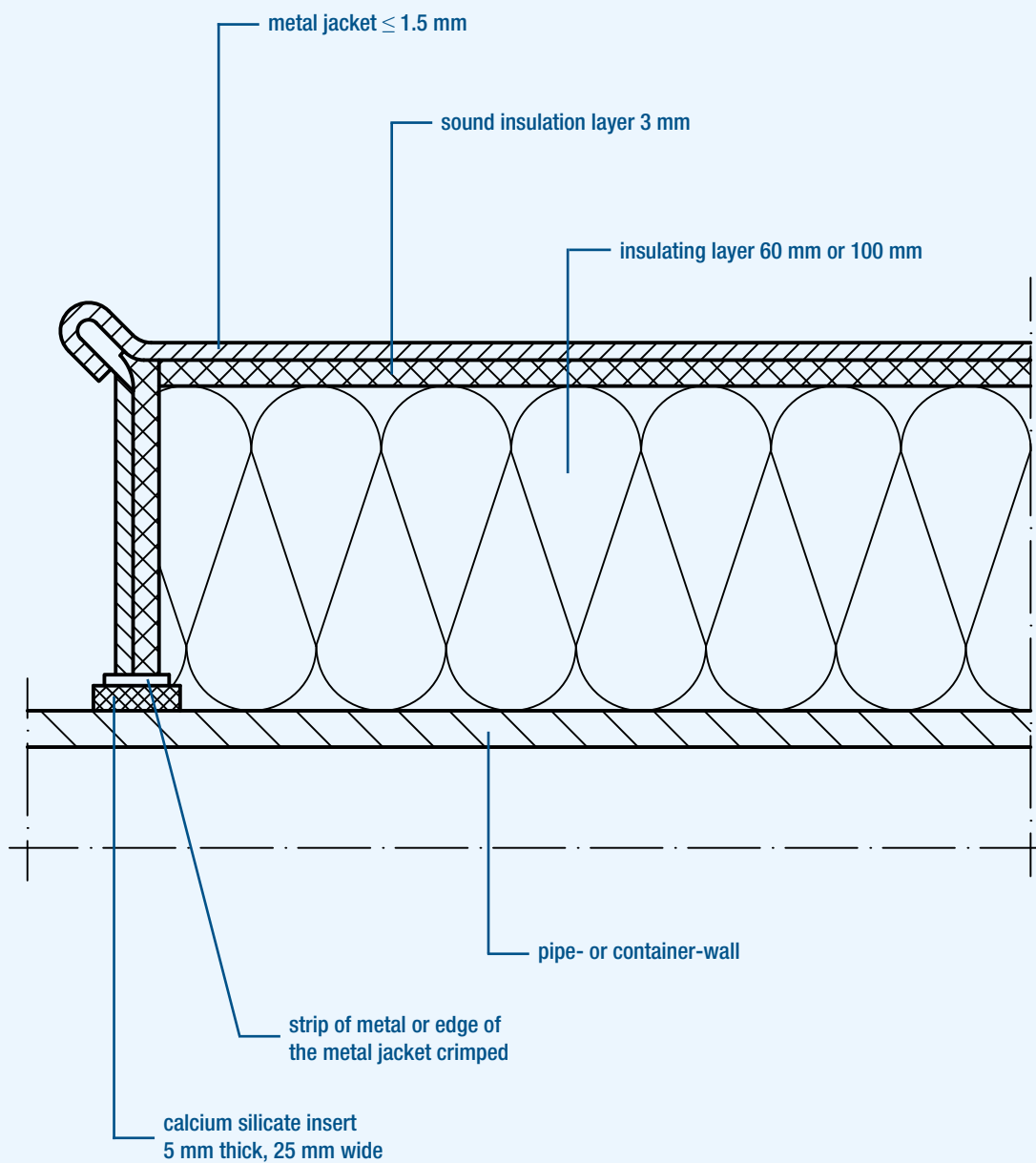## 1. Sound insulation on a pipe branch

strip of metal
or edge of the
metal jacket
crimped

calcium silicate insert
5 mm thick, 25 mm wide

sound insulation layer
3 mm

metal jacket $\leq$ 1.5 mm

pipe- or
container-wall

insulating layer
60 mm or 100 mm

2. The end of a sound insulation section on the floor of the pipe or container

sound insulation layer 3 mm

metal jacket ≤ 1.5 mm

60 mm or 100 mm

pipe- or container-wall

insulating layer 60 mm or 100 mm

sound insulation layer 3 mm

metal jacket ≤ 1.5 mm

3. Sound insulation with a continuous pipe- or container-wall with an end piece

metal jacket ≤ 1.5 mm

sound insulation layer 3 mm

insulating layer 60 mm or 100 mm

pipe- or container-wall

strip of metal or edge of
the metal jacket crimped

calcium silicate insert
5 mm thick, 25 mm wide

4. sound insulation flanges

metal jacket ≤ 1.5 mm

insulating layer 60 mm or 100 mm

strip of metal or edge of the metal jacket flanged

approx. 60 mm

calcium silicate insert

60 mm or 100 mm

sound insulation layer 3 mm

metal jacket
≤ 1.5 mm

sound insulation
layer 3 mm

Insulating layer
60 mm or 100 mm

100 mm

100 mm

calcium silicate insert
5 mm thick, 25 mm wide

strip of metal or edge of
the metal jacket crimped
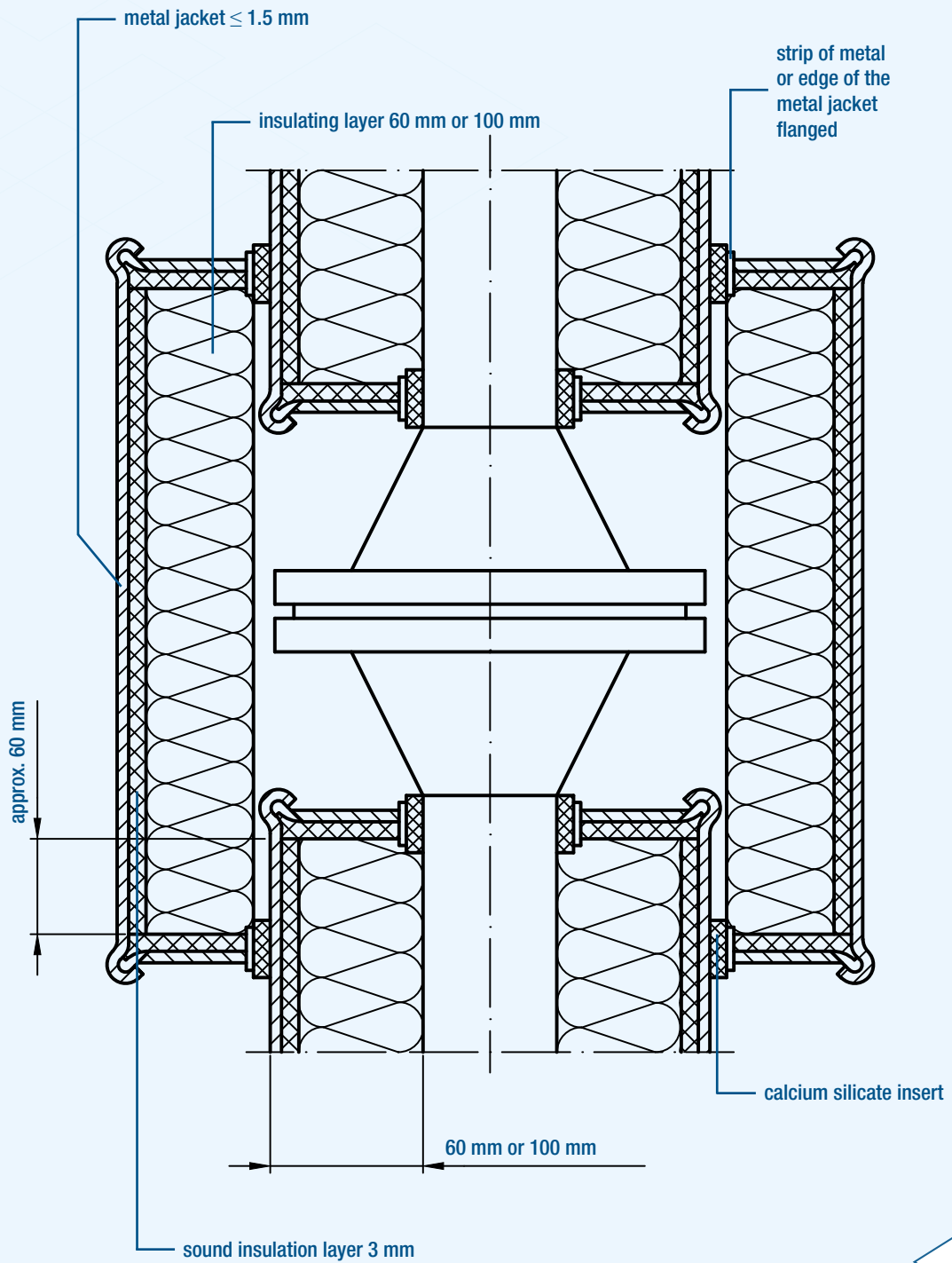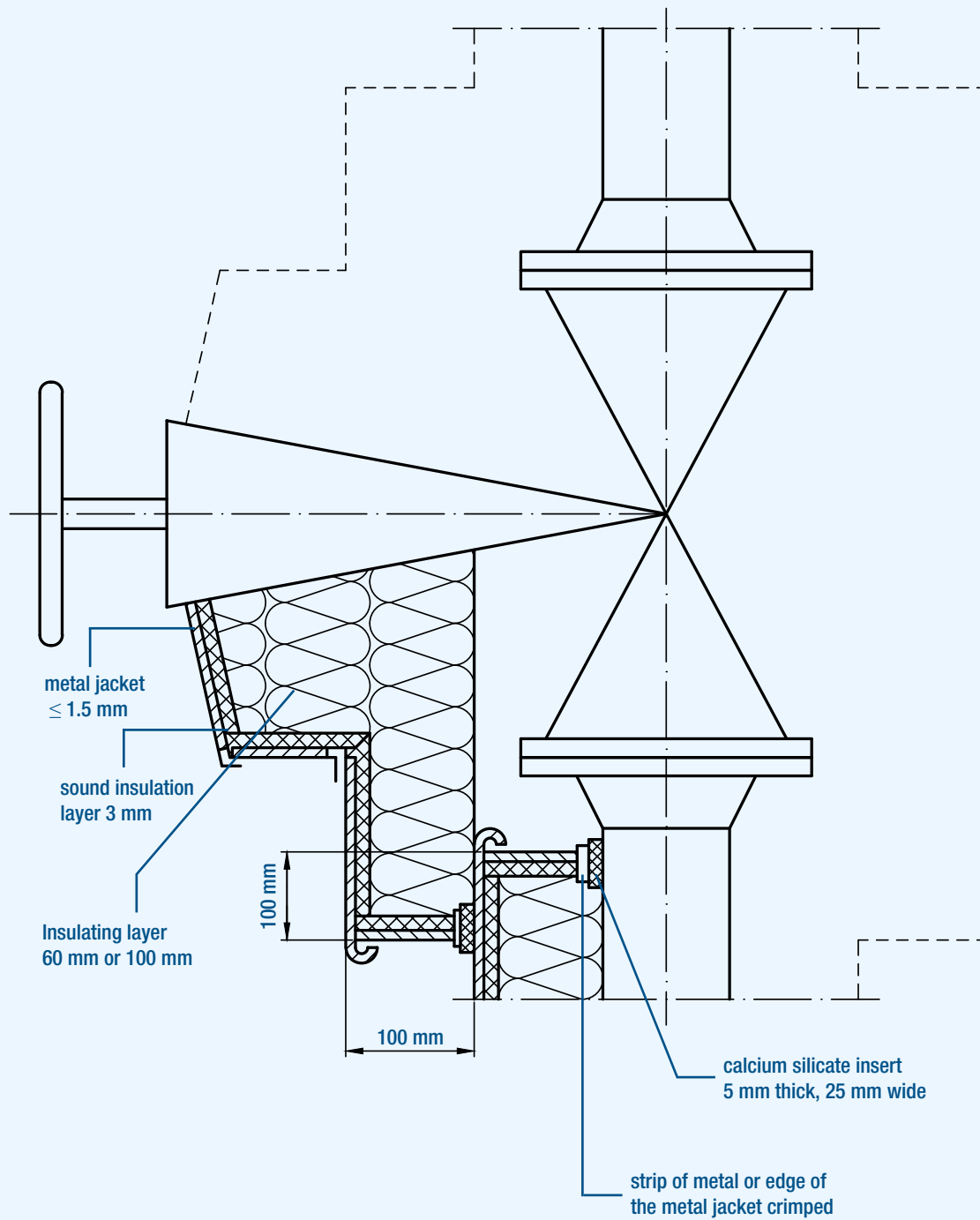
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