

AKUSTIKTHERM

For thermal active building systems (TABS)



QUICK FACTS

- Suitable for retrofitting in buildings with thermo-active building systems (TABS)
- Building material class A2-s1, d0 according to EN 13501-1
- Superior sound absorption values (class A)
- Very low influence on component activation during cooling and heating
- Low installation height
- Low maintenance requirements
- Product components can be separated by material type
- Integration of various components
 - Different lighting designs
 - Sprinklers
 - Smoke detectors
 - Supply / extract air elements

Acoustics

α_w : up to 1,00

Energy transfer TABS

90 - 94 %

Technical description

General

AKUSTIKTHERM is an acoustically effective and thermally conductive ceiling sail system for buildings with thermo-active building systems (TABS). The acoustic sail transfers thermal energy from the activated concrete surface into the room via an exchange system with a special coating, while also providing additional sound-absorbing surfaces.

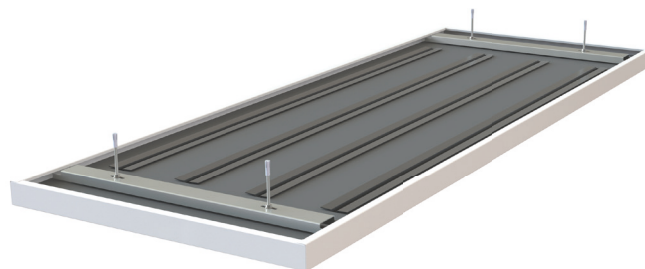
Whether in open-plan offices, event spaces or restaurants, AKUSTIKTHERM combines the thermal use of the activated concrete ceiling with targeted improvement of room acoustics.

Functions

Installation using threaded rods or cables on the concrete ceiling. The drop height is individually adjustable from 60 to 500 mm (the energy transfer via heat radiation works at any height).

The surface of the concrete ceiling is not insulated.

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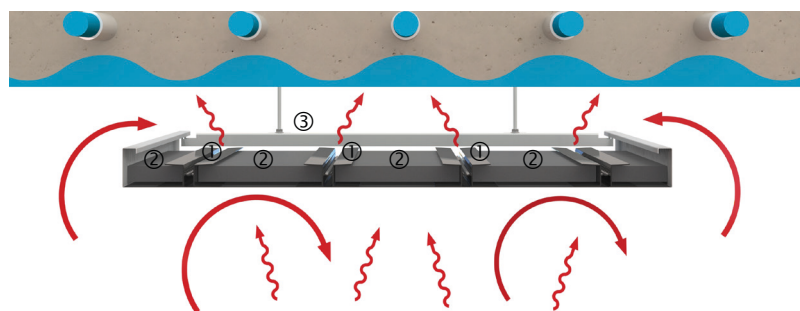
Construction

- ① Ceiling panel with acoustic fleece (glued on) and threaded rods
- ② Heat exchanger
- ③ Additional inlay mineral wool panels in PE foil

Energy transfer

Installing AKUSTIKTHERM sails enables the thermal capacity of the activated concrete ceiling to be transferred into the room. At the same time, the sails support sound absorption in the room.

With a ceiling occupancy rate of 40 to 60%, AKUSTIKTHERM transfers 90 to 94% of the cooling capacity of the activated concrete ceiling into the room.

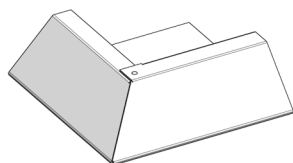


Concrete ceiling
Water pipes (CCT)

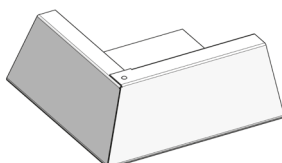
- ① Aluminium profiles for heat transfer
- ② Acoustic strips
- ③ Ceiling sails
- ~~~~~ Radiation
- ~~~~~ Convection

Design options

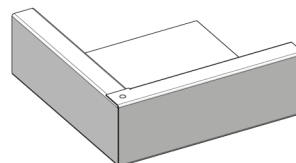
Edge moulds - Edge formations



45°-edging
Corners riveted



60°-edging
Corners riveted

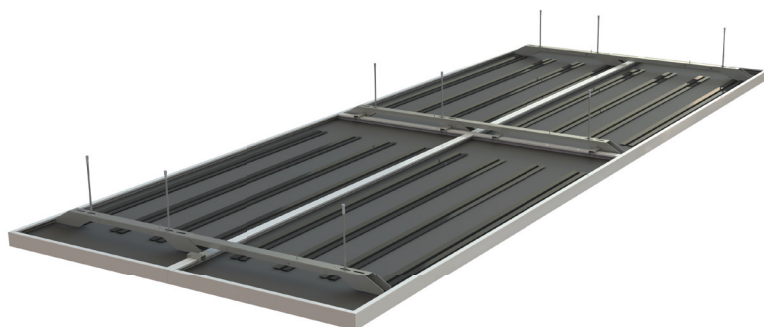


90°-edging
Corners riveted

Installation with threaded rods and cables with flat cross beam



Installation with RYKO ceiling system as a sail array



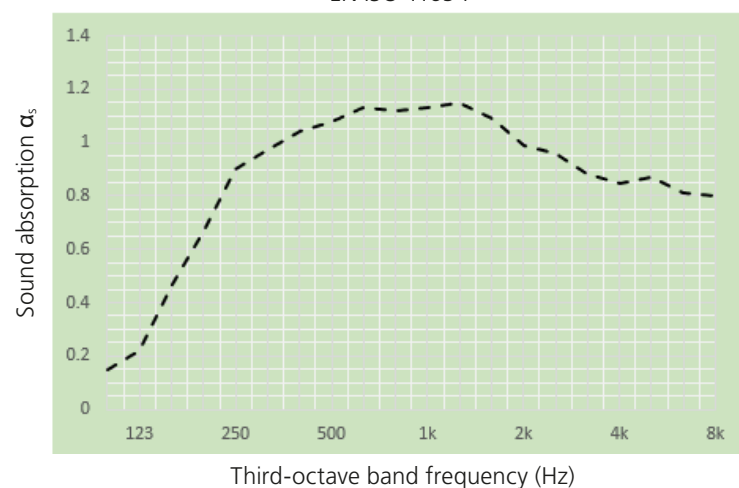
Acoustics

Initial data is presented below.

Suspension height	Suspension height 100 mm -----	Suspension height 200 mm
Material ceiling panel	Steel	Steel
Perforation	Rg 1,5 – 11 %	Rg 1,5 – 11 %
Sound absorption inlay	Fleece	Fleece
Additional inlay mineral wool (80 kg/m ³)	30 mm	30 mm
Sound absorption α_p	250: 0,90 500: 1,08 1k: 1,13 2k: 0,99 4k: 0,85	250: 0,75 500: 1,21 1k: 1,17 2k: 0,92 4k: 0,74
Sound absorption α_w	α_w : 0,95	α_w : 1,0
Sound absorption class (EN ISO 11654)	A	A

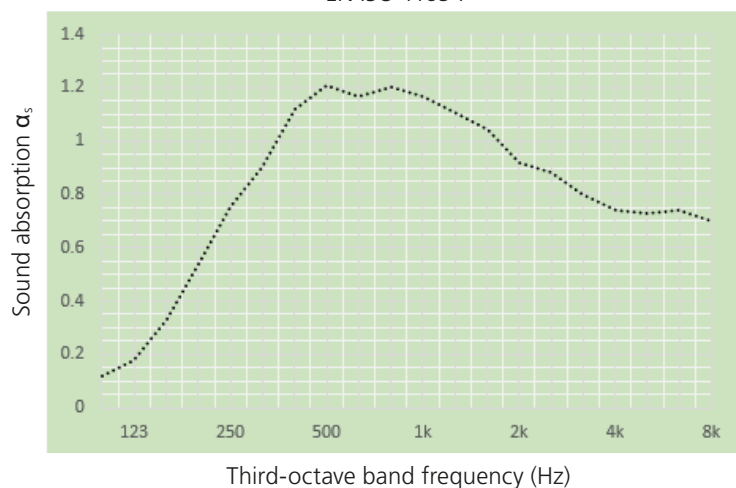
Suspension height 100 mm

EN ISO 11654



Suspension height 200 mm

EN ISO 11654



System

Ceiling system

- Sail
 - Square and rectangular panels

Installation systems

- Installation high: 60 – 500 mm
 - Hook-on system
 - Threaded rods or ropes

Materials, weight and dimensions

Materials and weight

Material	Weight (incl. activation, water)
Steel 0,70 mm	approx. 18 kg/m ²

Building material class: A2-s1, d0, EN 13501-1 (depending on the acoustic solution).

Dimensions

Panel length	Panel width	Panel height
800 – 3000 mm	400 – 1200 mm	30 – 50 mm

Special dimensions on request.

Surface

Versions

- Powder coating
- Digital printing on request

Colors

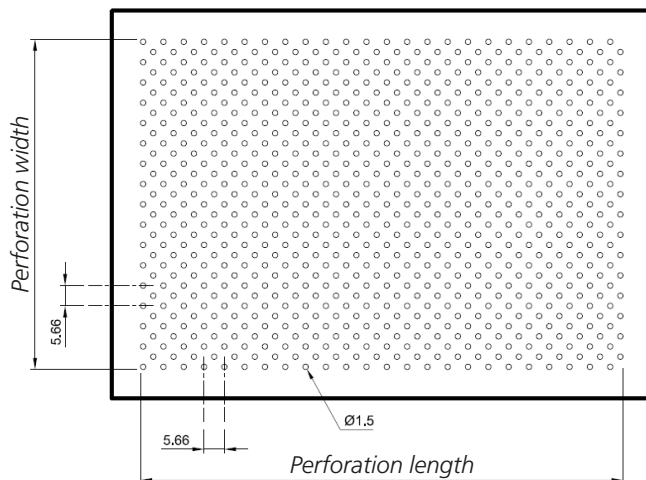
- Standard RAL 9010
- Other RAL / NCS colors on request

Perforations

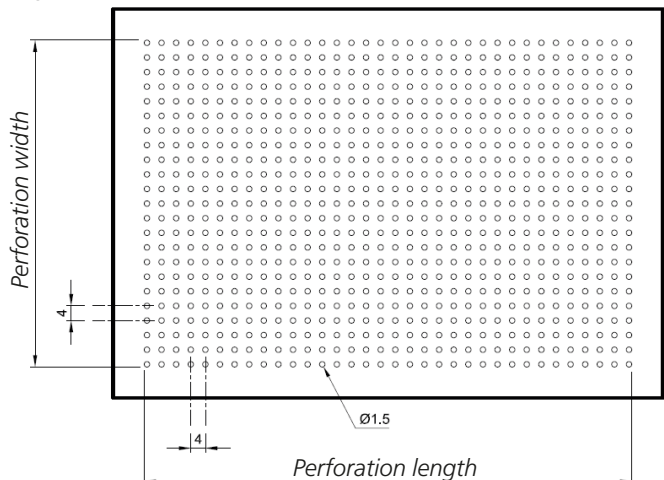
- Standard perforations
- Other perforations on request

Standard perforations:

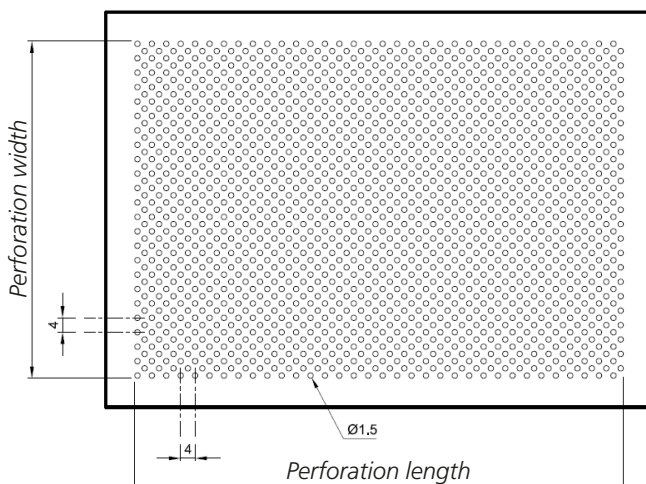
Rd 1,5 – 11 %



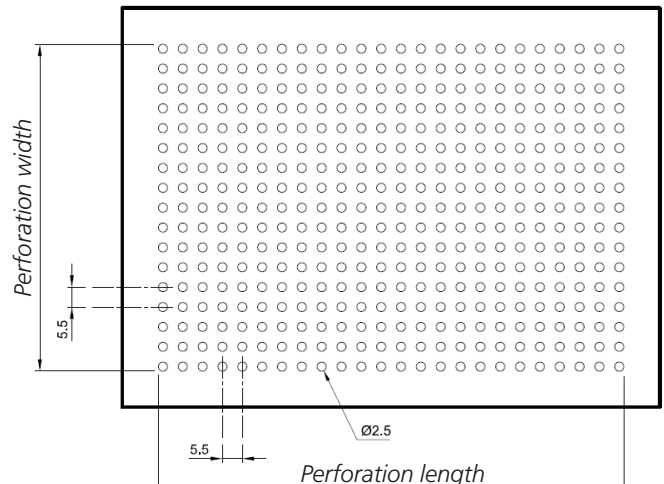
Rg 1,5 – 11 %



Rd 1,5 – 22 %



Rg 2,5 – 16 %



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