AKUSTIKTHERM

For thermal active building systems (TABS)

BARCOL-AIR by Swegon

zent-frenger by Swegon

Ideally combined

TABS Acoustic Therm Base is an acoustically effective and thermally conductive ceiling sail system for use in buildings with component activation (Thermo Active Building Systems, TABS). The sail transfers the energy from the concrete surface into the room and at the same time offers large sound absorption surfaces. There are two types to choose from: The Base type works with the pure transfer of room heat to the concrete ceiling via thermal radiation. The Base Plus type also offers cooling registers that can be activated on the surface of the sail. As a result, the acoustic sail can optionally be converted into an acoustically effective cooling sail that complements the performance of component activation many times over.

- For buildings with component activation
- High acoustic efficency
- Height individually adjustable
- Type Base Plus ready for optional cooling sail function

Ceiling system
Sail

Operating principle
Radiation

Air supply
not relevant (combinable)

Capacity water (Type Base Plus)
Cooling: 95 W/m² (8 K), EN 14240:2004
Heating: 133 W/m² (15 K), EN 14037:2016

Acoustics
α_w: up to 1,0
Sound absorption class A, EN ISO 11654

Room comfort
Thermal comfort according to EN ISO 7730, SIA 382/1

Properties

- Assembly by threaded rods on the concrete ceiling. The suspension height is individually adjustable from 60 to 500 mm (the energy transfer via thermal radiation works at any height).
- The surface of the concrete ceiling is not insulated.

Activation

- Type Base Plus: For generating an additional, very high cooling capacity in addition to component activation: Integrated cooling register for the water system, consisting of copper pipe (12 mm), welded on aluminum heat conducting rails.

Functions

Acoustics

Integral components

Additionally at type Base Plus:

Cooling

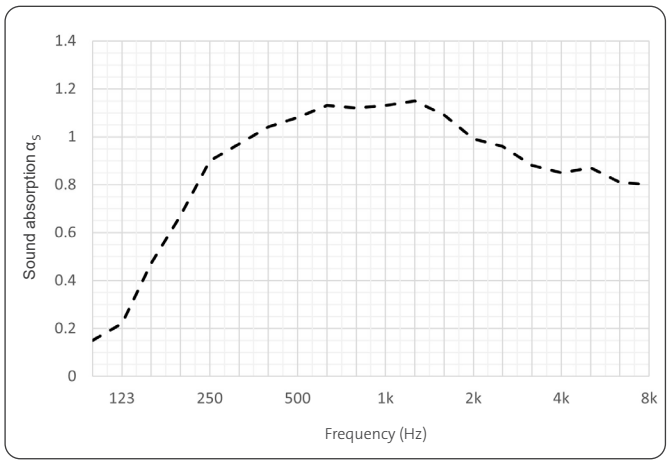
Heating

References

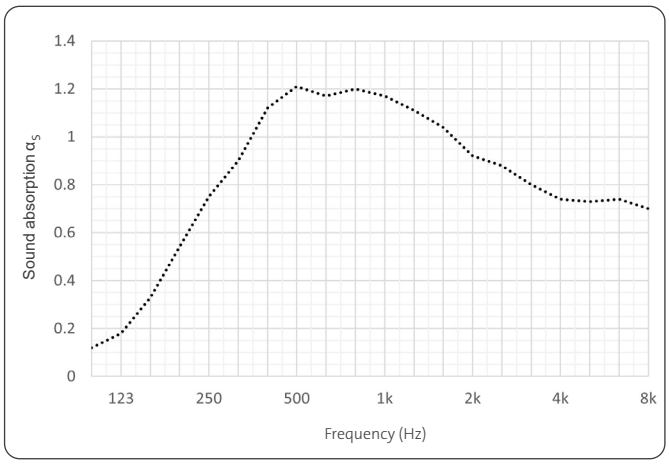
Acoustics

Initial data shown example	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/m³)	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



Suspension height 200 mm



General Data

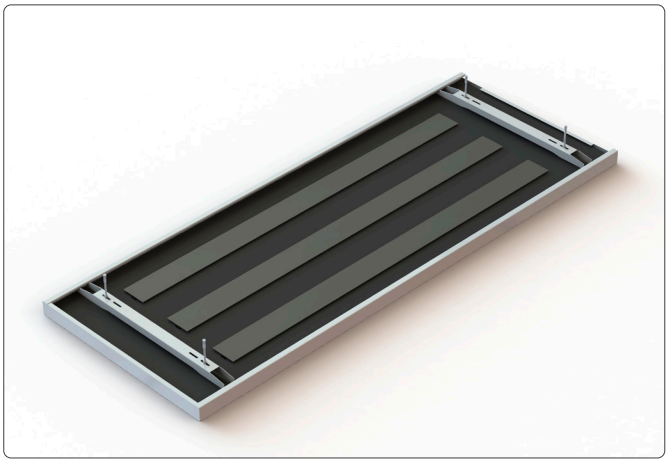
Construction
- Ceiling systems
  – Square and rectangular panels
- Installation system
  – Hoock-on
  – Threaded rods or ropes

Versions
- Surface
  – Powder coating
  – Digital printing on request
- Colours
  – Standard RAL 9010
  – other RAL or NCS colours on request
- Perforations
  – 1,5 – 11 %, 1,5 – 22 %, 2,5 – 16 %
  – other perforations on request

Material
- Ceiling panel
  – Galvanized steel or aluminum sheet (thickness aluminum 1,0 mm, steel 0,7 mm)
  – Black acoustic fleece inside
- Sound absorbtion inlay
  – Mineral wool in black PE-foil
- Heat exchanger (for energy exchange with TABS)
  – Aluminum profiles
- For the Base Plus type: cooling register made of copper pipe (12 mm) and aluminum heat conduction rails

Types

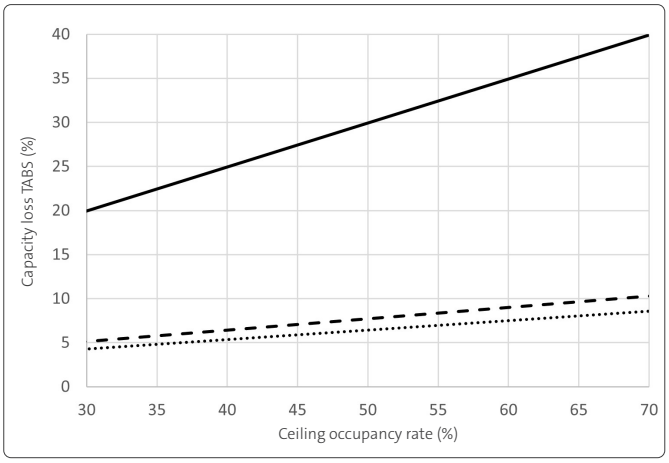
Type Base



Dimensions
- Installation height: 60 – 500 mm
- Dimensions standard:
  - Lenght: max. 2500 mm
  - Width: max. 1100 mm
  - Height: 50 mm (min. 30 mm)
- Special dimensions on request

Weight
- ca. 15 kg/m²

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



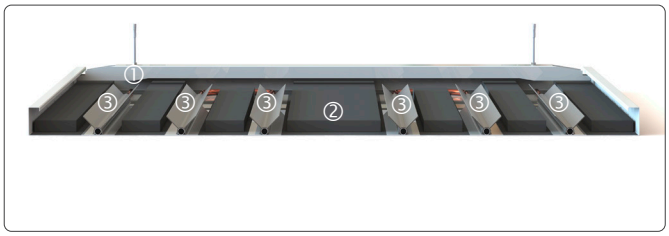
Comparison capacity loss TABS
Initial data: Ceiling panel steel
——— Conventional acoustic sail
- - - - - - - Acoustic therm Base, suspending height 100 mm
••••••••• Acoustic therm Base, suspending height 200 mm

Type Base Plus

Dimensions
- Installation height: 60 – 500 mm
- Dimensions standard:
  - Lenght: max. 2500 mm
  - Width: max. 1100 mm
  - Height: 50 mm (min. 30 mm)
- Special dimensions on request

Weight
- ca. 15 kg/m² (without water when activated)

Construction
①Ceiling panel with acoustic fleece (glued on) and threaded rods
②Additional inlay mineral wool panels in PE foil
③Heat exchanger incl. activation register for *heating/cooling function (use optional)

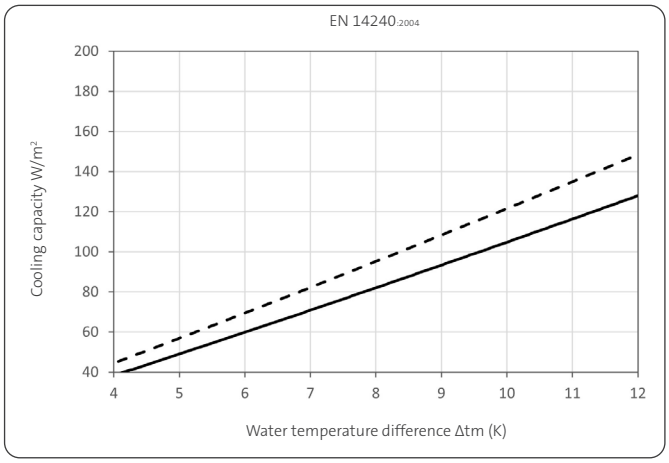


***Additional heating/cooling capacity by using the activation for the Base Plus type**

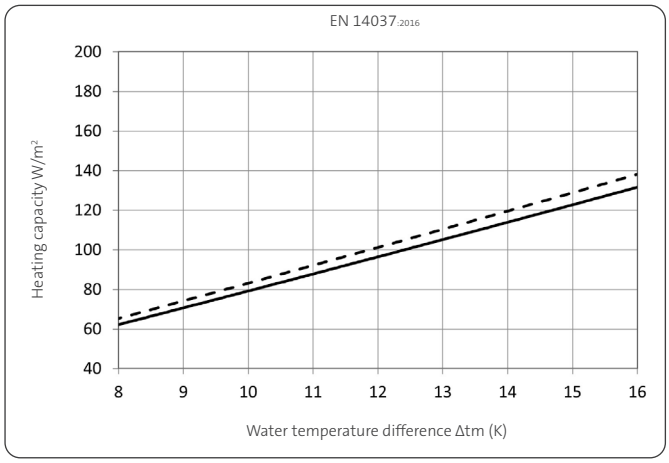
Initial data shown example	Conventional heating/cooling sail	Acoustic therm Base Plus
Material ceiling panel	Steel	Steel
Perforation	Rg 1,5 – 11 %	Rg 1,5 – 11 %
Distance heat conducting rails	150 mm	150 mm
Sound absorption inlay	Fleece	Fleece
Additional inlay mineral wool (80 kg/m³)	30 mm	30 mm
Supply air/Exhaust air	without	without
Cooling capacity[1)] (EN 14240:2004)	82 W/m² (8 K)	95 W/m² (8 K)
Heating capacity (EN 14037:2016)	122 W/m² (15 K)	133 W/m² (15 K)

[1)] Values excluding concrete management, without property-specific capacity increases.

Cooling



Heating



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