CHILLED METAL CEILING

Conspicuously discreet

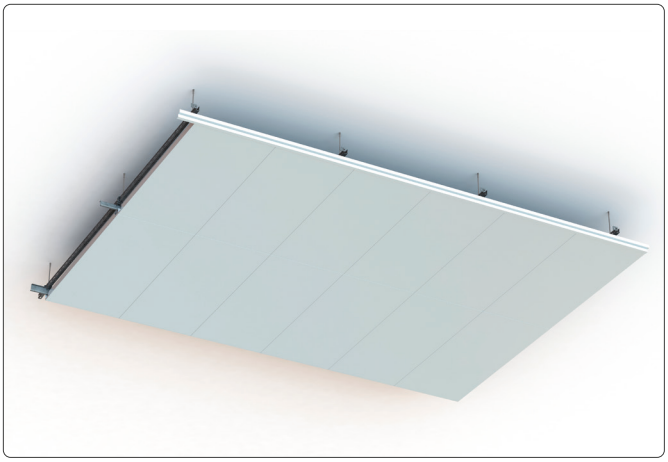
Tailor-made solutions for indoor climate

BARCOL-AIR

CONSPICUOUSLY DISCREET

The Chilled metal ceiling system achieves excellent thermal comfort and draught resistance in rooms with high thermal loads. The system, which can also be used as a sailing solution, has very good sound absorption values. All assembly options and individual solutions used in conventional metal ceiling construction are possible, such as c-channel, lay-in, hook-on or clip-in systems.

- Especially well-suited for rooms with high thermal loads
- High acoustic efficiency
- Integration of fixtures, supply and exhaust air elements
- Installation height: min. 75 mm



CEILING SYSTEMS
closed
or as sail

OPERATING PRINCIPLE
Radiation

AIR SUPPLY
visible

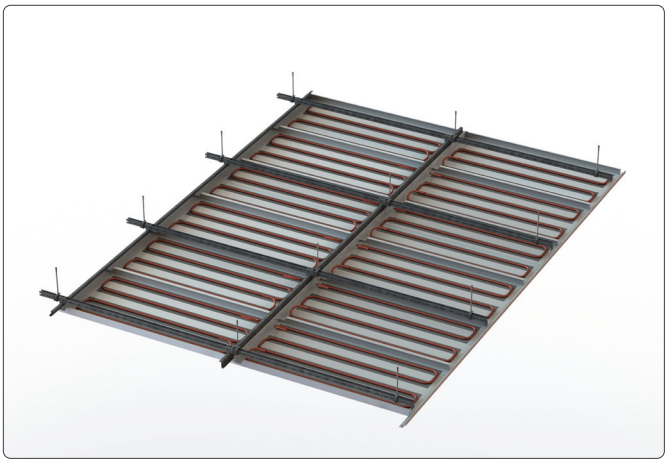
CAPACITY
Cooling: up to 100 w/m² (8 K), EN 14240
Heating: up to 165 w/m² (15 K), EN 14037:2003

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

ACTIVATION

- Copper tube meander on heat conducting rails
- Distance heat conducting rails: up to 80 mm
- Copper tube: Ø outer 12, 10 or 8 mm
- Max. occupancy rate: up to 100 %



FUNCTIONS

Cooling | Acoustics | Supply and exhaust air
Heating | Integral components | Compensation cold air drop

REFERENCES

Financial institute, Zürich (sails in aspecial form)

Ospedale, Lugano (and title picture)

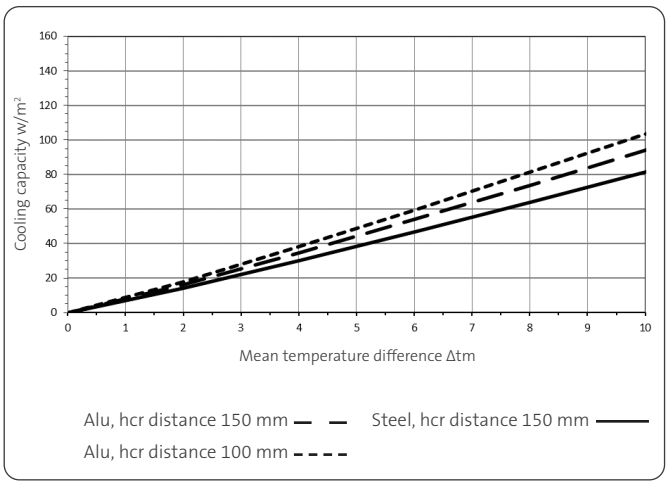
CAPACITY

Initial data

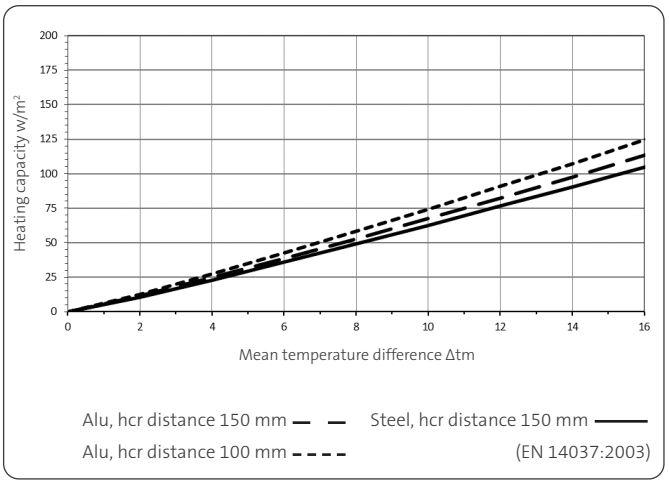
Material ceiling panel	Aluminium	Steel
Perforation	Rg 1,5 – 11 %	Rg 1,5 – 11 %
Installation height	300 mm	300 mm
Distance heat conducting rails (hcr)	**100 mm - - - - - / 150 mm — —**	**150 mm ——**
Activation method	on fleece	on fleece

Closed ceiling

- Cooling up to 82 w/m² (8 K)

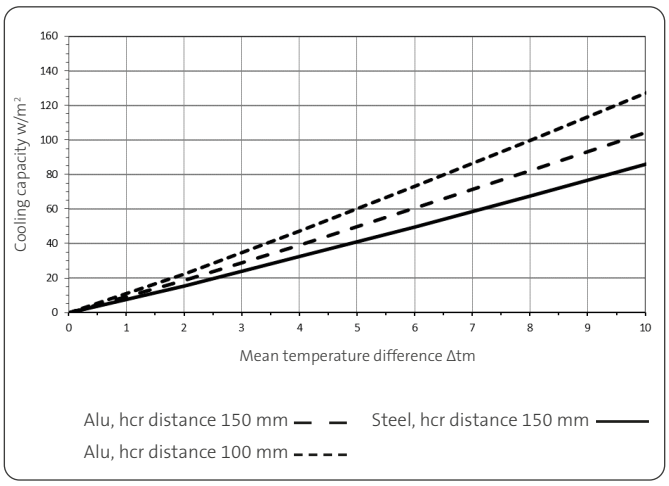


- Heating up to 116 w/m² (15 K)

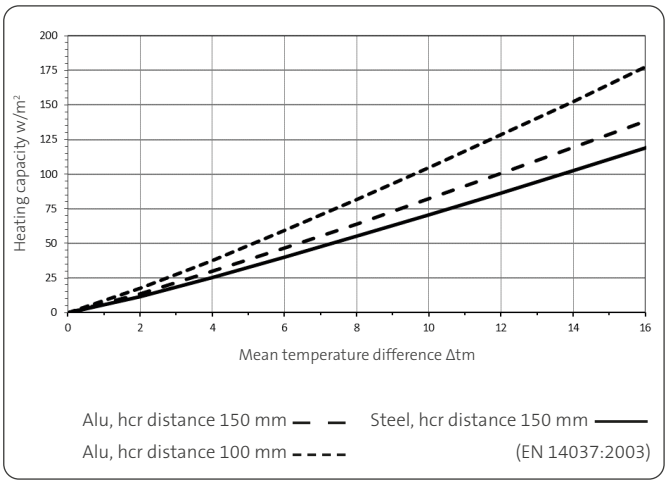


Sail

- Cooling up to 100 w/m² (8 K)



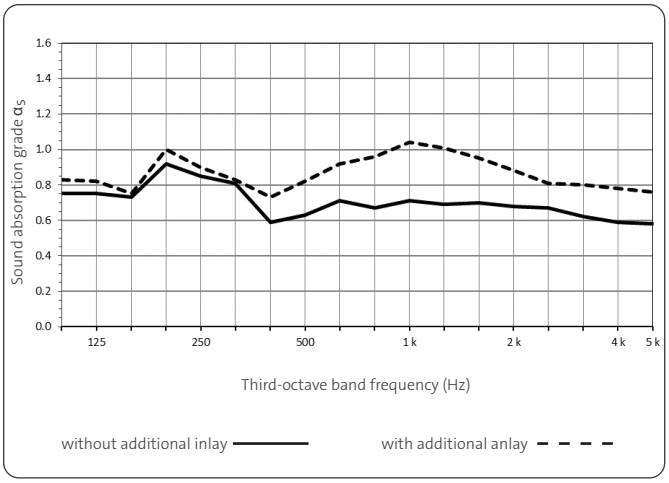
- Heating up to 165 w/m² (15 K)



ACOUSTICS

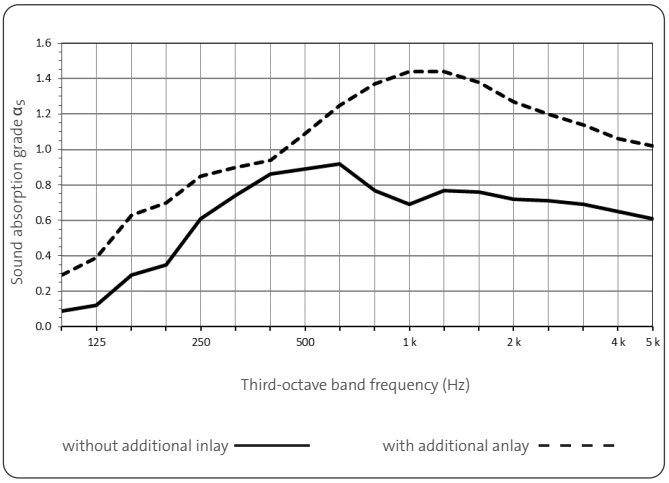
Closed ceiling

Perforation	Rg 1,5 – 11 %	Metalon
Distance hcr	150 mm	150 mm
Sound absorption inlay	fleece	fleece
Additional inlay (mineral wool)	**without** ———	**with** – – – –
Sound absorption α_p	250: 0,85 500: 0,65 1k: 0,70 2k: 0,70 4k: 0,60	250: 0,90 500: 0,80 1k: 1,00 2k: 0,90 4k: 0,80
Sound absorption α_w	α_w: 0,70 (L)	α_w: 0,90(L)
Sound absorption class	C (EN ISO 11654)	A (EN ISO 11654)



Sail

Perforation	Rg 1,5 – 11 %	Rg 1,5 – 11 %
Distance hcr	150 mm	150 mm
Sound absorption inlay	fleece	fleece
Additional inlay (mineral wool)	**without** ———	**with** – – – –
Sound absorption α_p	250: 0,55 500: 0,90 1k: 0,75 2k: 0,75 4k: 0,65	250: 0,80 500: 1,00 1k: 1,00 2k: 1,00 4k: 1,00
Sound absorption α_w	α_w: 0,75	α_w: 1,0
Sound absorption class	C (EN ISO 11654)	A (EN ISO 11654)



SYSTEM / OPERATION

Construction

- Ceiling systems
  - Square and rectangular panels
  - Stepped ceilings and further special solutions
  - Installation height: min. 75 mm
  - Sail suspended height: 75 – 800 mm
- Installation systems
  - Lay-in system
  - Hook-on system
  - Clip-in system
  - C-channel systems
  - Installation sail: with threaded rods or ropes

Water

Recommended:

- Temperature: cooling 16 – 18 °C, heating 28 – 37 °C
- Temperature distance $\Delta t_{|in\text{-}out|}$: 2 – 3 K
- Pressure drop: 20 – 25 kPa
- Water flow: 80 – 150 l/h (for DN12)
- Max. operating pressure: up to 9 bar
- Water quality: SWKI BT 102-01 / BTGA 3.003 / VDI 2035

Surrounding

- Ambient temperatures: +5 – 50 °C
- Humidity: up to 90 % relative humidity

TECHNICAL SPECIFICATIONS

Dimensions (standard)

Panel lenght	Panel width	Panel height
min. 400 mm	min. 200 mm	min. 30 mm
max. 2500 mm	max. 1200 mm	max. 120 mm

– Special dimensions and special shapes on request

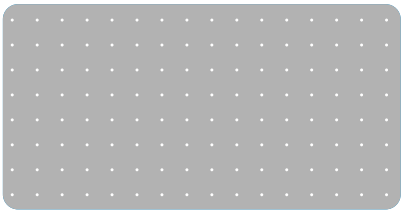
Material and weight

Material	Weight (incl. water)
Aluminium 1,00 mm	3,5 – 6,0 kg/m^2
Steel 0,70 mm	6,26 – 8,58 kg/m^2

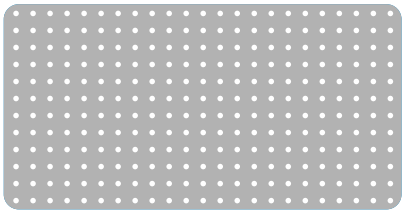
Versions

Perforations	Surface	Colour shade
Standard perforations	Powder coating	Standard RAL 9010 and 9016
Various perforations possible	Digital printing on request	Other RAL / NCS colours on request

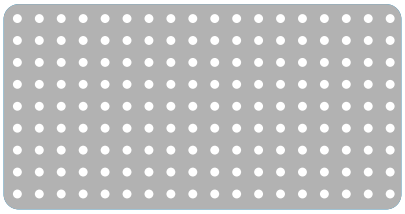
- Standard perforations (examples)



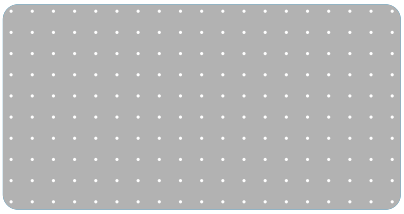
Rg 0,7 – 1,5 %



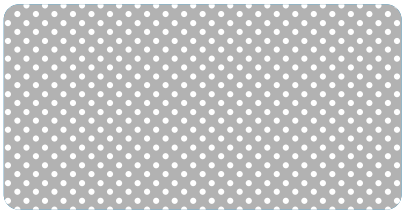
Rg Rd 1,5 – 11 %



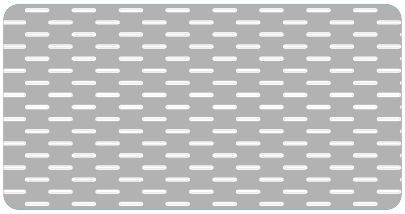
Rg 2,5 – 16 %



Rg 0,8 – 2,5 %



Rd Rv 1,5 – 22 %



Metalon Lv 0,4 x 3,1 – 12 %

FIRE PROTECTION

- Building material class A2-s1, d0, EN 13501-1

Certification

- ISO 9001

BARCOLAIR.COM

Competent, comprehensive, flexible, efficient

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