

# METAL LINE

Radiant baffle



## QUICK FACTS

- Thermal comfort according to EN ISO 7730
- Very high heating & cooling capacity
- Active area ratio: 90 %
- Acoustically effective (class C)
- Quick and easy installation
- Suitable for retrofitting
- Available in various designs (colours, wood appearance, etc.)
- Integration of various components
  - Different lighting designs
  - Sprinklers
  - Smoke detectors
  - Supply / extract air elements

| Output (water)                     |                                     |
|------------------------------------|-------------------------------------|
| Cooling                            | Heating                             |
| Up to 22 w/lm (8 K), EN 14240:2004 | Up to 25 w/lm (15 K), EN 14037:2016 |
| Acoustics                          |                                     |
| $\alpha_w$ : up to 0,75            |                                     |

# Technical description

### General

The METAL LINE radiant baffles are an efficient radiant ceiling system with good sound absorption properties. The vertical arrangement results in a comparatively high proportion of surface area with thermally and acoustically effective metal baffles.

Furthermore, the quick and easy installation means retrofitting in existing buildings is straightforward and does not affect ongoing use. The METAL LINE radiant fins therefore offer an efficient, flexible and aesthetically pleasing solution for a pleasant room climate and an improved room acoustic concept.

In order to satisfy the acoustic requirements, acoustic fleece is bonded inside the radiant fins. An additional insulation insert can be provided in order to increase sound absorption in particularly sensitive areas.

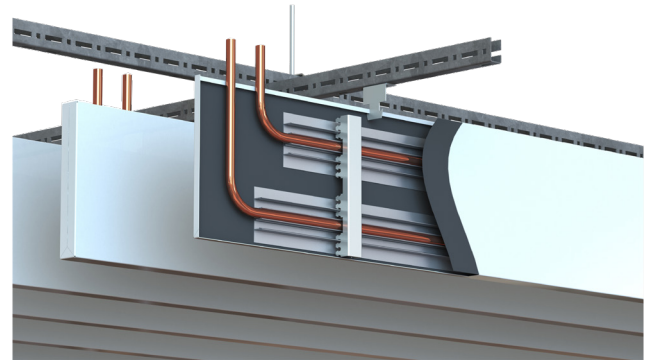
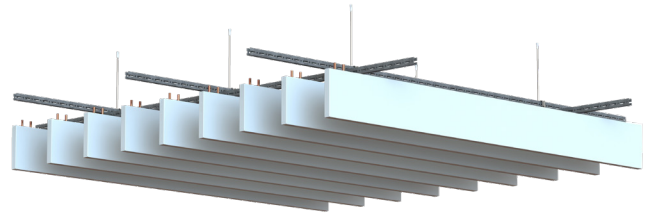
### Activation

Water system: The METAL LINE radiant baffle is a passive system that absorbs room heat through the ceiling surface and transfers it to water in activation registers or, when heating is required, emit heat.

The high capacity fins are activated by means of copper tube coils (outside diameter 12 mm) that are press-fitted into the baffles.

### Functions

The METAL LINE radiant baffle system is multifunctional. In addition to their thermal function – cooling and heating – they can be fitted with additional features, such as acoustic elements, smoke detectors and lighting.



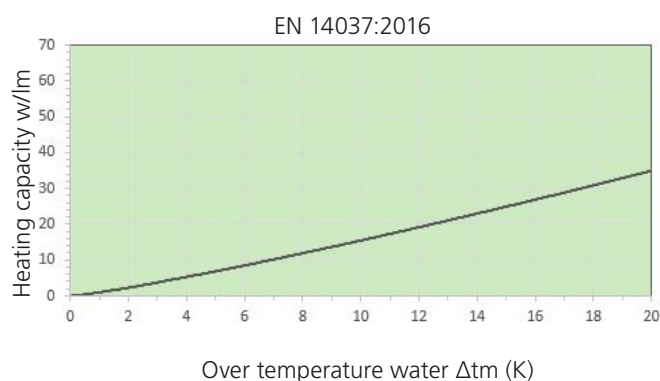
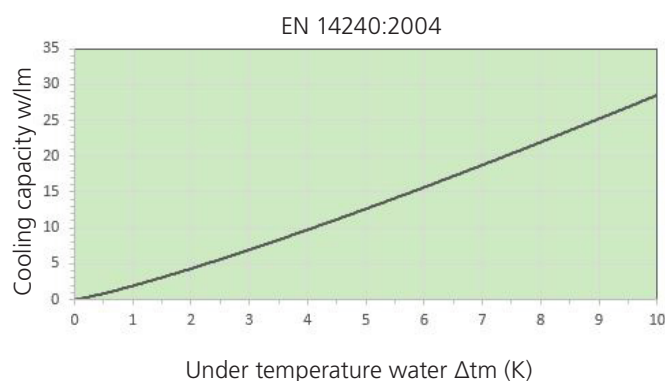
# Technical data

## Capacity

Initial data is presented below.

|                   |           |
|-------------------|-----------|
| Material baffle   | Steel     |
| Baffle height     | 200 mm    |
| Baffle spacing    | 200 mm    |
| Occupancy rate    | 45 %      |
| Activation method | on fleece |

(Capacity information without project-specific performance-influencing factors.)



| Version              | Cooling 8 K   | Cooling 10 K  | Heating 15 K  |
|----------------------|---------------|---------------|---------------|
| Steel: Height 200 mm | up to 22 W/lm | up to 27 W/lm | up to 25 W/lm |

### Notice

- SN EN 14240: The cooling capacity is related to the active area according to SN EN 14240:2004. The active area is calculated according to SN EN 14240 from the number of heat-conducting rails x length of heat conducting rail x distance between heat conducting rails.
- SN EN 14037: The heating capacity is related to the active area according to SN EN 14037:2016. The active area is calculated according to SN EN 14037 from the length of the ceiling panel x the width of the ceiling panel.

## Output adjustment

Output adjustment, property-specific parameters

| Parameters                 | Cooling mode | Heating mode |
|----------------------------|--------------|--------------|
| Warm / cold facade (36 °C) | 8 %          | 5 %          |
| Asymmetric loads           | 3 %          | 3 %          |

Calculation factors for other measurements / other activation procedure

| Parameters                            | Calculation factors |
|---------------------------------------|---------------------|
| Baffle distance 400 instead of 200 mm | + 4 %               |
| Activation on metal instead of fleece | + 4 %               |

## Recommendations for operation

### Water

- Temperature
  - Cooling: 16 – 18 °C
  - Heating: 28 – 37 °C
- Temperature distance  $\Delta t$  (flow - return): 2 – 3 K
- Pressure drop: 20 – 25 kPa
- Water flow rate: 80 – 150 l/h
- Max. operating pressure: 10 bar
- Water quality according to: SWKI BT 102-01, BTGA 3.003, VDI 2035

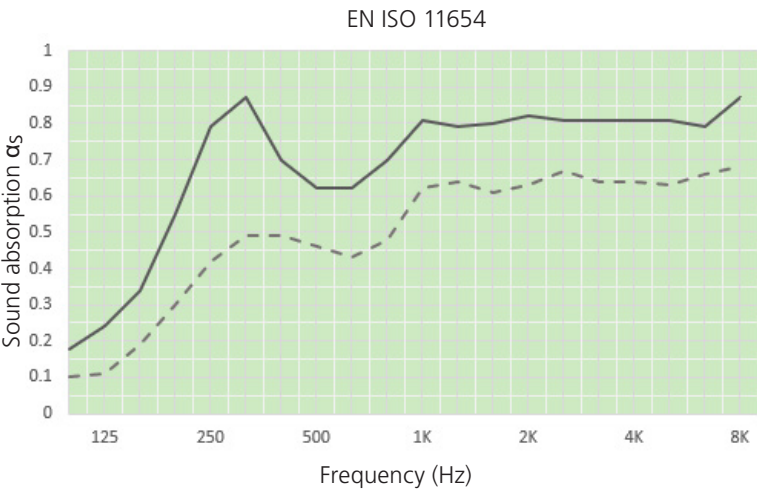
### Environment

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

Acoustics

Baseline data, example:

|                                 |                                                            |                                                            |
|---------------------------------|------------------------------------------------------------|------------------------------------------------------------|
| Perforation                     | Rg. 1,5 – 11 %                                             | Rg. 1,5 – 11 %                                             |
| Baffle distance                 | 100 mm —————                                               | 200 mm - - - - -                                           |
| Occupancy rate                  | 45 %                                                       | 45 %                                                       |
| Sound absorption inlay          | fleece                                                     | fleece                                                     |
| Additional inlay (mineral wool) | with                                                       | with                                                       |
| Sound absorption $\alpha_p$     | 250: 0,79<br>500: 0,62<br>1k: 0,81<br>2k: 0,82<br>4k: 0,81 | 250: 0,42<br>500: 0,46<br>1k: 0,62<br>2k: 0,63<br>4k: 0,64 |
| Sound absorption $\alpha_w$     | $\alpha_w$ : 0,75                                          | $\alpha_w$ : 0,55                                          |



# System

## Ceiling system

- Baffle ceiling
  - Baffle: steel, perforated
  - Substructure: edged steel profile with suspension

## Installation systems

- Installation height:
  - Construction height min. 260 mm
- Hook-in profile with fixed points
- Baffle movable
- Baffle can be pivoted down (optional)

# Materials, weight and dimensions

## Materials and weight

| Material      | Weight (incl. activation, water) |
|---------------|----------------------------------|
| Steel 0,70 mm | 4,0 kg/lm                        |

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

## Dimensions

| Length        | Width      | Height |
|---------------|------------|--------|
| 500 - 2500 mm | 30 / 40 mm | 200 mm |

Special dimensions on request.

## Surface

### Finishes

- Powder coated
- Digital printing on request

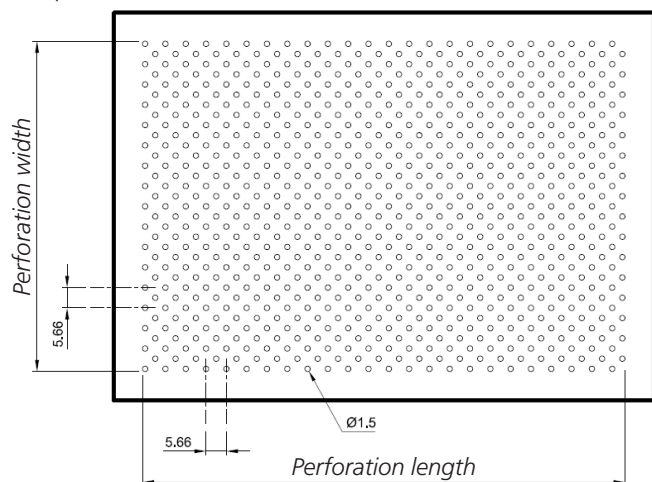
### Colours

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

### Perforations

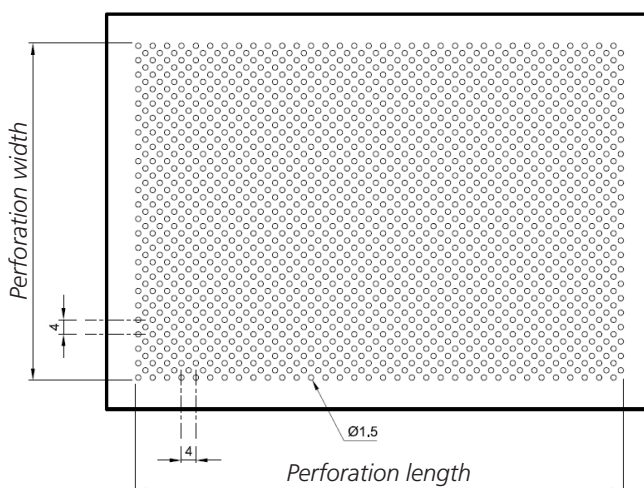
- Rg. 1,5 - 11 %, Rg. 1,5 - 22 %
- Other perforations on request

Rd 1,5 – 11 %



Standard perforations:

Rd 1,5 – 22 %



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