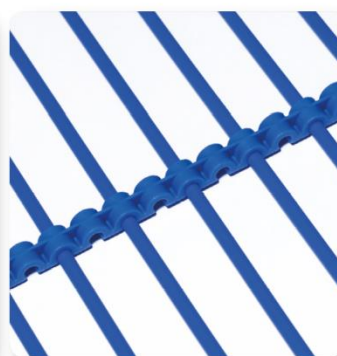
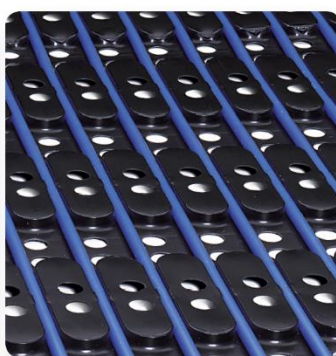
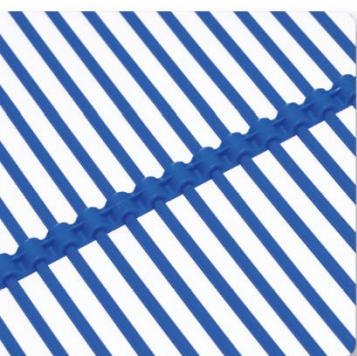




HEATING & COOLING MATS



HEATING &
COOLING MATS

PREFABRICATED
PRODUCTS

TUBES, SUPPLY &
RETURN LINES

CONNECTION
COMPONENTS

FITTINGS

MEASUREMENT &
CONTROL TECHNOLOGY

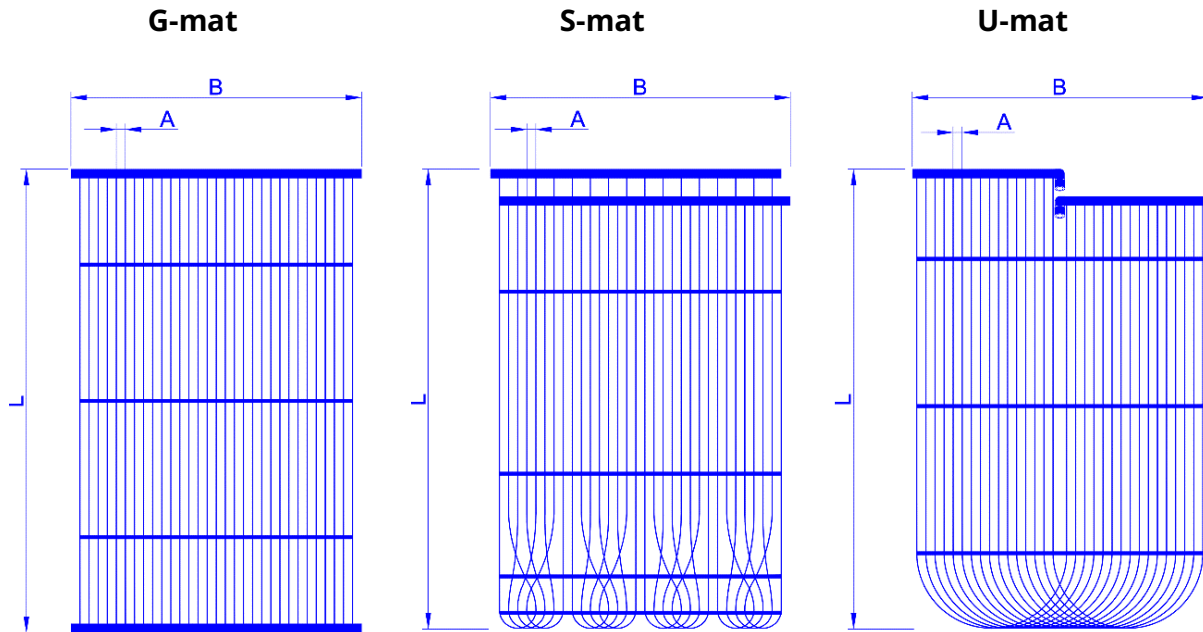
SYSTEM SEPERATION
PLASTIC MANIFOLD

FIXING
MATERIAL

TOOLS &
ASSEMBLY KIT

3 Capillary Tube Mats for Heating and Cooling

3.1 Basic Types of Clina Mats



ORIMAT

**capillary tube 3,4 x 0,55 mm,
round mat distributor pipe 20 x 2,0 mm**

The classical original Clina Capillary Tube Mat

OVAMAT

**capillary tube 3,4 x 0,55 mm,
oval mat distributor pipe 20 x 12 x 2 mm (B x H x s)**

The ideal capillary tube mat for metal panel and dry wall ceilings with a larger exchange surface and a lower installation height for the connections.

OPTIMAT

**capillary tube 4,3 x 0,8 mm,
round mat distributor pipe 20 x 2,0 mm**

The optimized capillary tube mat for heating and cooling, suitable for all applications by which the capillary tube mat is exposed to high mechanical and /or thermal loads.

Application under plaster, screed or concrete and as ground collector.

For special applications, also available with a larger round (25 x 2,3 mm) mat distributor pipe or a larger oval mat distributor pipe (20 x 12 x 2 mm).

FOLIMAT

**capillary tube 4,3 x 0,8 mm,
round mat distributor pipe 20 x 2 mm**

Prefabricated capillary tube element: Capillary tube mat fixed on a perforated insert foil for application on plane surfaces of floors, walls and ceilings.

Connection options:

Push-lock connections

The connection of the Clina mat to the supply lines is made with flexible Clina connecting hoses. The standard angular position of the connections for the **ORIMAT**, **OPTIMAT** and **FOLIMAT** is 60°.

Other angular positions (freely selectable) are also available, but must be **explicitly** specified in the order.

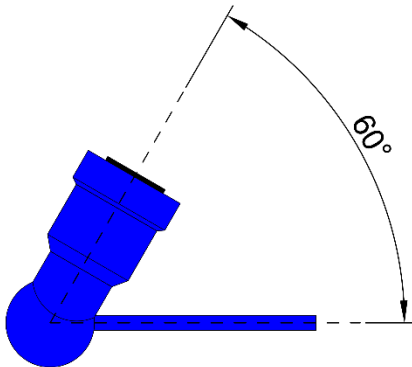


Fig.: side connection

The connections of the **OVAMAT** are available only in angular positions of 0°, 90°, 180° and 270°. The standard angular position of the connections for the **OVAMAT** is 90°.

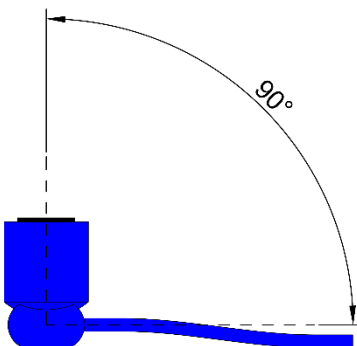


Fig.: oval mat distributor pipe

Open ends for welding connection

The open ends of the mat distributor pipes 20 x 2,0 mm are welded to the neighbouring mat and/or to the supply lines either by a butt weld or with a socket joint weld connection. The welding equipment required for this purpose is listed in chapter 10 "Tools and Assembly Kit" of the Clina catalogue.

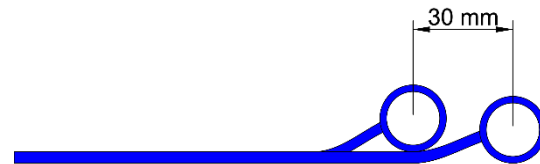
Width of mats

The **standard - width** of the mat type S and G is **1000 mm**. All other sizes can be configured in the factory as the customer wants.

By reason of delivery the maximum width is ≤ 1300 mm.

The available **width** of the mat type "FOLIMAT" is **300 mm or 600 mm**.

Distance of the mat distributor pipes | standard design



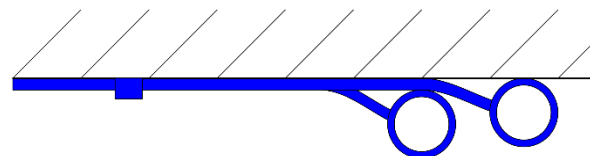
Custom made mats available on request!

Position of the Omega-ribbons concerning S-mats

Depending on the application and type of the Clina mats (only S-mats), the order must contain specifications as to how the Omega-ribbons have to be fixed to the mat.

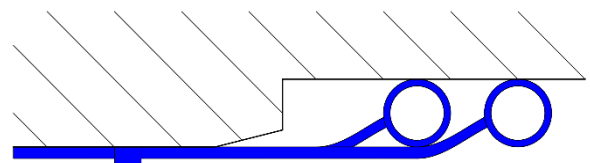
A difference is made between two mounting methods: (Fig. shows capillary tube mat on bare concrete ceiling)

Omega-ribbons - normal mounting | standard design



If you wish to order the special design (rear mounting) instead of the standard design you have to **explicitly specify** this in your order.

Omega-ribbons - rear mounting | special design





PRODUCT GROUP A

Differentiation must be made in the following cases:

| SER. NO. | TYPE OF APPLICATION | POSITION OF MAT DISTRIBUTOR PIPES | POSITION OF OMEGA-RIBBONS | SPECIFICATION IN YOUR ORDER |
|----------|---|---|---------------------------|-----------------------------|
| 1 | metal panel | in suspended ceiling | normal | N |
| 2 | plaster ceiling on bare concrete | in ceiling slot | rear | R |
| 3 | plaster ceiling on bare concrete | in wall slot, stucco edge / dry plate covering or overhead structure of room wall | normal | N |
| 4 | plaster ceiling to gypsum board ceiling | in suspended ceiling | rear | R |
| 5 | gypsum board ceiling (placed on top) | in suspended ceiling | normal | N |
| 6 | plastered wall | in screed / in suspended ceiling | normal | N |
| 7 | plastered wall | in wall slot | rear | R |
| 8 | floor heating | in floor blank space / in the insulation | rear | R |
| 9 | floor heating | in screed / on the insulation | normal | N |

3.1.1 Extra charge for individual design – overview

For the following individual, customer made design the indications "right/left" apply for the view on the mat distributor pipes with the Omega-ribbon closed side up / on top (see fig. page 21!)

Mat distributor pipe extension

The mat distributor pipes, with an open welding end and a mat distributor pipe measuring 20 x 2,0 mm, can be extended at our factory by welding pipe parts to the mat distributor pipes.

DESIGN

with mat distributor pipe extension up to 150 mm

Push-lock connections

On demand the mats can be equipped at our factory with push-lock connections.

DESIGN

with welded-on straight push-lock connection
FGAI 20/10 10 mm

with welded-on side connection 90°
FSAI 20/10 10 mm

with welded-on straight push-lock connection
FGAS 20/15 15 mm (push-lock connection with retaining ring)

with 2 welded-on push-lock connections 10 mm
(FGAI 20/10 or FSAI 20/10) and 2 end caps

with 2 welded-on straight push-lock connections
(FGAS 20/15) 15 mm and 2 end caps

Middle end cap

(cap in the middle of the mat distributor pipe)

For the individual design of the G-mat as GM mat type (see chapter 3.2.1) with the connections on one side an extra charge for the necessary middle end caps has to be calculated.

DESIGN

with welded-on middle end cap e.g., for GM mat type (1x per mat)

Socket, end cap or 90° elbow 20 mm

On demand we can weld at our factory a socket or a 90° elbow to the mat distributor pipe for the connection of further parts or pipe work on site or an end cap for the end fitting of the mat.

DESIGN

with welded-on socket*

with welded-on 90° elbow 20 mm*

with welded-on end cap 20 mm

* for technical reasons a leak test in our factory is not possible

Adhesive tape, adhesive and protecting foil

DESIGN

with double sided adhesive tape for attachment

with double sided adhesive tape "Bullran" for attachment

with adhesive and protecting foil over the whole surface

3.2 ORIMAT

capillary tube 3,4 x 0,55 mm – with round mat distributor pipe

FIELD OF APPLICATION/PRODUCT



Field of application: gypsum board ceiling | jointless drywall ceiling with capillary tube mat applied on site, heating and cooling function

Product: ORIMAT S 10

Reference: V Tower Prague © PSJ Invest Prague

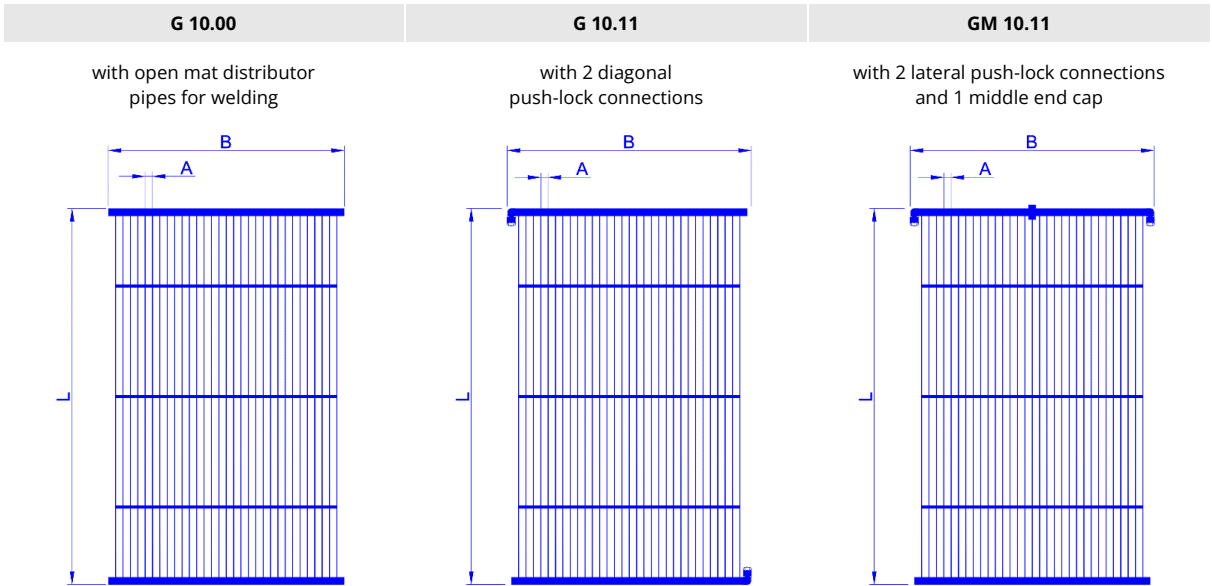






Field of application: acoustic plaster ceiling | BASWA Cool, multilayer system with integrated capillary tube mat, heating and cooling function

Product: ORIMAT G 10

Reference: Rolex Learning Centre Lausanne © Clina Heiz- und Kühlelemente GmbH

3.2.1 HEATING AND COOLING MAT ORIMAT G 10.00 | 10.11 | 10.20 | 10.02 | GM 10.11



| PUSH-LOCK CONNECTIONS | | | | |
|-----------------------|---|---|--|---|
| DESIGNATION | G 10.11 | GM 10.11 | G 10.20 | G 10.02 |
| BESCHREIBUNG | with 2 diagonal push-lock connections | with 2 lateral push-lock connections and 1 middle end cap | with 2 push-lock connections on the left | with 2 push-lock connections on the right |
| PICTOGRAM |  |  |  |  |

| FIELD OF APPLICATION | |
|--|--|
| <ul style="list-style-type: none"> ▪ acoustic plaster ceiling BASWA Cool ▪ drywall ceiling gypsum board panels ▪ metal ceiling metal tiles, metal panels ▪ room or wall element convector GRAVIMAT | |

| TECHNICAL DATA | |
|-----------------------------------|---|
| MATERIAL/COLOUR | Polypropylene (PP-R) recyclable/blue |
| MAT DISTRIBUTOR PIPE | 20 x 2,0 mm, round |
| CAPILLARY TUBE | 3,4 x 0,55 mm |
| DISTANCE A | 10 mm |
| LENGTH L | 600-6000 mm in 10 mm steps |
| WIDTH W | as from 150 mm in 10 mm steps |
| CONNECTION TYPE | without connections/with 2 push-lock connections 10 mm or 15 mm |
| SPECIFIC WEIGHT | approx. 370 g/m ² capillary tube surface |
| SPECIFIC VOLUME OF WATER | 0,370 l/m ² capillary tube surface |
| SPECIFIC TOTAL WEIGHT | approx. 740 g/m ² capillary tube surface |
| PRESSURE STAGE | PN 10 |
| MAX. RECOMMENDED OPERAT. PRESSURE | 4 bar |
| MAX. ALLOWED HEATING TEMPERATURE | 60 °C |



ORIMAT G 10

Various lengths and widths are available for the capillary tube mat ORIMAT G 10 :

Length: 1000 | 1500 | 2000 | 2500 | 3000 | 3500 | 4000 | 4500 | 5000 | 5500 | 6000 mm

Width: 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | 750 | 800 | 850 | 900 | 950 | 1000 mm

*Ordering example for Clina capillary tube mat
type ORIMAT, G 10.00, length 2000 mm, width 500 mm without connections:*

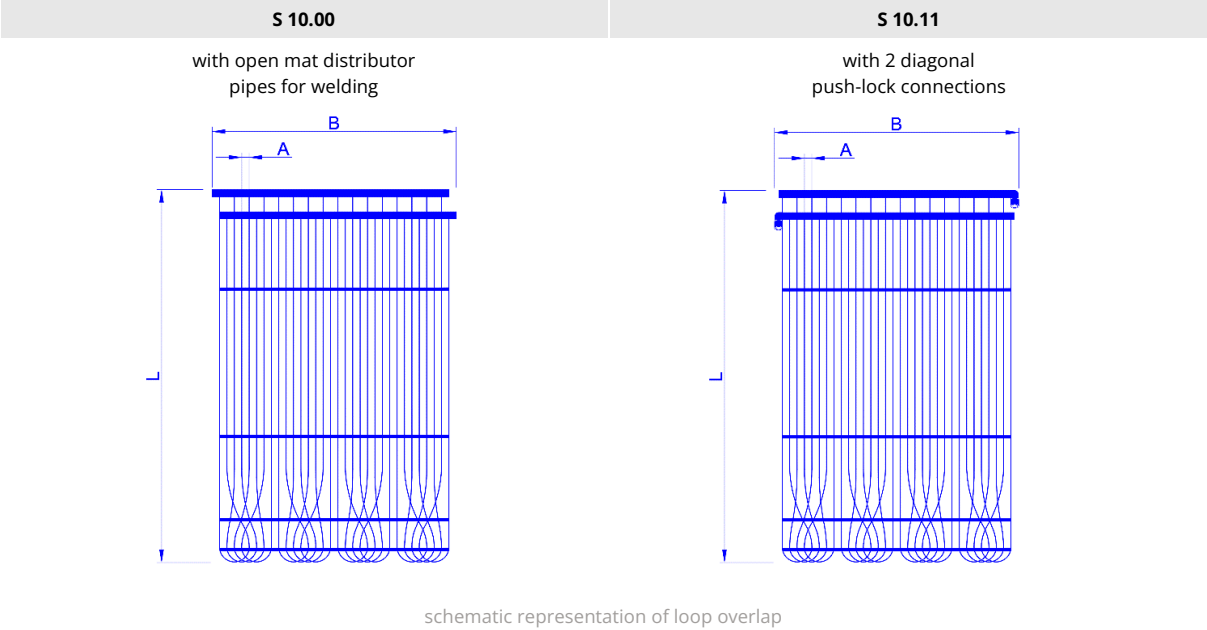
Item No.: type ORIMAT G 10 . 2000 . 0500 . 00


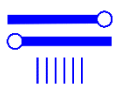
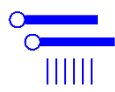
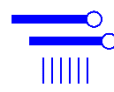
DESIGN

- with 2 push-lock connections 10 mm and 2 end caps
- with push-lock connections (straight) 15 mm and 2 end caps
- with mat distributor pipe extension up to 150 mm
- with welded-on middle end cap for mat type GM 10.11 (1x per mat)
- with welded-on socket*
- with welded-on 90°-elbow* or end cap

* for technical reasons a leak test in our factory is not possible

3.2.2 HEATING AND COOLING MAT ORIMAT S 10.00 | 10.11 | 10.20 | 10.02



| PUSH-LOCK CONNECTIONS | | | | |
|-----------------------|---|---|--|---|
| DESIGNATION | S 10.00 | S 10.11 | S 10.20 | S 10.02 |
| DESCRIPTION | with open mat distributor pipes | with 2 diagonal push-lock connections | with 2 push-lock connections on the left | with 2 push-lock connections on the right |
| PICTOGRAM |  |  |  |  |

| FIELD OF APPLICATION | |
|--|--|
| <ul style="list-style-type: none">▪ drywall ceiling and wall gypsum boards▪ floating ceiling floating drywall ceiling▪ metal ceiling metal tiles, metal panels | |

| TECHNICAL DATA | |
|-----------------------------------|---|
| MATERIAL/COLOUR | Polypropylene (PP-R) recyclable/blue |
| MAT DISTRIBUTOR PIPE | 20 x 2,0 mm, round |
| CAPILLARY TUBE | 3,4 x 0,55 mm |
| DISTANCE A | 10 mm |
| LENGTH L | 600-6000 mm in 10 mm steps |
| WIDTH W | as from 150 mm in 20 mm steps |
| CONNECTION TYPE | without connections/with 2 push-lock connections 10 mm or 15 mm |
| SPECIFIC WEIGHT | approx. 370 g/m² capillary tube surface |
| SPECIFIC VOLUME OF WATER | 0,370 l/m² capillary tube surface |
| SPECIFIC TOTAL WEIGHT | approx. 740 g/m² capillary tube surface |
| PRESSURE STAGE | PN 10 |
| MAX. RECOMMENDED OPERAT. PRESSURE | 4 bar |
| MAX. ALLOWED HEATING TEMPERATURE | 60 °C |



ORIMAT S 10

Various lengths and widths are available for the capillary tube mat ORIMAT S 10 :

Length: 1000 | 1500 | 2000 | 2500 | 3000 | 3500 | 4000 | 4500 | 5000 | 5500 | 6000 mm

Width: 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | 750 | 800 | 850 | 900 | 950 | 1000 mm

*Ordering example for Clina capillary tube mat
type ORIMAT, S 10.00, length 2000 mm, width 500 mm without connections:*

Item No.: type ORIMAT S 10 . 2000 . 0500 . 00

DESIGN

- with 2 push-lock connections 10 mm and 2 end caps
- with push-lock connections (straight) 15 mm and 2 end caps
- with mat distributor pipe extension up to 150 mm
- with welded-on socket*
- with welded-on 90°-elbow* or end cap

* for technical reasons a leak test in our factory is not possible

3.3 OPTIMAT

capillary 4,3 x 0,8 mm – with round mat distributor pipe

FIELD OF APPLICATION/PRODUCT



Field of application: plaster ceiling | plaster on concrete with capillary tube mat plastered-in, heating and cooling function

Product: OPTIMAT SB 20

Reference: © Danubiana Meulensteen Art Museum Bratislava



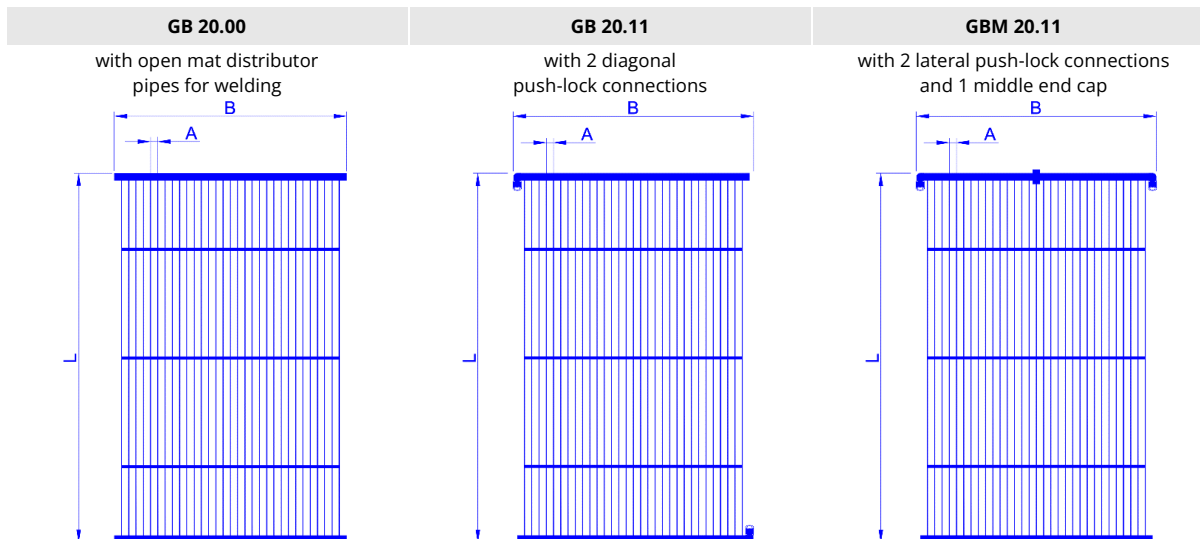
Field of application: plaster ceiling | plaster on bare ceiling with capillary tube mat plastered-in, heating and cooling function;

plaster wall | plaster on gypsum board, brickwork, concrete with capillary tube mat plastered-in, heating and cooling function





Product: OPTIMAT SB 20

Reference: Lecture hall Psychological University Berlin © a-base büro für architektur, Foto: Klaus Romberg

3.3.1 HEATING AND COOLING MAT OPTIMAT GB 20.00 | 20.11 | 20.20 | 20.02 | GBM 20.11



PUSH-LOCK CONNECTIONS

| DESIGNATION | GB 20.11 | GBM 20.11 | GB 20.20 | GB 20.02 |
|-------------|---|---|--|---|
| DESCRIPTION | with 2 diagonal push-lock connections | with 2 lateral push-lock connections and 1 middle end cap | with 2 push-lock connections on the left | with 2 push-lock connections on the right |
| PICTOGRAM |  |  |  |  |

FIELD OF APPLICATION

- concrete ceiling or wall | prefabricated concrete element, in-situ concrete (ceiling)
- plaster ceiling or wall | bare concrete, brick wall, gypsum board
- floor | in screed
- soil | ground collector
- facade | façade absorber

TECHNICAL DATA

| | |
|-----------------------------------|---|
| MATERIAL/COLOUR | Polypropylene (PP-R) recyclable/blue |
| MAT DISTRIBUTOR PIPE | 20 x 2,0 mm, round |
| CAPILLARY TUBE | 4,3 x 0,8 mm |
| DISTANCE A | 20 mm |
| LENGTH L | 600-6000 mm in 10 mm steps |
| WIDTH W | as from 150 mm in 20 mm steps |
| CONNECTION TYPE | without connections/with 2 push-lock connections 10 mm or 15 mm |
| SPECIFIC WEIGHT | approx. 430 g/m ² capillary tube surface |
| SPECIFIC VOLUME OF WATER | 0,320 l/m ² capillary tube surface |
| SPECIFIC TOTAL WEIGHT | approx. 750 g/m ² capillary tube surface |
| PRESSURE STAGE | PN 10 |
| MAX. RECOMMENDED OPERAT. PRESSURE | 4 bar |
| MAX. ALLOWED HEATING TEMPERATURE | 60 °C |



OPTIMAT GB 20

Various lengths and widths are available for the capillary tube mat OPTIMAT GB 20 :

Length: 1000 | 1500 | 2000 | 2500 | 3000 | 3500 | 4000 | 4500 | 5000 | 5500 | 6000 mm

Width: 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | 750 | 800 | 850 | 900 | 950 | 1000 mm

*Ordering example for Clina capillary tube mat
type OPTIMAT, GB 20.00, length 2500 mm, width 1000 mm without connections:*

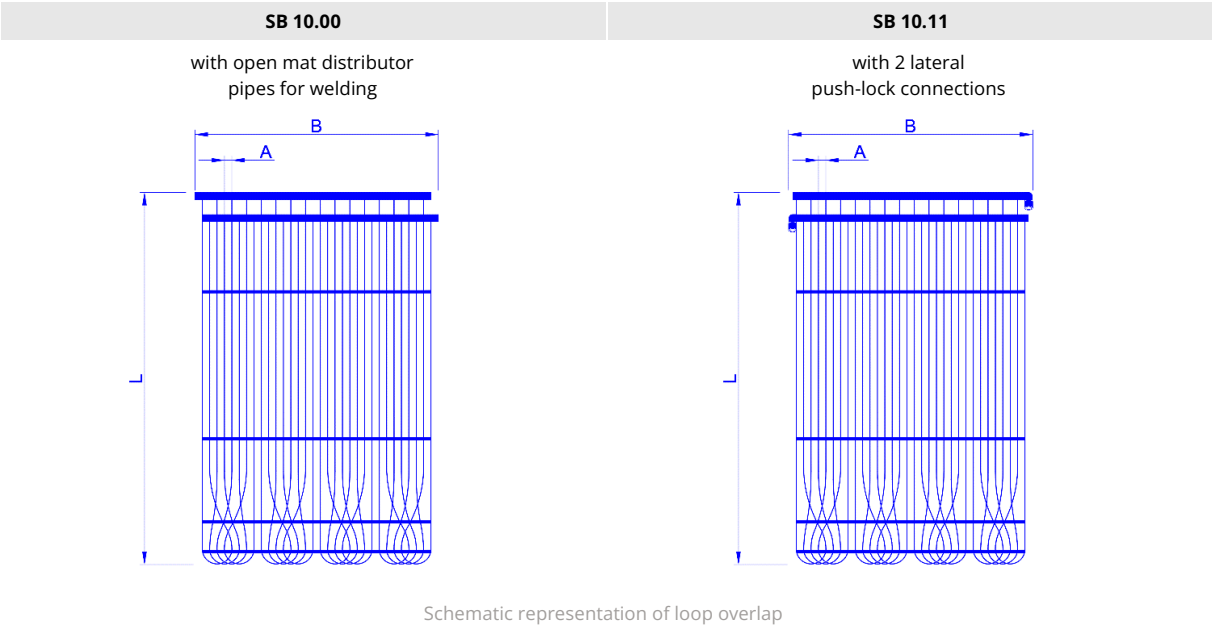
Item No.: type OPTIMAT GB 20 . 2500 . 1000 . 00

DESIGN

- with 2 push-lock connections 10 mm and 2 end caps
- with push-lock connections (straight) 15 mm and 2 end caps
- with mat distributor pipe extension up to 150 mm
- with welded-on middle end cap for mat type GBM 20.11 (1 per mat)
- with welded-on socket*
- with welded-on 90°-elbow* or end cap

* for technical reasons a leak test in our factory is not possible

3.3.2 HEATING AND COOLING MAT OPTIMAT SB 10.00 | 10.11 | 10.20 | 10.02



| PUSH-LOCK CONNECTIONS | | | | |
|-----------------------|---------------------------------|---------------------------------------|--|---|
| DESIGNATION | SB 10.00 | SB 10.11 | SB 10.20 | SB 10.02 |
| DESCRIPTION | with open mat distributor pipes | with 2 diagonal push-lock connections | with 2 push-lock connections on the left | with 2 push-lock connections on the right |
| PICTOGRAM | | | | |

| FIELD OF APPLICATION | |
|---|--|
| <ul style="list-style-type: none">drywall ceiling or wall gypsum board panelsmetal ceiling metal tiles, metal panels | |

| TECHNICAL DATA | |
|-----------------------------------|---|
| MATERIAL/COLOUR | Polypropylene (PP-R) recyclable/blue |
| MAT DISTRIBUTOR PIPE | 20 x 2,0 mm, round |
| CAPILLARY TUBE | 4,3 x 0,8 mm |
| DISTANCE A | 10 mm |
| LENGTH L | 600-6000 mm in 10 mm steps |
| WIDTH W | as from 150 mm in 20 mm steps |
| CONNECTION TYPE | without connections/with 2 push-lock connections 10 mm or 15 mm |
| SPECIFIC WEIGHT | approx. 870 g/m² capillary tube surface |
| SPECIFIC VOLUME OF WATER | 0,570 l/m² capillary tube surface |
| SPECIFIC TOTAL WEIGHT | approx. 1440 g/m² capillary tube surface |
| PRESSURE STAGE | PN 10 |
| MAX. RECOMMENDED OPERAT. PRESSURE | 4 bar |
| MAX. ALLOWED HEATING TEMPERATURE | 60 °C |



OPTIMAT SB 10

Various lengths and widths are available for the capillary tube mat OPTIMAT SB 10 :

Length: 1000 | 1500 | 2000 | 2500 | 3000 | 3500 | 4000 | 4500 | 5000 | 5500 | 6000 mm

Width: 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | 750 | 800 | 850 | 900 | 950 | 1000 mm

*Ordering example for Clina capillary tube mat
type OPTIMAT, SB 10.00, length 2500 mm, width 1000 mm without connections:*

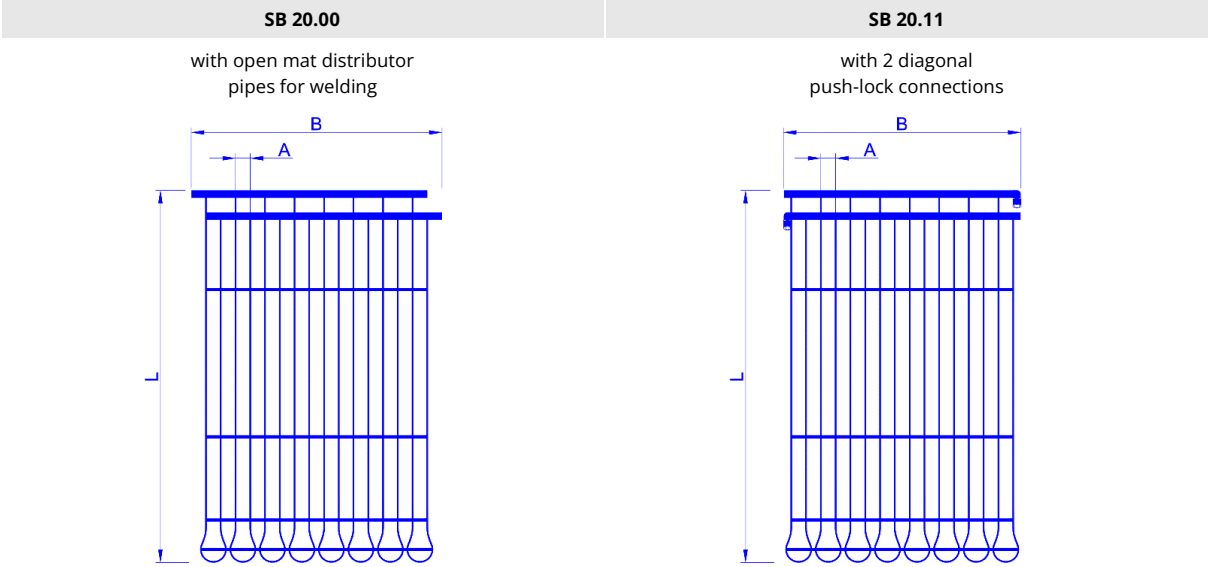
Item No.: type OPTIMAT SB 10 . 2500 . 1000 . 00


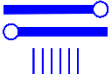


DESIGN

- with 2 push-lock connections 10 mm and 2 end caps
- with push-lock connections (straight) 15 mm and 2 end caps
- with mat distributor pipe extension up to 150 mm
- with welded-on socket*
- with welded-on 90°-elbow* or end cap

* for technical reasons a leak test in our factory is not possible

3.3.3 HEATING AND COOLING MAT OPTIMAT SB 20.00 | 20.11 | 20.20 | 20.02



| PUSH-LOCK CONNECTIONS | | | | |
|-----------------------|---|---|--|---|
| DESIGNATION | SB 20.00 | SB 20.11 | SB 20.20 | SB 20.02 |
| DESCRIPTION | with open mat distributor pipes | with 2 diagonal push-lock connections | with 2 push-lock connections on the left | with 2 push-lock connections on the right |
| PICTOGRAM |  |  |  |  |

| FIELD OF APPLICATION | |
|---|--|
| <ul style="list-style-type: none"> concrete ceiling or wall prefabricated concrete element, in-situ concrete (ceiling) plaster ceiling or wall bare concrete, brick wall, gypsum board floor in screed | |

| TECHNICAL DATA | |
|-----------------------------------|---|
| MATERIAL/COLOUR | Polypropylene (PP-R) recyclable/blue |
| MAT DISTRIBUTOR PIPE | 20 x 2,0 mm, round |
| CAPILLARY TUBE | 4,3 x 0,8 mm |
| DISTANCE A | 20 mm |
| LENGTH L | 600-6000 mm in 10 mm steps |
| WIDTH W | as from 150 mm in 40 mm steps |
| CONNECTION TYPE | without connections/with 2 push-lock connections 10 mm or 15 mm |
| SPECIFIC WEIGHT | approx. 430 g/m ² capillary tube surface |
| SPECIFIC VOLUME OF WATER | 0,320 l/m ² capillary tube surface |
| SPECIFIC TOTAL WEIGHT | approx. 750 g/m ² capillary tube surface |
| PRESSURE STAGE | PN 10 |
| MAX. RECOMMENDED OPERAT. PRESSURE | 4 bar |
| MAX. ALLOWED HEATING TEMPERATURE | 60 °C |



OPTIMAT SB 20

Various lengths and widths are available for the capillary tube mat OPTIMAT SB 20 :

Length: 1000 | 1500 | 2000 | 2500 | 3000 | 3500 | 4000 | 4500 | 5000 | 5500 | 6000 mm

Width: 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | 750 | 800 | 850 | 900 | 950 | 1000 mm

*Ordering example for Clina capillary tube mat
type OPTIMAT, SB 20.00, length 2500 mm, width 1000 mm without connections:*

Item No.: type OPTIMAT SB 20 . 2500 . 1000 . 00

DESIGN

- with 2 push-lock connections 10 mm and 2 end caps
- with push-lock connections (straight) 15 mm and 2 end caps
- with mat distributor pipe extension up to 150 mm
- with welded-on socket*
- with welded-on 90°-elbow* or end cap
- with double-sided adhesive tape type "Bullran" for attachment

* for technical reasons a leak test in our factory is not possible

3.4 OVAMAT

capillary 3,4 x 0,55 mm – with oval mat distributor pipe

FIELD OF APPLICATION/PRODUCT



Field of application: metal ceiling | metal panel with integrated capillary tube mat OVAMAT, heating and cooling function

Product: OVAMAT U 10

Reference: New office building in the Cloche d'Or development district in Luxembourg © Clina Heiz- und Kühlelemente GmbH

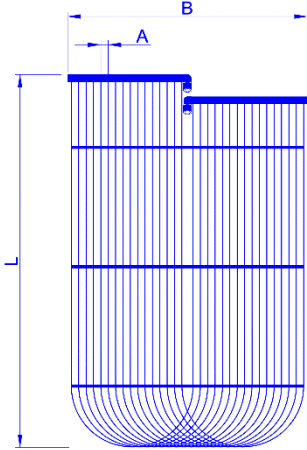
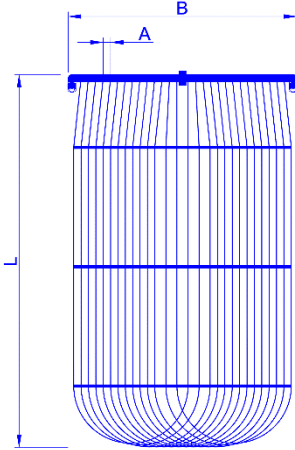
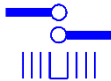
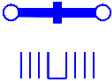


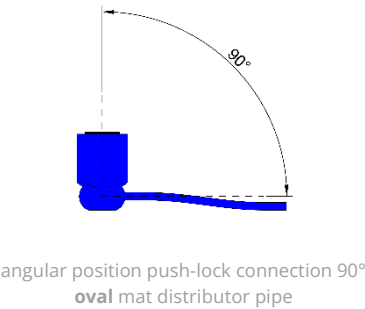
Field of application: floating ceiling | metal floating ceiling with capillary tube mat fixed on the inside of the metal canopy, heating and cooling function

Product: OVAMAT G 10

Reference: renovation Gustav-Heinemann-Ring Munich © S & L Kühldecken und Heizsysteme GmbH & Co. KG

3.4.1 HEATING AND COOLING MAT OVAMAT U 10.11 | UM 10.11

| | U 10.11 | UM 10.11 |
|----------------------------------|---|---|
| | with 2 push-lock connections in the middle | with 2 lateral push-lock connections and 1 middle end cap |
| |  |  |
| PUSH-LOCK CONNECTIONS | | |
| DESIGNATION | U 10.11 | UM 10.11 |
| DESCRIPTION | with 2 push-lock connections in the middle | with 2 lateral push-lock connections and 1 middle end cap |
| ANGULAR POSITION PUSH-LOCK CONN. | 90° (standard) 90° 270° possible | 90° (standard) 90° 270° possible |
| PICTOGRAM |  |  |



| | |
|--|--|
| FIELD OF APPLICATION | |
| <ul style="list-style-type: none"> floating ceiling floating drywall ceiling metal ceiling metal tiles, metal panels | |
| TECHNICAL DATA | |
| MATERIAL/COLOUR | Polypropylene (PP-R) recyclable/blue |
| MAT DISTRIBUTOR PIPE | 20 x 12 x 2,0 mm, oval |
| CAPILLARY TUBE | 3,4 x 0,55 mm |
| DISTANCE A | 10 mm |
| LENGTH L | 600-6000 mm in 10 mm steps |
| WIDTH W | as from 150 mm in 20 mm steps |
| CONNECTION TYPE | with 2 push-lock connections in the middle/ with 2 lateral push-lock connections 10 mm or 15 mm |
| SPECIFIC WEIGHT | approx. 430 g/m ² capillary tube surface |
| SPECIFIC VOLUME OF WATER | 0,430 l/m ² capillary tube surface |
| SPECIFIC TOTAL WEIGHT | approx. 860 g/m ² capillary tube surface |
| PRESSURE STAGE | PN 10 |
| MAX. RECOMMENDED OPERAT. PRESSURE | 4 bar |
| MAX. ALLOWED HEATING TEMPERATURE | 60 °C |

OVAMAT U 10.11 | UM 10.11

Various lengths and widths are available for the capillary tube mat OVAMAT U 10.11 and UM 10.11 :

Length: 600 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 mm

Width: 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | 750 | 800 | 850 | 900 | 950 | 1000 | 1050 | 1100 | 1150 | 1200 mm

*Ordering example for Clina capillary tube mat
type OVAMAT, U 10.11, length 2000 mm, width 500 mm with push-lock connections:*

Item No.: type OVAMAT U 10 . 2000 . 0500 . 11

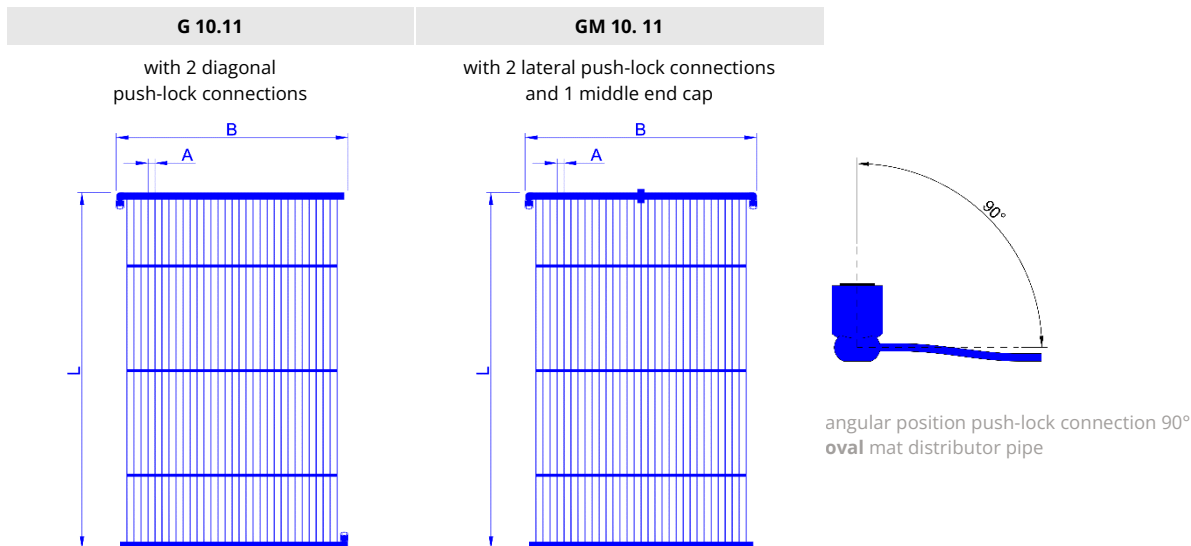
DESIGN

with double-sided adhesive tape for attachment





with adhesive and protecting foil over the whole surface

In case you need a connection with a different angular position than (90° or 270°) we offer the mat type "ORIMAT" with a **round** mat distributor pipe 20 x 2,0 mm.

3.4.2 HEATING AND COOLING MAT OVAMAT G 10.11 | G 10.20 | G 10.02 | GM 10.11



PUSH-LOCK CONNECTIONS

| DESIGNATION | G 10.11 | GM 10.11 | G 10.20 | G 10.02 |
|----------------------------------|---|---|--|---|
| DESCRIPTION | with 2 diagonal push-lock connections | with 2 lateral push-lock connections and 1 middle end cap | with 2 push-lock connections on the left | with 2 push-lock connections on the right |
| ANGULAR POSITION PUSH-LOCK CONN. | 90° (standard) 0° 90° 180° 270° | 90° (standard) 0° 90° 180° 270° | 90° (standard) 0° 90° 180° 270° | 90° (standard) 0° 90° 180° 270° |
| PICTOGRAM |  |  |  |  |

FIELD OF APPLICATION

- floating ceiling | metal floating ceiling
- drywall ceiling | gypsum board panels
- metal ceiling | metal tiles, metal panels
- room or wall element | convector GRAVIMAT

TECHNICAL DATA

| | |
|-----------------------------------|--|
| MATERIAL/COLOUR | Polypropylene (PP-R) recyclable/blue |
| MAT DISTRIBUTOR PIPE | 20 x 12 x 2,0 mm, oval |
| CAPILLARY TUBE | 3,4 x 0,55 mm |
| DISTANCE A | 10 mm |
| LENGTH L | 600-6000 mm in 10 mm steps |
| WIDTH W | as from 150 mm in 10 mm steps |
| CONNECTION TYPE | with 2 diagonal push-lock connections / with 2 push-lock connections 10 mm |
| SPECIFIC WEIGHT | approx. 370 g/m ² capillary tube surface |
| SPECIFIC VOLUME OF WATER | 0,370 l/m ² capillary tube surface |
| SPECIFIC TOTAL WEIGHT | approx. 740 g/m ² capillary tube surface |
| PRESSURE STAGE | PN 10 |
| MAX. RECOMMENDED OPERAT. PRESSURE | 4 bar |
| MAX. ALLOWED HEATING TEMPERATURE | 60 °C |

OVAMAT G 10.11 | G 10.20 | G 10.02

Various lengths and widths are available for the capillary tube mat OVAMAT G 10.11 | G 10.20 | G 10.02 :

Length: 600 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | 2750 | 3000 mm

Width: 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | 750 | 800 | 850 | 900 | 950 | 1000 | 1050 | 1100 | 1150 | 1200 mm

*Ordering example for Clima capillary tube mat
type OVAMAT, G 10.11, length 2000 mm, width 500 mm with 2 push-lock connections:*

Item No.: type OVAMAT G 10 . 2000 . 0500 . 11

DESIGN

with welded-on middle end cap for mat type GM 10.11 (1x per mat)

with double sided-adhesive tape for attachment

with adhesive and protecting foil over the whole surface

In case you need a connection with a different angular position than (0°, 90°, 180° or 270°) we offer the mat type ORIMAT with a **round** mat distributor pipe 20 x 2,0 mm.

3.5 FOLIMAT

capillary 4,3 x 0,8 mm – with round mat distributor pipe

FIELD OF APPLICATION/PRODUCT



Field of application: floor | floor heating with capillary tube mat FOLIMAT placed onto screed, heating function

Product: OPTIMAT FSB 20

Reference: Refurbishment former Kaiserin-Augusta-Hospital Berlin © Felix Aries / Photography Hans Fonk

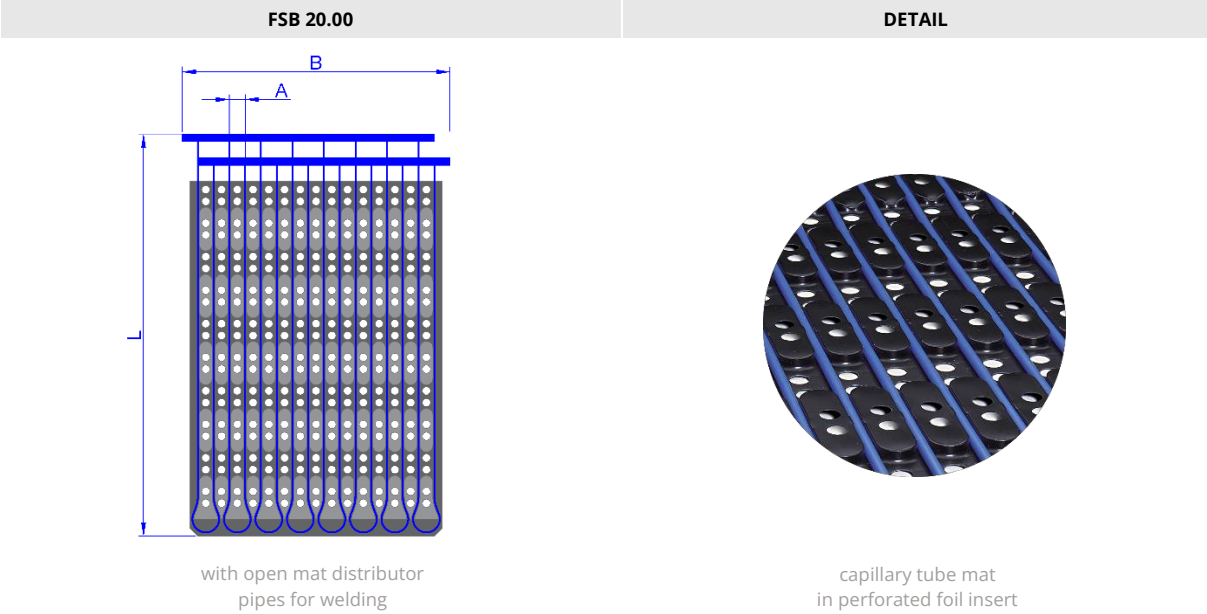


Field of application: floor | floor heating with capillary tube mat FOLIMAT placed onto wooden or drywall subfloor, heating function

Product: FOLIMAT FSB 20

Reference: Refurbishment former Kaiserin-Augusta-Hospital Berlin © Karl Storz Se & Co. KG

3.5.1 HEATING AND COOLING MAT FOLIMAT FSB 20.00 | 20.11 | 20.20 | 20.02



| PUSH-LOCK CONNECTIONS | | | | |
|-----------------------|---------------------------------|---------------------------------------|--|---|
| DESIGNATION | FSB 20.00 | FSB 20.11 | FSB 20.20 | FSB 20.02 |
| DESCRIPTION | with open mat distributor pipes | with 2 diagonal push-lock connections | with 2 push-lock connections on the left | with 2 push-lock connections on the right |
| PICTOGRAM | | | | |

| FIELD OF APPLICATION | |
|---|--|
| <ul style="list-style-type: none"> floor onto cement screed or floating screed floor onto subfloors made of wood or dry construction elements ceiling and wall for gluing and afterwards filling on stable subsurfaces | |

| TECHNICAL DATA | |
|-----------------------------------|--|
| MATERIAL/COLOUR | mat distributor pipe and capillary tube mat: Polypropylene (PP-R) recyclable/blue; insert foil: Polystyrene/black |
| MAT DISTRIBUTOR PIPE | 20 x 2,0 mm, round |
| CAPILLARY TUBESB 20 | 4,3 x 0,8 mm |
| DISTANCE A | 20 mm |
| LENGTH L | 600-6000 mm in 10 mm steps |
| WIDTH W | 300/600 mm |
| CONNECTION TYPE | without connections/with 2 push-lock connections 10 mm or 15 mm |
| SPECIFIC WEIGHT | approx. 700 g/m ² capillary tube surface |
| SPECIFIC VOLUME OF WATER | 0,320 l/m ² capillary tube surface |
| SPECIFIC TOTAL WEIGHT | approx. 1020 g/m ² capillary tube surface |
| PRESSURE STAGE | PN 10 |
| MAX. RECOMMENDED OPERAT. PRESSURE | 4 bar |
| MAX. ALLOWED HEATING TEMPERATURE | 60 °C |



FOLIMAT FSB 20

Various lengths and widths are available for the capillary tube mat FOLIMAT FSB 20 :

Length: 1000 | 1500 | 2000 | 2500 | 3000 | 3500 | 4000 | 4500 | 5000 | 5500 | 6000 mm

Width: 300 | 600

*Ordering example for Clina capillary tube mat
type FOLIMAT, FSB 20.00, length 2500 mm, width 600 mm without push-lock connections:*

Item No.: type FOLIMAT FSB 20 . 2500 . 0600 . 00

DESIGN

- with 2 push-lock connections 10 mm and 2 end caps
- with 2 push-lock connections 15 mm (straight) and 2 end caps
- with mat distributor pipe extension up to 150 mm
- with welded-on socket*
- with welded-on 90°-elbow* or end cap

* for technical reasons a leak test in our factory is not possible

Before ordering FOLIMAT please contact Clina for the position of the mat distributor pipes!

