

# CLINKER ROOF TILES



## ABOUT US

We, the ABC Clinker Group, are a family-owned business in the brick and tile industry in Germany and can look back on around 130 years of experience. Today, our ABC Clinker Group is in the fifth generation and manufactures various brick products at six locations in Germany. Our product portfolio includes facing bricks, brick slips, ceramic facades, clay pavers, clinker roof tiles and floor ceramics.

## SUSTAINABILITY

We produce sustainable natural building materials as environmentally friendly as possible. For this reason, we focus on low energy consumption in production with gentle, efficient use of resources and low material consumption.

The natural slate clay of the Tecklenburger Land forms the basic material of our ABC products - a valuable, genuine natural product!

## VISIT OUR SHOWROOM „RINGOFEN“ IN HÖRSTEL

In our showroom, the Ringofen, Dornierstr. 11 in Hörstel, we offer you numerous suggestions and various possibilities for your house construction. For an individual consultation we are available Monday to Friday from 08.30 am to 05.30 pm and Saturday from 09.00 am to 01.00 pm. For an appointment, you can reach us by phone at +49 (0) 54 59 / 93 43 11 or by e-mail at [ausstellung@abc-clinker.de](mailto:ausstellung@abc-clinker.de).





### Features of our products



Frost-resistant



Weatherproof



Environmentally friendly



Fire behavior: euroclass A1



Water absorption  $\leq 3\%$



Standardized



Colourfast



Graffiti removable





# Flat roof tile Modena 11

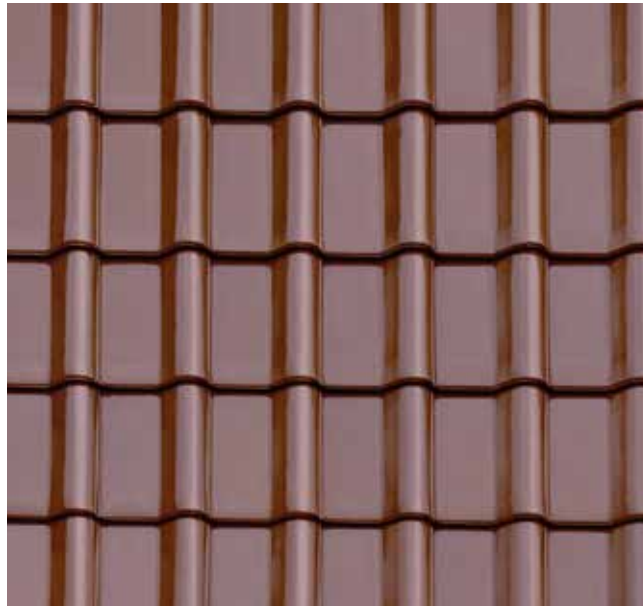
---



Copper-brown (Engobe)



Nut-brown (Engobe)



Amarena (Noble engobe)



Palisander-brown (Glaze)



Modena 11 Palisander-brown | Photo: Ependiller+Gnegel Designer



# Flat roof tile Modena 11

---



Basalt-grey (Noble engobe)



Slate-black (Engobe)



Graphite-metallic (Noble engobe)



Diamant-black (Noble engobe)



Brilliant-black (Glaze)

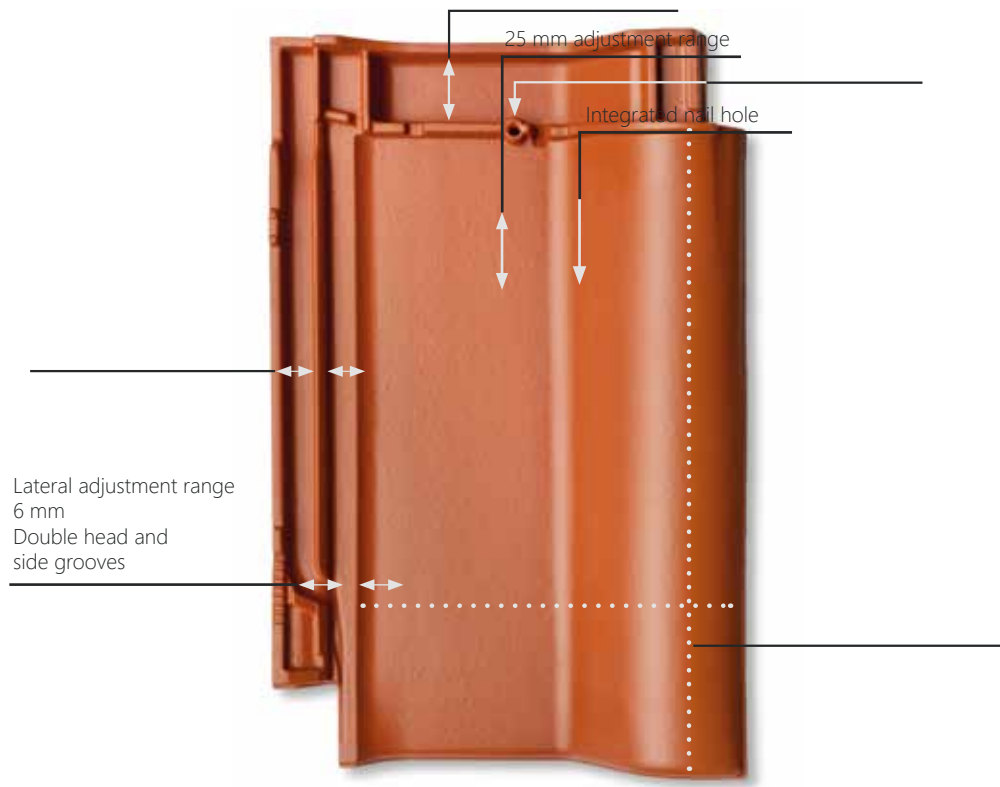
Variations in colour, play of colours and proportions may be possible due to production/printing reasons.



Modena 11 Slate-black | Photo: Ependiller+Gnegel Designer



# Flat roof tile Modena 11



only 10,5 roof tiles per m<sup>2</sup>



# Advantages

## Finest hard clinker quality

- slate clay - the best raw material

## Adjustable gauge

- adjustable roof tile with batten spacing tolerance of 25 mm

## Storm-proof

- every roof tile can have storm-proof fastening – easy, secure and cost-effective

## Very economical

- with an average of only 11.5 roof tiles per m<sup>2</sup>

## Harmonious roof appearance

- balanced roof appearance without disturbing joint lines

## Fast and watertight

- easy, single-handed roofing installation
- waterproof 4-tile corner
- double head and side grooves
- rainfall resistance very good
- reinforced webs on the back side (walkable, even with low roof pitch)

## Environmentally friendly

- no subsequent siliconisation

## Low algae growth

- algae and moss like it damp - ABC clinker roof tiles with low water absorption of less than 3%

## Low roof slope

- at roof slopes of 14° Modena 11 can be laid with a rainproof subroof

# Technical Data

|  |                        |
|--|------------------------|
| Gauge                                  | 34 - 36,5 cm           |
| Recommended gauge                      | 35,5 cm                |
| Coverage width                         | 23,2 - 23,8 cm         |
| Recommended coverage width             | 23,5 cm                |
| System dimensions verge tile left      | 14,5 cm                |
| System dimensions verge tile right     | 17,5 cm                |
| Requirement per m <sup>2</sup>         | 11,4 - 12,3 units      |
| Average requirement per m <sup>2</sup> | approx. 11,5 units     |
| Weight per unit                        | 3,5 kg                 |
| Average standard weight                | 40,5 kg/m <sup>2</sup> |
| Standard pitch                         | 18°                    |
| Water absorption                       | ≤ 3%                   |

The tile dimensions must be checked in accordance with DIN 1304 and the roofing rules of the German Roofing Trade Association before roofing.

# Großhohlfalzziegel TG10

---



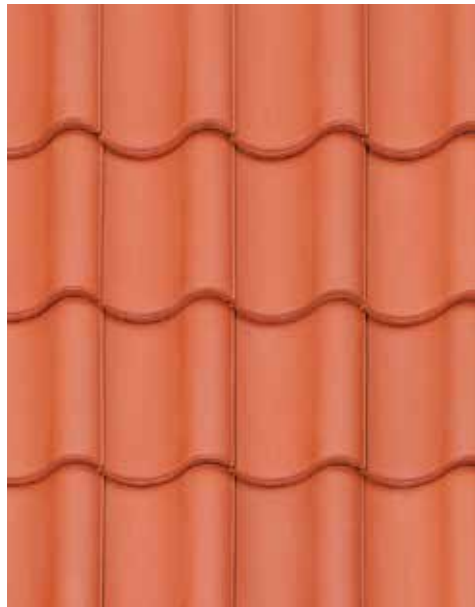
Nature-red



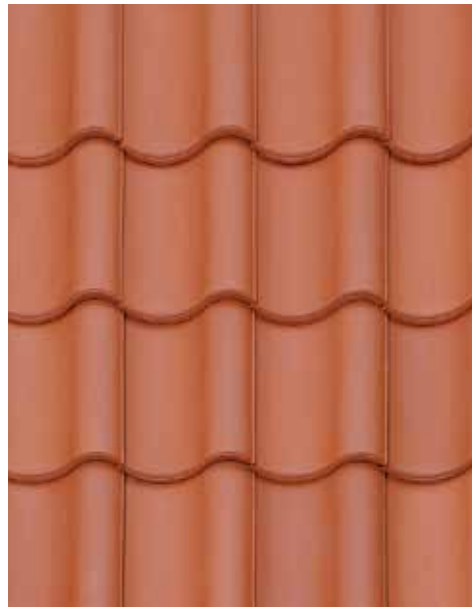
Copper-brown (Engobe)



Amarena (Noble engobe)



Nut-brown (Engobe)



Slate-black (Engobe)



Diamant-black (Noble engobe)



Variations in colour, play of colours and proportions may be possible due to production/printing reasons.





TG10 Slate-black

# Großhohlfalzziegel TG10





# Advantages

## Finest hard clinker quality

- slate clay - the best raw material

## Storm-proof

- every roof tile can have storm-proof fastening – easy, secure and cost-effective

## Very economical

- with an average of only 10.5 roof tiles per m<sup>2</sup>

## Harmonious roof appearance

- balanced roof appearance without disturbing joint lines

## Fast and light

- easy, single-handed roofing installation
- uniquely low weight 3.8 kg/p. i. m.
- waterproof 4-tile corner
- double head and side grooves
- rainfall resistance very good
- reinforced webs on the back side (walkable, even with low roof pitch)

## Environmentally friendly

- no subsequent siliconisation

## Low algae growth

- algae and moss like it damp - ABC clinker roof tiles with low water absorption of less than 3%

# Technical Data

|                            |              |
|----------------------------|--------------|
| Gauge                      | 37,5 - 39 cm |
| Recommended gauge          | 38 cm        |
| Coverage width             | 25 - 25,4 cm |
| Recommended coverage width | 25,2 cm      |

|  |                    |
|--|--------------------|
| System dimensions verge tile left      | 16 cm              |
| System dimensions verge tile right     | 18 cm              |
| Requirement per m <sup>2</sup>         | 10,2 - 11 units    |
| Average requirement per m <sup>2</sup> | approx. 10,5 units |

|                         |                        |
|-------------------------|------------------------|
| Weight per unit         | 3,8 kg                 |
| Average standard weight | 39,9 kg/m <sup>2</sup> |
| Standard pitch          | 22°                    |
| Water absorption        | ≤ 3%                   |

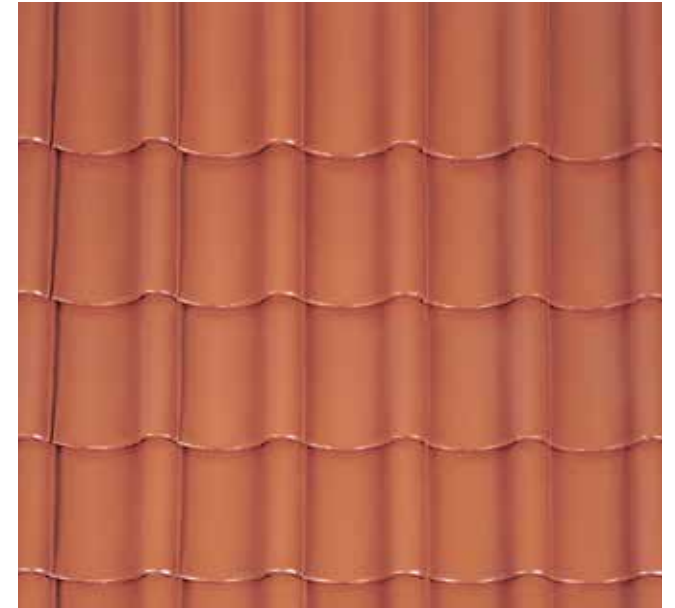
The tile dimensions must be checked in accordance with DIN 1304 and the roofing rules of the German Roofing Trade Association before roofing.

# Hohlfalzziegel

---



Nature-red



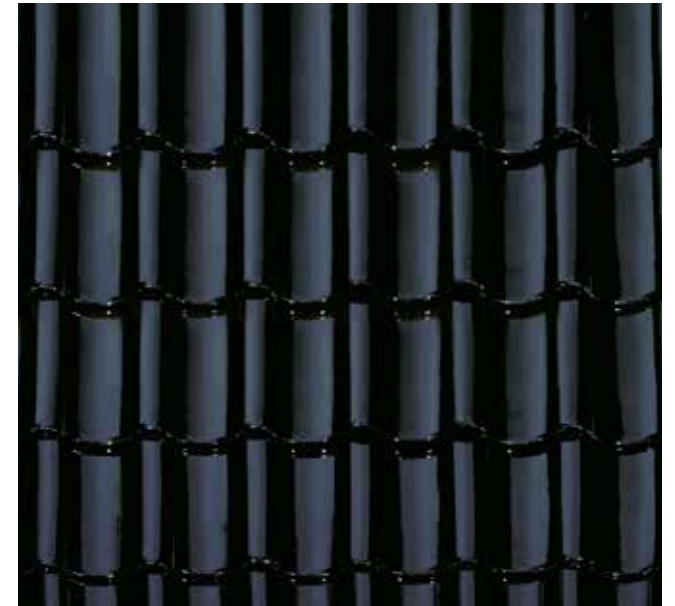
Copper-brown (Engobe)



Slate-black (Engobe)



Diamant-black (Noble engobe)



Brilliant-black (Glaze)

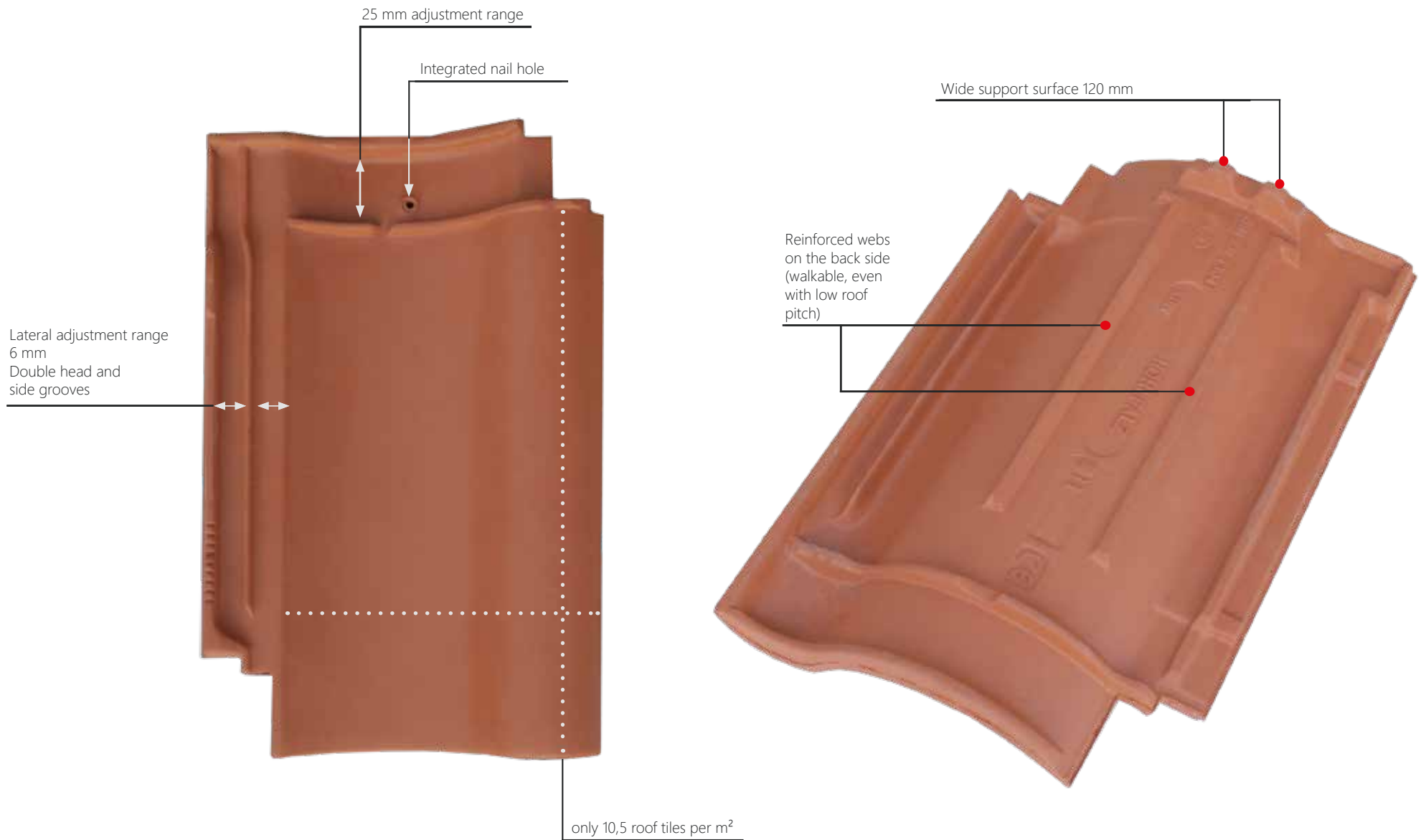
Variations in colour, play of colours and proportions may be possible due to production/printing reasons.





Hohlfalz Nature-red

# Hohlfalzziegel





# Advantages

## Finest hard clinker quality

- slate clay - the best raw material

## Adjustable gauge

- adjustable roof tile with batten spacing tolerance of 25 mm

## Storm-proof

- every roof tile can have storm-proof fastening – easy, secure and cost-effective

## Very economical

- with an average of only 11.5 roof tiles per m<sup>2</sup>

## Harmonious roof appearance

- balanced roof appearance without disturbing joint lines

## Fast and watertight

- easy, single-handed roofing installation
- waterproof 4-tile corner
- double head and side grooves
- rainfall resistance very good
- reinforced webs on the back side (walkable, even with low roof pitch)

## Environmentally friendly

- no subsequent siliconisation

## Low algae growth

- algae and moss like it damp - ABC clinker roof tiles with low water absorption of less than 3%

## Low roof slope

- at roof slopes of 14° Modena 11 can be laid with a rainproof subroof

# Technical Data

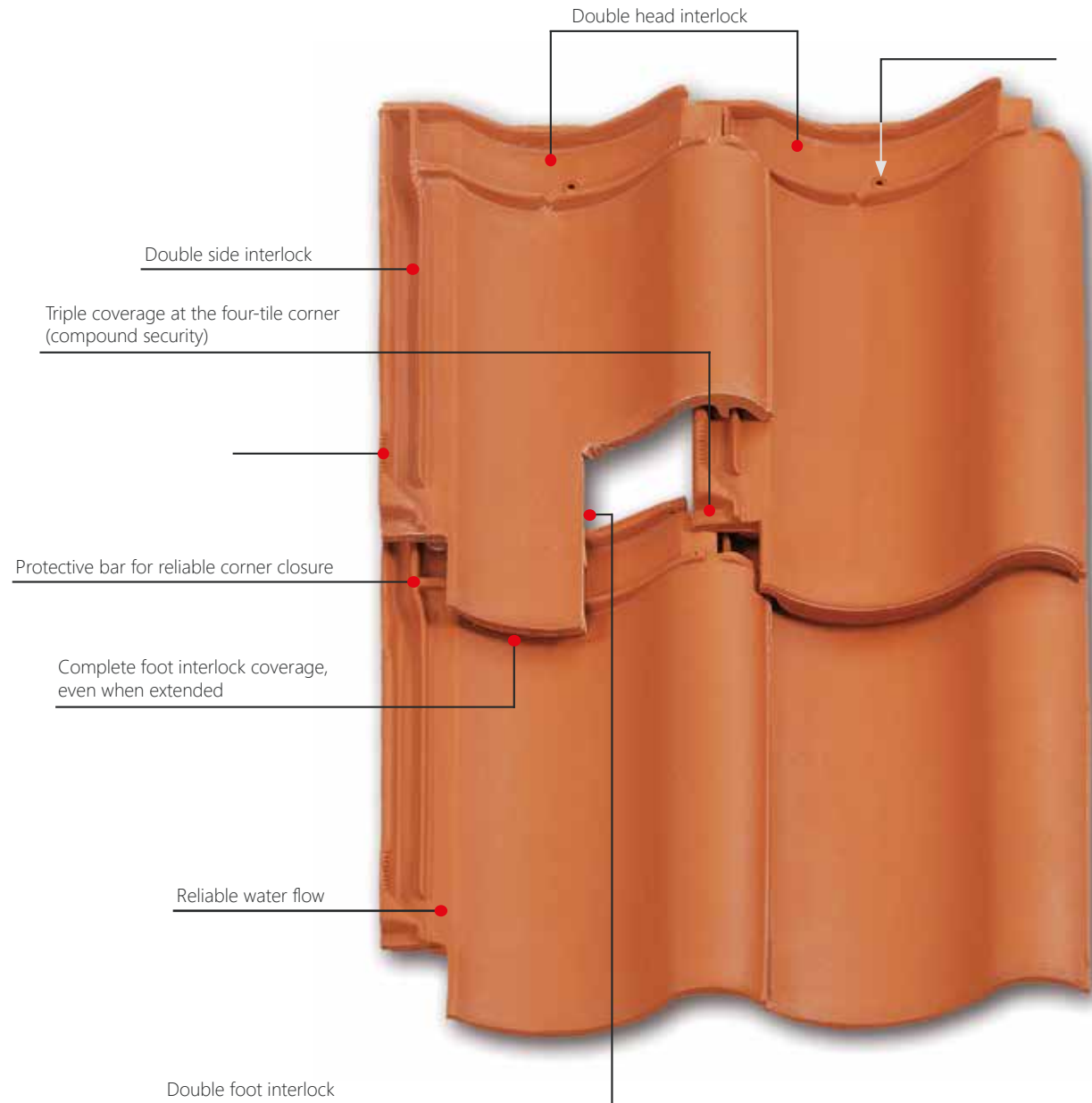
|                            |                |
|----------------------------|----------------|
| Gauge                      | 32,5 - 35 cm   |
| Recommended gauge          | 33,5 cm        |
| Coverage width             | 22,1 - 22,7 cm |
| Recommended coverage width | 22,4 cm        |

|  |                    |
|--|--------------------|
| System dimensions verge tile left      | 13,5 cm            |
| System dimensions verge tile right     | 17 cm              |
| Requirement per m <sup>2</sup>         | 12,5 - 13,8 units  |
| Average requirement per m <sup>2</sup> | approx. 13,5 units |

|                         |                        |
|-------------------------|------------------------|
| Weight per unit         | 3,6 kg                 |
| Average standard weight | 48,6 kg/m <sup>2</sup> |
| Standard pitch          | 22°                    |
| Water absorption        | ≤ 3%                   |

The tile dimensions must be checked in accordance with DIN 1304 and the roofing rules of the German Roofing Trade Association before roofing.

# Special features Hohlfalzziegel



# Straight cut

## Field of application

- optimises and preserves valuable historic building substance
- corresponds to the shape and profile of historic roof tiles
- system advantages of today's roof tiles
- variable cover length and triple overlap with optimum bond security are compatible with renovation of old buildings

## The straight cut provides the typical laying pattern of a historic roof

- a straight edge can be seen at the lower end
- the front sealing rib of the roof tiles is offset upwards on the underside
- the overlapping area of the roof tiles visually floats above the roof tile surface



The tile dimensions must be checked in accordance with DIN 1304 and the roofing instructions of the German Roofing Trade Association before roofing.



# Quality of the clinker



Clinker roof tiles



Concrete roof tile

# Advantages of clinker roof tiles

- clinker roof tiles offer protection against algae, moss and lichen
- long life
- very high material density
- colour fastness and colour stability
- low water absorption



Harzer Pfanne, Concrete roof tile



Clinker roof tiles



# System components for roof tiles

|                                |                   |  |                                    |                                |   |                            |
|--------------------------------|-------------------|--|------------------------------------|--------------------------------|---|----------------------------|
|                                |                   |  |                                    |                                |   |                            |
| Verge tile (right)             | Verge tile (left) | Outer verge tile (right) TG10          | Outer verge tile (left) TG10       | Ventilation system (one piece) | Flue element/ base plate<br>(100 + 125 mm ø) can be used as aerial tile in combination with rubber sleeve |                            |
|                                |                   |  |                                    |                                |   |                            |
| Ridge ventilator end tile plus | Hip starter       | Roof ventilator for Modena 11 and TG10 | Roof ventilator for Hohlfalzziegel | Double roll tile               | Solar tile  |                            |
|                                |                   |  |                                    |                                |   |                            |
| Conical Hip cap                | Universal Hip cap | Hipp cap 4-core                        | Shed roof tile                     | Modena Shed roof tile          | Conical ridge   | Conical Ridge starter tile |





Ridge ventilator  
(semi-circle)



Ridge closure plate



Big ridge closure plate



Ridge ventilator  
starter tile



Ridge ventilator  
end tile



Ridge ventilator  
starter tile plus



Wrasen ventilator  
150 mm Ø



Tone exhaust pipe  
with removable cover



Thermal passage  
(150 mm Ø) for steep and flat roofs



Antenna tile  
universal



Universal shed roof ridge



Starter plate for  
shed roof ridge



End plate for  
shed roof ridge



Conical Ridge  
end tile



Conical Hip starter



Hohlfalz  
Ridge connection tile



Modena Antenna tile  
for steep and flat roofs



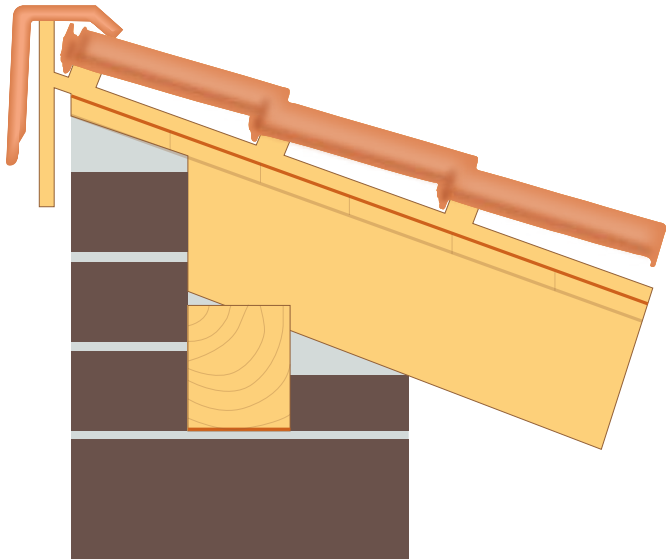
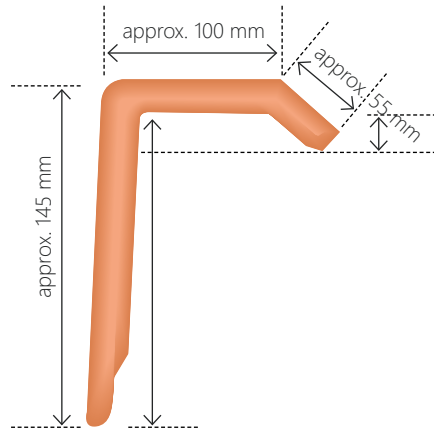
Modena  
Articulated roof tile  
positive



Modena  
Articulated roof tile  
negative

# Universal shed roof ridge

Requirement: 3 units per linear metre



## Additional measures<sup>1</sup>

| RDN 18°   | RDN 22°        | Additional requirements <sup>2</sup>   use · construction · climate conditions |   |   |   |
|-----------|----------------|--|---|---|---|
| Modena 11 | Hohlfalz, TG10 | no additional requirement <sup>2</sup>   | one additional requirement <sup>2</sup>       | two additional requirements <sup>2</sup>      | three additional requirements <sup>2</sup>    |
| ≥ 18°     | ≥ 22°          | class 6 sheathing  | class 6 sheathing                             | class 5 overlapping/folded membrane           | class 4 welded/blended membrane               |
| ≥ 16°     | ≥ 18°          | class 4 welded/blended membrane  | class 4 welded/blended membrane               | class 3 seam and perforation secured membrane | class 3 seam and perforation secured membrane |
| ≥ 14°     | ≥ 14°          | class 3 seam and perforation secured membrane                                  | class 3 seam and perforation secured membrane | class 3 seam and perforation secured membrane | class 2 rainproof sub-roof                    |
| ≥ 10°     | ≥ 10°          | class 2 rainproof sub-roof   | class 2 rainproof sub-roof                    | class 1 waterproof sub-roof                   | class 1 waterproof sub-roof                   |

<sup>1</sup> The additional measures listed in the table are minimum measures and refer to the regulations in Germany by the German Roofing Trade DDH.

<sup>2</sup> For particularly high requirements and / or special local regulations a higher-value additional measure is to choose.

(Instruction sheet for sub-roofs, sub-coverings, sub-spanings, Table 1, DDH trade rules).

Generally higher-value additional measures can also be used instead of the minimum measures.

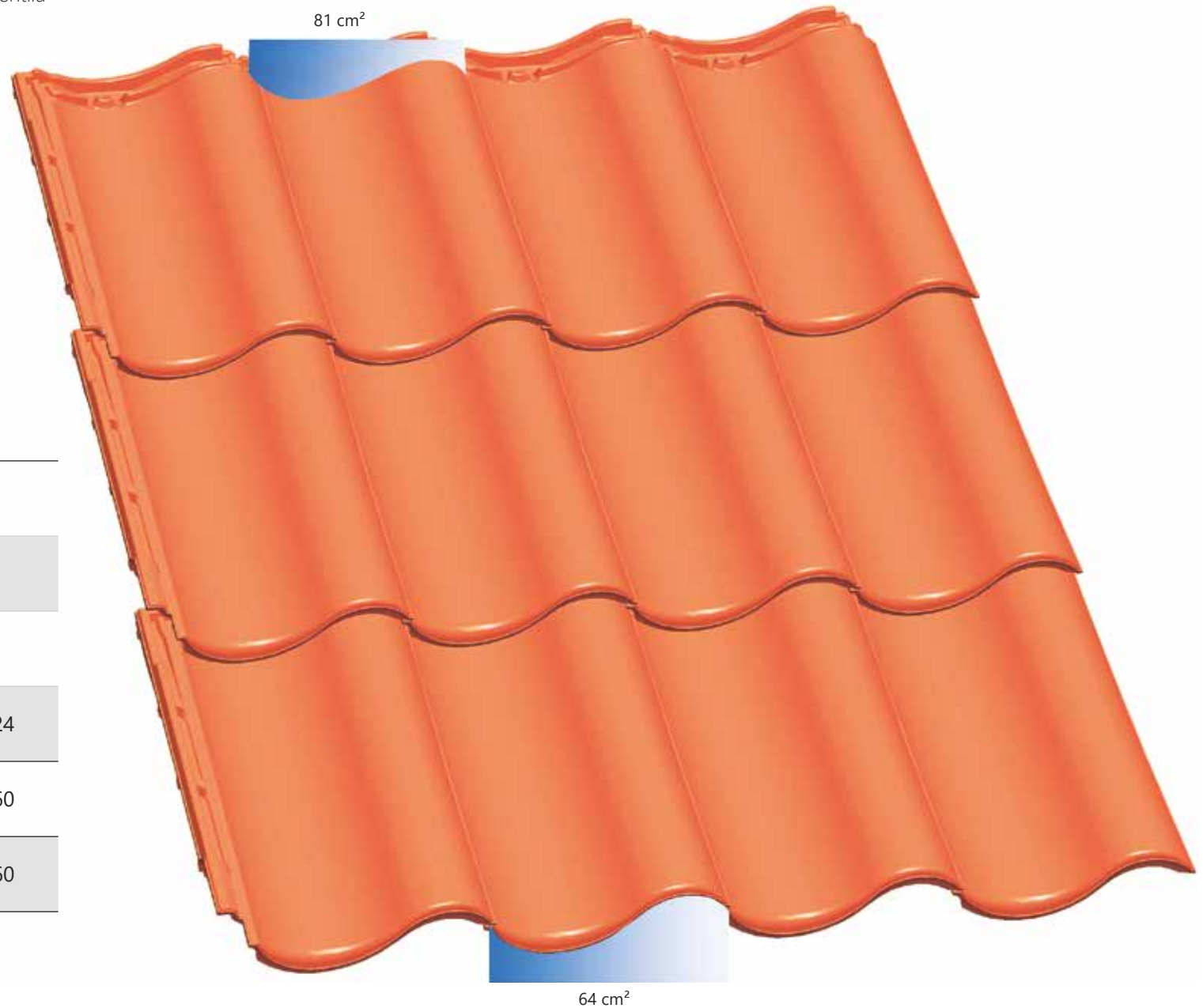
The minimum roof slope under rules of the Central Association of the German Roofing Trade ZVDH for roof tiles is 10 degrees.



# Eave and ridge ventilation

## Ventilation system

Our roof tile models have the following minimum ventilation cross sections per meter of eaves and ridge.



Ventilation cross-section in cm<sup>2</sup>

|                  | per tile |       | per metre |     |
|------------------|----------|-------|-----------|-----|
|                  | Eave     | Ridge | Eave      |     |
| <b>TG10</b>      | 64       | 81    | 256       | 324 |
| <b>Hohlfalz</b>  | 46       | 59    | 202       | 260 |
| <b>Modena 11</b> | 46       | 59    | 202       | 260 |

## Wind zones and clips

For proper clipping of roof tiles, please check the roof installation in accordance with the trade rules of the German Roofing Trade Association.

An uplift calculation can be obtained at: [www.fos.de](http://www.fos.de)

### The average gauge

The average gauge/batten distance is determined from the average of a lengthwise row of 12 tiles. The dimension must be measured at the suspension lugs. (see sketch).

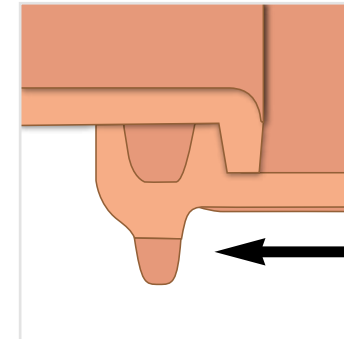
$$\text{Formula: Average gauge} = \frac{L1 + L2}{10 \times 2}$$

L1 = 10 extended tiles

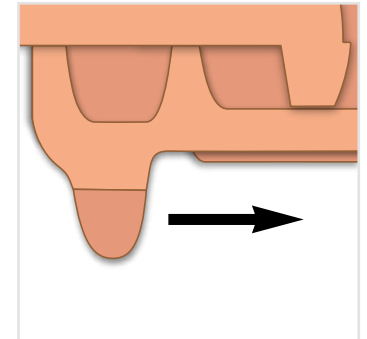
L2 = 10 compacted tiles



Extended L1



Compacted L2



### The average coverage with

The average coverage width is determined from the average of a transverse row of 12 tiles. In the process, the tiles are laid on their backs on battens (see sketch).

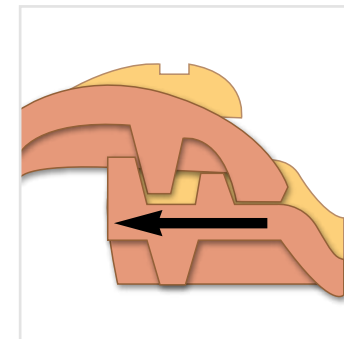
$$\text{Formula: Average coverage with} = \frac{B1 + B2}{10 \times 2}$$

B1 = 10 extended tiles

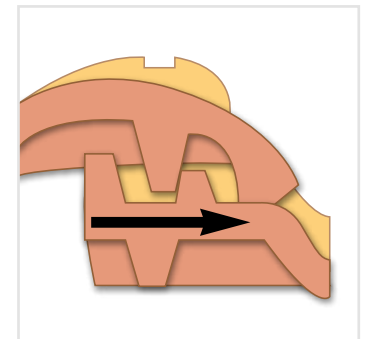
B2 = 10 compacted tiles



Extended B1



Compacted B2



# Measures on the roof

## Dry ridge tile installation

| TG10       |     |     | Hohlfalz, Modena 11 |     |     |
|------------|-----|-----|---------------------|-----|-----|
| Roof pitch | LAF | FLA | Roof pitch          | LAF | FLA |
| 20°        | 65  | 100 | 20°                 | 40  | 85  |
| 25°        | 60  | 90  | 25°                 | 30  | 80  |
| 30°        | 50  | 90  | 30°                 | 30  | 75  |
| 35°        | 40  | 85  | 35°                 | 30  | 75  |
| 40°        | 30  | 85  | 40°                 | 30  | 75  |
| 45°        | 30  | 80  | 45°                 | 30  | 75  |
| 50°        | 30  | 80  | 50°                 | 30  | 60  |

**LAF** = batten distance from ridge intersection

**FLA** = ridge batten distance from ridge intersection

Exact dimensions based on the tiles must be determined on site!

## Roof length

The following values are required to divide up the roof length:

X = leading eaves edge to ridge apex

Y = length of roof to be divided

**Formula:**  $Y = X - \text{Taufmaß} - \text{LAF}$

The eaves dimension should be calculated on site based on the construction!

## Eaves

Z = TG10 · 415 mm

Z = Hohlfalzziegel · 400 mm

Z = Modena 11 · 410 mm



## Roof width

The following values are required to divide up the roof length:

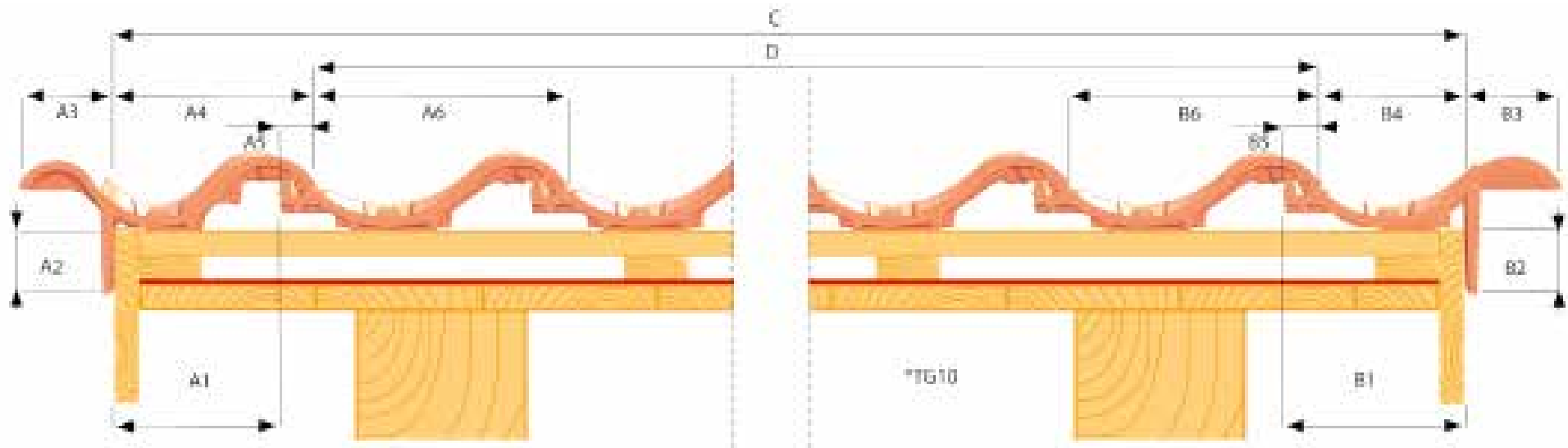
A1 = left-hand verge offset

B1 = right-hand verge offset

C = roof width

D = roof width to be divided

**Formula:**  $D = C - A1 - B1$



Measures of the sketch in mm

|           | A1  | A2 | A3  | A4  | A5 | A6  | B1  | B2 | B3  | B4  | B5 | B6  |
|-----------|-----|----|-----|-----|----|-----|-----|----|-----|-----|----|-----|
| TG10      | 160 | 60 | 105 | 195 | 40 | 252 | 180 | 60 | 105 | 140 | 40 | 252 |
| Hohlfalz  | 135 | 60 | 110 | 190 | 50 | 224 | 170 | 60 | 110 | 120 | 50 | 224 |
| Modena 11 | 145 | 55 | 100 | 185 | 45 | 235 | 175 | 55 | 100 | 130 | 45 | 235 |

# Our product range



Facing bricks



Brick slips



ABC-NORDIC®



Clay pavers



Clinker roof tiles



Floor ceramics





**Headquarter**

ABC-Klinkergruppe  
Grüner Weg 8 · D-49509 Recke  
P: +49 (0) 54 53 / 93 33  
abc@abc-klinker.de · www.abc-klinker.de

**Klinker- und Keramikwerke · A. Berentelg & Co. KG**

*Klinkerwerk Hörstel*  
Dornierstraße 11 · D-48477 Hörstel  
P: +49 (0) 54 59 / 93 43 0  
Show room „Ringofen“ in the Plant  
P: +49 (0) 54 59 / 93 43 11

**Klinker- und Keramikwerke · A. Berentelg & Co. KG**

*Klinkerwerk Schüttorf*  
An der Ziegelei 6 · D-48465 Schüttorf  
P: +49 (0) 59 23 / 96 00 0

**Recker Ziegelwerk · Berentelg & Hebrok OHG**

Mettinger Straße 135 · D-49509 Recke  
P: +49 (0) 54 53 / 9 30 50

**Hollager Ziegelwerk · Berentelg & Hebrok GmbH & Co. KG**

Hollager Straße 106 · D-49134 Wallenhorst-Hollage  
P: +49 (0) 54 07 / 8 30 40

**KDW-Klinkerdachziegelwerk · GmbH & Co. KG**

Ziegeleiweg 1b · D-49170 Natrup-Hagen  
P: +49 (0) 54 05 / 6 19 19 60

**ABC-Keramik · H & R Berentelg GmbH & Co. KG**

Industriestraße 10 · D-49492 Westerkappeln  
P: +49 (0) 54 56 / 93 47 0

