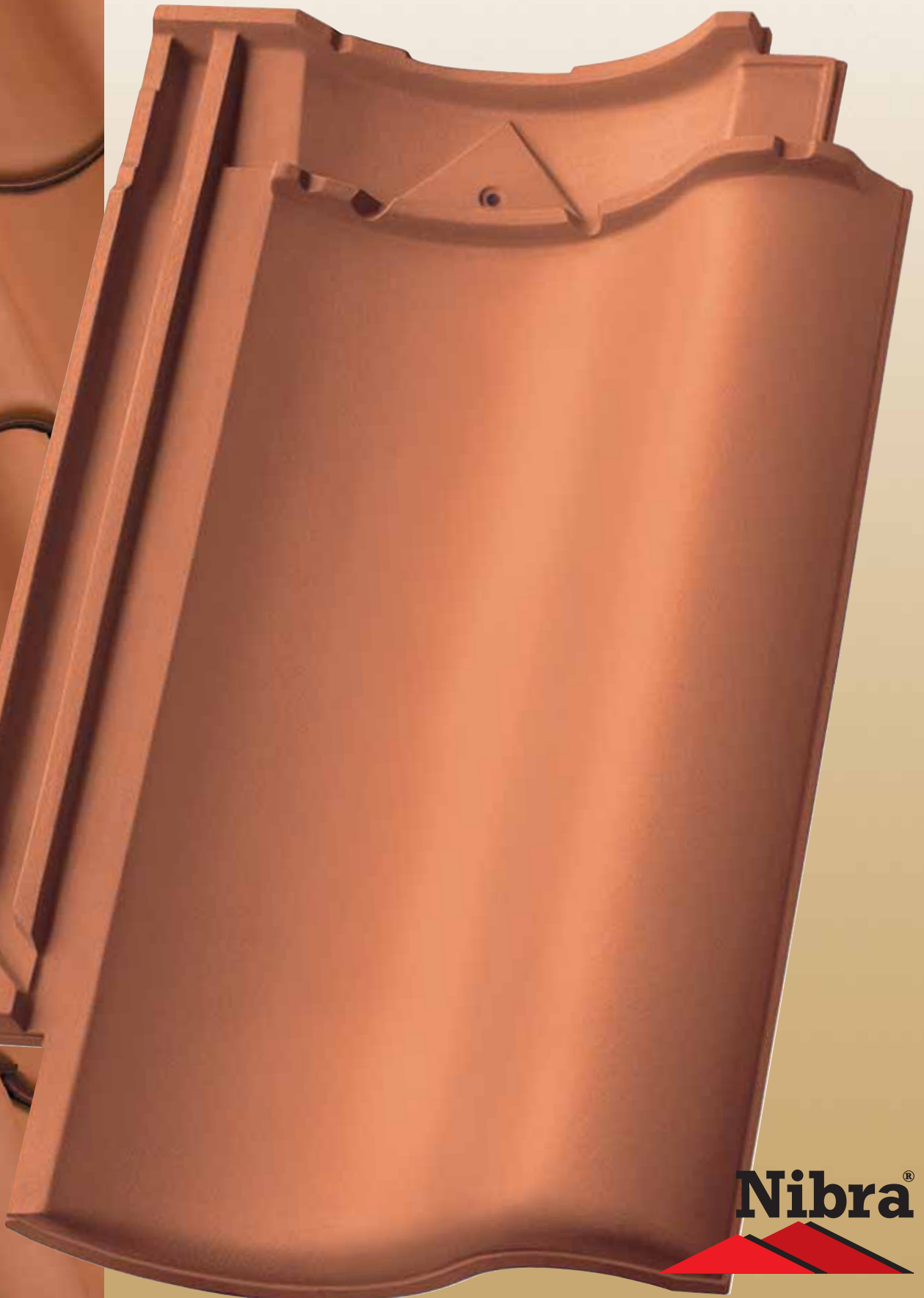


From clay. From concrete. From experience.

NELSKAMP

NIBRA[®] hollow interlocking tile H 14



Nibra[®]



The NIBRA[®] hollow interlocking tile H 14.



Hollow interlocking tiles have a long tradition in characteristic and traditional roofing. This type of tile is experiencing a renaissance in quality and punchy colours with the H 14.

The H 14 in detail:

- Pressed roof tile according to DIN/EN 1304 with far better quality requirements than required
- Twin head and side trough
- Waterproof, frost-resistant and breathable
- Regular roof pitch 22°
- Requirement per m² approx. 13.9 pcs



NIBRA[®] tiles are manufactured from Westerwald clay in a ceramic quality. The correspondingly low water absorption of below 3 % and extreme resistance to frost are preconditions for the long life of NIBRA[®] tiles.

* Also available as straight cut
(only natural red)



The Colours.



(01) natural red



(02) red engobed



(03) old colours engobed



(04) brown engobed



(09) bordeaux red engobed



(11) black glazed



(15) grass green glazed* (*on request)



(18) black noble engobed
(matt black glazed)



(19) blue noble engobed (glazed)



(20) pine green noble engobed (glazed)



(26) almond brown noble engobed (glazed)



(144) steamed

Colour deviations: Our clay roof tiles are environment-friendly building materials. When using natural raw materials you may experience colour deviations. This is often the case with naturally red tiles since the fired colour is the sole result of natural raw materials with no added metal oxides to change the colour. Deviations are possible in the colours for reasons of printing methods.


Clay roof tile surfaces: Minor impairments to the surface are possible due to transport. This does not affect the quality of the tiles.


The program.


(H 14 hollow interlocking tile straight cut (only natural red), delivery period on request; Technical data: Covering length 32.5 - 33.0 cm)


Moulded bricks for various functions meet the demand for homogeneous, architecturally demanding roofs. They are also an important safety factor. Moulded bricks and accessories reduce the amount of laying work and


facilitate calculations. You will find the complete program for every tile on our Internet website www.nelskamp.de.


 **Whole tile (also available with nail hole as required*)**
Length: ~ 43.0 cm Covering length: ~ 33.2 cm ± 10 mm
Width: ~ 26.4 cm Covering width: ~ 21.3 cm
Weight: ~ 3.7 kg Requirement: ~ 13.9 pcs/m²


 **Single rabbet tile***
Length: ~ 43.0 cm Covering length: ~ 33.2 cm ± 10 mm
Width: ~ 26.4 cm Covering width: ~ 21.3 cm
Weight: ~ 3.1 kg Requirement: individual


 **Double flap**
Length: ~ 43.0 cm Covering length: ~ 33.2 cm ± 10 mm
Width: ~ 29.1 cm Covering width: ~ 29.1 cm
Weight: ~ 3.7 kg Requirement: ~ 3.0 pcs/m


 **Left verge tile**
Length: ~ 43.0 cm Covering length: ~ 33.2 cm ± 10 mm
Width: ~ 29.1 cm Covering width: ~ 18.7 cm
Weight: ~ 4.1 kg Requirement: ~ 3.0 pcs/m

 **Right verge tile**
Length: ~ 43.0 cm Covering length: ~ 33.2 cm ± 10 mm
Width: ~ 26.4 cm Covering width: ~ 11.5 cm
Weight: ~ 4.3 kg Requirement: ~ 3.0 pcs/m


 **Verge tile with outer web on left (Not available in all colours)**
Length: ~ 43.0 cm Covering length: ~ 33.2 cm ± 10 mm
Width: ~ 26.8 cm Covering width: ~ 25.1 cm
Weight: ~ 5.0 kg Requirement: ~ 3.0 pcs/m


 **Verge tile with outer web on right (Not available in all colours)**
Length: ~ 43.0 cm Covering length: ~ 33.2 cm ± 10 mm
Width: ~ 23.9 cm Covering width: ~ 17.4 cm
Weight: ~ 4.5 kg Requirement: ~ 3.0 pcs/m


 **Standard ridge tile ~ 2.6 pcs/m**
Length: ~ 43.7 cm Covering length: ~ 38.2 cm
Width: ~ 25.4 cm Covering width: ~ 19.6 cm
Weight: ~ 3.6 kg Requirement: ~ 2.6 pcs/m


 **Standard start ridge, bottom closed for verge tile with offset ridge**
Length: ~ 43.7 cm Covering length: ~ 38.2 cm
Width: ~ 25.4 cm Covering width: ~ 19.6 cm


 **Standard ridge end, bottom closed for verge tile with offset ridge**
Length: ~ 38.0 cm Covering length: ~ 36.0 cm
Width: ~ 25.4 cm Covering width: ~ 19.6 cm


 **Standard start ridge with extended web for verge tile with outer web**
Length: ~ 43.7 cm Covering length: ~ 38.2 cm
Width: ~ 25.4 cm Covering width: ~ 19.6 cm


 **Standard ridge end with extended web for verge tile with outer web**
Length: ~ 38.0 cm Covering length: ~ 36.0 cm
Width: ~ 25.4 cm Covering width: ~ 19.6 cm


 **Standard crest start**
Length: ~ 49.0 cm Covering length: ~ 43.9 cm
Width: ~ 25.4 cm Covering width: ~ 19.6 cm
Weight: ~ 3.5 kg Requirement: individual


 **Universal hip cap (also available with four outlets)**
Weight: ~ 2.7 kg Requirement: individual


 **Clay dormer ventilator (ventilation cross-section ~ 15 cm²)**
Length: ~ 43.0 cm Covering length: ~ 33.2 cm ± 10 mm
Width: ~ 26.4 cm Covering width: ~ 21.3 cm
Weight: ~ 3.6 kg Requirement: individual


 **Ridge connecting tile**
Length: ~ 43.0 cm Covering length: ~ 33.2 cm ± 10 mm
Width: ~ 26.4 cm Covering width: ~ 21.3 cm
Weight: ~ 3.4 kg Requirement: ~ 4.5 pcs/m x 2


 **Ridge tile extra ~ 2.6 pcs/m (matches ridge connecting tile) (Start and end ridge extra also available)**
Length: ~ 44.0 cm Covering length: ~ 38.5 cm
Width: ~ 27.0 cm Covering width: ~ 21.2 cm


 **Shed roof tile**
Length: individual Covering length: individual
Width: ~ 26.4 cm Covering width: ~ 21.3 cm


 **Mansard tile**
Length: individual Covering length: individual
Width: ~ 26.4 cm Covering width: ~ 21.3 cm


 **Pent roof tile**
Length: individual Covering length: individual
Width: ~ 26.4 cm Covering width: ~ 21.3 cm


 **Ceramic aerial tile**
Length: ~ 43.0 cm Covering length: ~ 33.2 cm ± 10 mm
Width: ~ 26.4 cm Covering width: ~ 21.3 cm
Weight: ~ 3.7 kg


 **Ceramic vent pipe tile with weather cap ø 150 and matching hose with adapter**
Length: ~ 43.0 cm Covering length: ~ 33.2 cm ± 10 mm
Width: ~ 26.4 cm Covering width: ~ 21.3 cm
Weight: ~ 3.5 kg


 **Ceramic thermal exhaust gas through pantile with universal collar (ø: max. 127 mm) (can be used up a max of 42° RP*)**
Length: ~ 43.0 cm Covering length: ~ 33.2 cm ± 10 mm
Width: ~ 26.4 cm Covering width: ~ 21.3 cm


 **Ceramic solar through tile up to ø 70 mm (PVC Carrier pantile also available)** Covering length: ~ 33.2 cm ± 10 mm
Length: ~ 43.0 cm Covering width: ~ 21.3 cm
Width: ~ 26.4 cm ø: ≤ 70 mm


 **Light tile „Acrylic glass“**
Length: ~ 43.0 cm Covering length: ~ 33.2 cm ± 10 mm
Width: ~ 26.4 cm Covering width: ~ 21.3 cm
Requirement: individual

 **Walking grid tile PVC x 2 + walking grid**
Width: ~ 34.0 cm
Length: 40.0; 80.0; 150.0 cm


 **SnapStep universal alu step (40 cm and 80 cm universal walking grid with two brackets also available)**
coated, for mounting on different lath thicknesses, can be adjusted for roof pitches from 0° - 60°


 **Snow stop tile with round wood holder PVC (also available with PVC snow rib support)**
Length: ~ 43.0 cm Covering length: ~ 33.2 cm ± 10 mm
Width: ~ 26.4 cm Covering width: ~ 21.3 cm


 **Steel skylight, coated, 4-tiles, acrylic glazed**
Length: ~ 78.0 cm Hatch: 45.0 x 55.0 cm
Width: ~ 64.0 cm Weight: ~ 8.6 kg


 **Steel skylight, coated, 6-tiles, acrylic glazed**
Hatch: 45.0 x 85.0 cm

 **Multitherm skylight**
Length: ~ 85.0 cm Opening: upwards + to the side
Width: ~ 78.0 cm Hatch: 44.0 x 54.0 cm
Weight: ~ 15.0 kg Double glazing: ESG Kv 1.4

 **Living room skylight wra**
Length: ~ 98.0 cm Opening: to the side
Width: ~ 54.0 cm Hatch: 46.0 x 90.0 cm
Double glazing: ESG Kv 1.1

 **Ridge or crest clip no. 470/41**

 **Copper roll/Alu roll 2000**
Length: ~ 5 m Width: ~ 29 cm, 33 cm, 36 cm
Ventilation cross-section: permanent acc. to DIN 4108, Part 3
Natural copper/anthracite, red

 **Storm clip no. 435/101 for laths 30 x 50 V2A (1)**
Storm clip no. 435/102 for laths 40 x 60 V2A (1)
Storm clip no. 409/009 V2A (2)

Laying the NIBRA® hollow interlocking tile H 14.

(H 14 hollow interlocking tile straight cut, delivery period on request; Technical data: Covering length 32.5 - 33.0 cm)

Technical data

| | |
|--------------------------------|--------------------------------------|
| Roof tile | NIBRA® H 14 hollow interlocking tile |
| Manufacturer | Nelskamp (D) |
| Overall length | ~ 43.0 cm |
| Overall width | ~ 26.4 cm |
| Mean covering length | ~ 33.2 cm ± 10 mm |
| Mean covering width | ~ 21.3 cm |
| Requirement per m ² | ~ 13.9 pieces |
| Weight per tile | ~ 3.7 kg |
| Weight per m ² | ~ 51.4 kg |
| Regular roof pitch | 22° |
| Laths | 30 x 50 mm |
| Recommended storm clip | 435/101* |
| Laths | 40 x 60 mm |
| Recommended storm clip | 435/102* |

*Info: can only be used with a lath spacing of 330 mm or more

Material requirements for coverage

| | |
|------------------------------------------|-----------------------------------------------------------|
| Laths | ~ 3.3 m/m ² (incl. 10% waste) |
| Counter-laths | ~ 1.7 m/m ² (incl. 10% waste) |
| Roof tile | ~ 13.9 pieces/m ² |
| Packing unit* | |
| Tiles per pallet | 240 pieces |
| Tiles per stack | 30 pieces |
| Double flap | ~ 3.0 pieces/m for left side of roof only |
| Verge tile | ~ 3.0 pieces/m |
| Safety step pantile | as required |
| Ridge or crest tile | ~ 2.6 pieces/m |
| Copper roll/Alu roll 2000 (5 m per roll) | as required |
| Ridge/crest clip 470/41 | 1.0 piece per ridge tile standard |
| Wood screws | 1.0 piece per ridge tile d = 4.5 mm Screw depth: 24 mm |
| Ridge or crest initial tile | 1.0 piece per ridge or crest start |
| Ridge end tile | 1.0 piece per ridge end |
| Ridge lath holder | 1.0 piece per rafter |
| Crest lath holder | 1.0 piece/ ~ 70 cm |
| Eaves fresh air element | ~ 1.1 piece/m Fresh air ~ 200 cm ² /m |

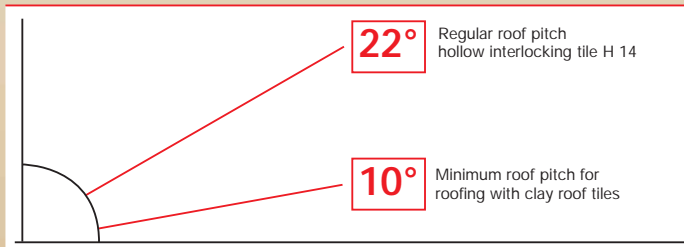
* only applies for deliveries in Germany

Laying!

The following applies when laying our clay roof tiles:

1. The NELSKAMP manufacturer's instructions take priority (laying instructions)
2. The specialist rules of the roofing trade (rules for coverings with clay roof tiles)
3. The German Construction Contract Procedures (VOB) (clay roof tile cover)

Regular roof pitch for clay roof tiles



If the pitch is below the regular roof pitch the additional measures of the roofing trade rules must be carried out (cf. table).

With equivalent roof substructure alternatives: pay attention to the manufacturer's and laying instructions. Warranty must be assumed by the relevant manufacturer.

Classification of additional measures except for subordinate buildings ¹⁾ according to the technical rules of the German roofing trade, last revised January 2010

| Roof pitch | Higher requirements ²⁾ | | | |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Use - Design - Climatic conditions | | | |
| | no further increased requirement ²⁾ | one further increased requirement ²⁾ | two further increased requirement ²⁾ | three further increased requirement ²⁾ |
| ≥ 22° | Class 6 3.3 Underlayment (USB- A) ⁴⁾ | Class 6 3.3 Underlayment (USB- A) ⁴⁾ | Class 5 2.4 Overlapping / interlocking undercover (UDB- A; UDB- B ⁵⁾ ; USB- A) ⁴⁾ | Class 4 2.2 Welded / bonded undercover 2.3 Undercover covered with bitumen sheeting 3.2 Underlayment secured at seams (UDB- A; UDB- B ⁵⁾ ; USB- A) ⁴⁾ |
| ≥ 18° | Class 4 2.2 Welded / bonded undercover 2.3 Undercover covered with bitumen sheeting 3.2 Underlayment secured at seams (UDB- A; UDB- B ⁵⁾ ; USB- A) ⁴⁾ | Class 4 2.2 Welded / bonded undercover 2.3 Undercover covered with bitumen sheeting 3.2 Underlayment secured at seams (UDB- A; UDB- B ⁵⁾ ; USB- A) ⁴⁾ | Class 3 2.1 Undercover secured at seams and perforations 3.1 Underlayment secured at seams and perforations (UDB- A; UDB- B ⁵⁾ ; USB- A) ⁴⁾ | Class 3 2.1 Undercover secured at seams and perforations 3.1 Underlayment secured at seams and perforations (UDB- A; UDB- B ⁵⁾ ; USB- A) ⁴⁾ |
| ≥ 14° | Class 3 2.1 Undercover secured at seams and perforations 3.1 Underlayment secured at seams and perforations (UDB- A; UDB- B ⁵⁾ ; USB- A) ⁴⁾ | Class 3 2.1 Undercover secured at seams and perforations 3.1 Underlayment secured at seams and perforations (UDB- A; UDB- B ⁵⁾ ; USB- A) ⁴⁾ | Class 3 2.1 Undercover secured at seams and perforations 3.1 Underlayment secured at seams and perforations (UDB- A; UDB- B ⁵⁾ ; USB- A) ⁴⁾ | Class 3 ³⁾ 2.1 Undercover secured at seams and perforations 3.1 Underlayment secured at seams and perforations (UDB- A; UDB- B ⁵⁾ ; USB- A) ⁴⁾ |
| ≥ 10° | Class 2 1.2 Rainproof roof substructure | Class 2 1.2 Rainproof roof substructure | Class 1 1.1 Waterproof roof substructure | Class 1 1.1 Waterproof roof substructure |
| MRP | | | 10° | |

¹⁾ The additional measures named in the table are minimum measures taking into account table 1 of the "Leaflet for roof substructures, undercovers, underlays".

²⁾ Higher requirements form categories in accordance with Section 1.1.3. Further higher requirements may result from the weighting within a category according to Section 1.1.3. For example, climatic conditions can lead to several higher requirements.

³⁾ Only allowed if proof has been rendered of the functional reliability of the products used including accessories (sealing tapes, adhesive tapes, sealing compounds, ready-made seam protection, etc.) by the manufacturer during a driving rain test. The next highest class should otherwise be chosen.

⁴⁾ Undercover plates are to be assigned according to the classification in the "Leaflet for roof substructures, undercovers and underlays".

⁵⁾ If indices 2), 3), 4), 5) in the product data sheet are met:

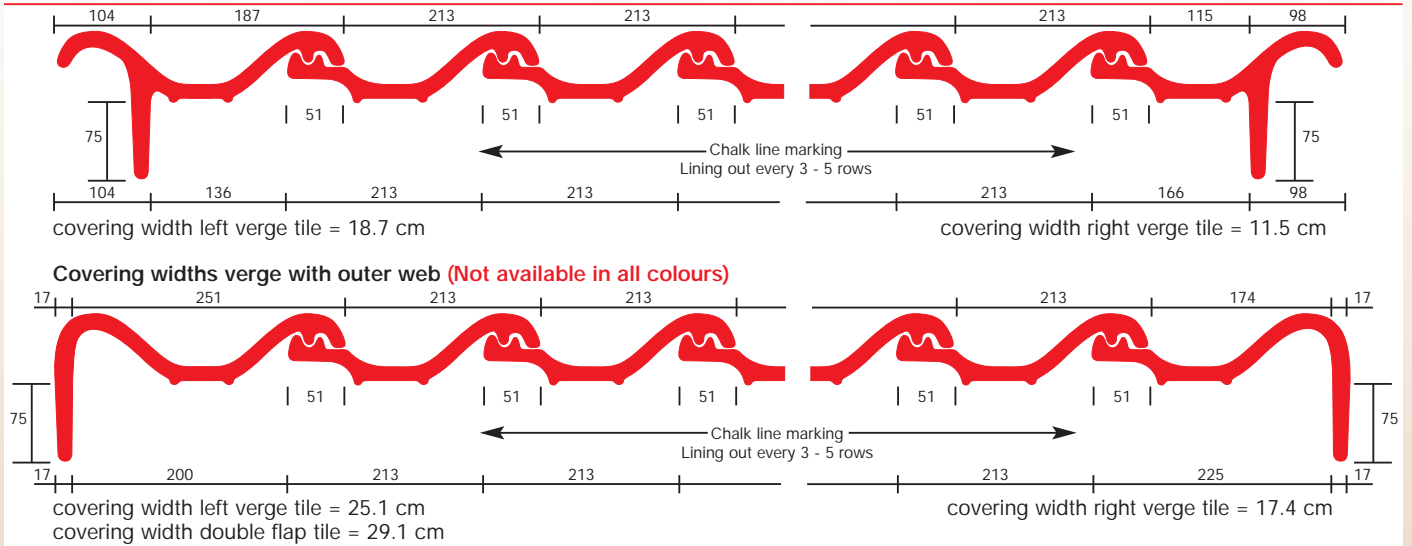
2) Resistance to driving rain, proven by the "Driving rain test underlay and undercover sheets - TU Berlin"

3) Higher requirements on ageing are proven by increasing the temperature in the test method Appendix C 5.2 of DIN EN 13859- 1 to 80 °C.

4) The manufacturer specifies the duration of the outdoor weathering period whilst warranting the aforementioned properties.

5) The manufacturer confirms the suitability as a provisional cover and specifies the duration of the outdoor weathering period whilst warranting the aforementioned properties.

Covering widths



Roof lathing in conjunction with ridge flaps (dry ridge)

Supporting laths:

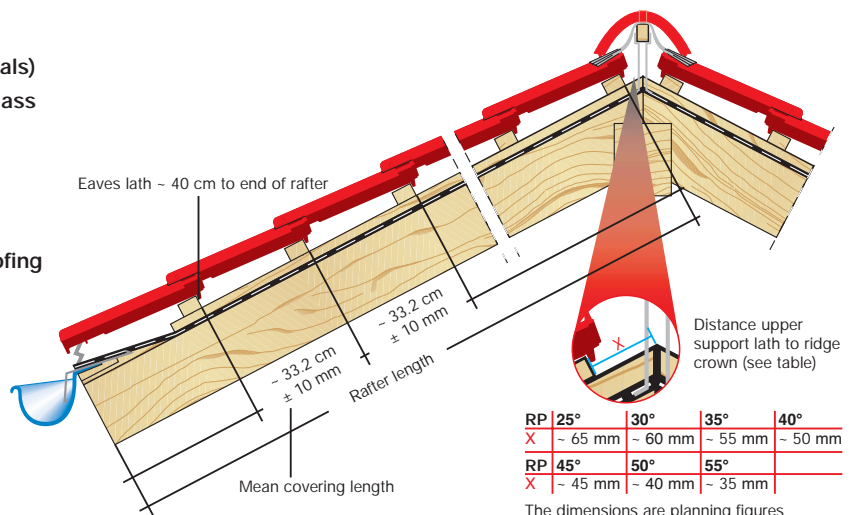
The following min. cross-sections must be used:
(rules for roofing, notes on wood and timber materials)

| Nom. cross-sections of support laths | Rafter intervals (unit spacing) | Sizing class |
|--------------------------------------|---------------------------------|--------------|
| 30 x 50 mm | ≤ 80 cm | S 10 |
| 40 x 60 mm | ≤ 100 cm | S 10 |

Counter-laths:

Rec. thickness of counter-laths acc. to rules for roofing
(notes on wood and timber materials):

| Rafter length | Rec. thickness |
|---------------|----------------|
| up to 8 m | 24 mm |
| up to 12 m | 30 mm |
| over 12 m | 40 mm |

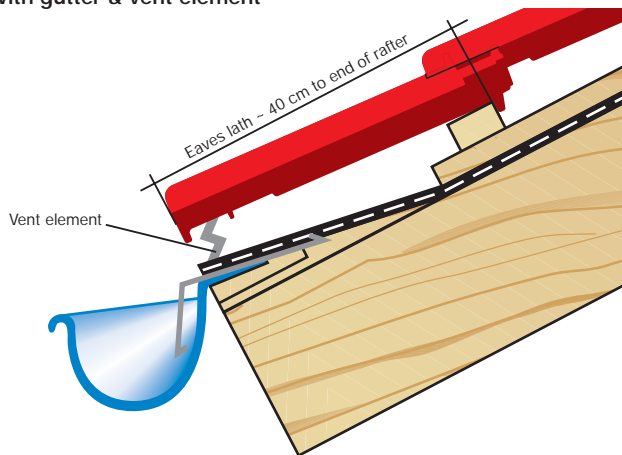


The dimensions are planning figures and should be checked before laying.

Details eaves design

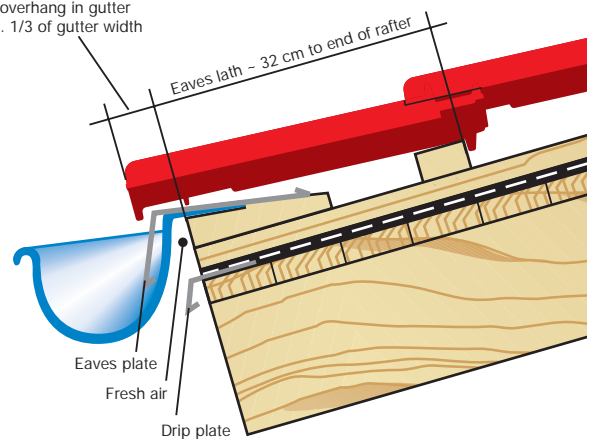
The dimensions are planning figures and should be checked before laying depending on the design and local circumstances.

1 With gutter & vent element



2 High-level gutter (recommended for flat roof pitches < 22°)

Tile overhang in gutter
max. 1/3 of gutter width

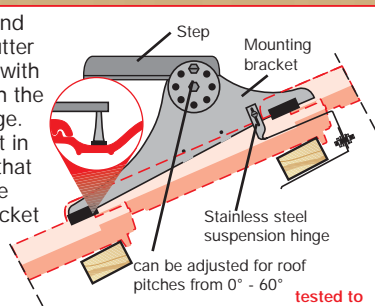


Installation instructions for universal alu step

A chase is made in the head and foot interlocking joint of the gutter tile using a right angle grinder with diamond wheel to lead through the stainless steel suspension hinge. Hang the alu mounting bracket in the throat of the gutter tile so that the two rubber profiles with the lower end of the mounting bracket lie on the roof lath.

The rubber profiles must rest where the gutter tiles overlap.

Installation instructions on delivery

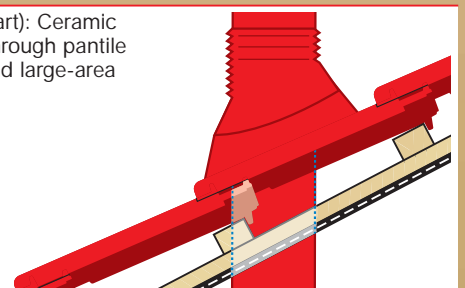


tested to
DIN EN 516

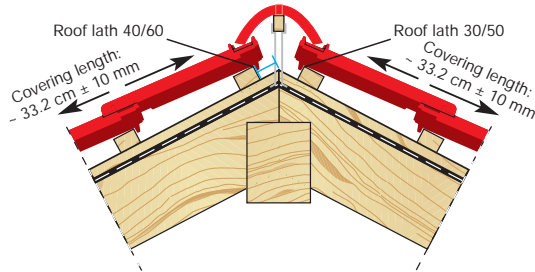
Ceramic thermal exhaust gas through pantile with universal collar

Scope of delivery (2-part): Ceramic thermal exhaust gas through pantile with universal collar and large-area tile with cut-out.

Size sheets can be downloaded from the Internet or on the data service CD



Laying instructions for ridge connecting tile (with ridge tile extra)



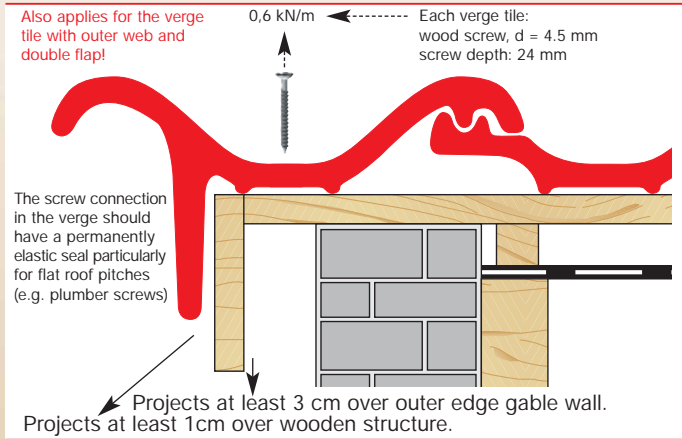
Ridge design with ridge connecting tiles

Upper edge 1st lath from ridge crown

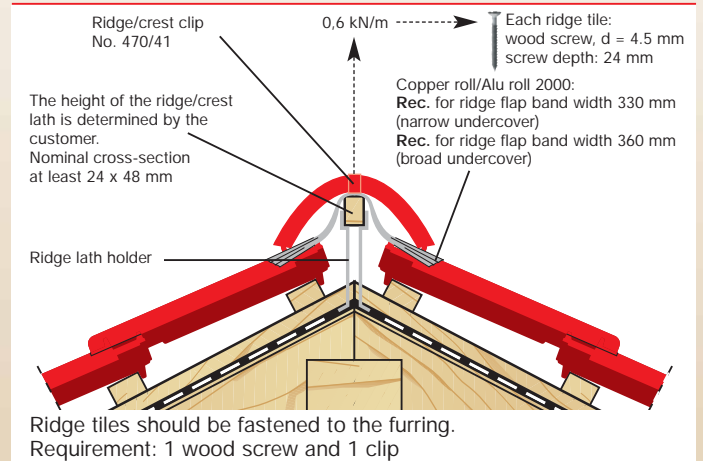
| | | |
|--------------|------------------|--------|
| up to 30° RP | Laths 30 x 50 mm | 6.0 cm |
| up to 30° RP | Laths 40 x 60 mm | 5.0 cm |
| up to 45° RP | Laths 30 x 50 mm | 5.5 cm |
| up to 45° RP | Laths 40 x 60 mm | 4.5 cm |
| up to 50° RP | Laths 30 x 50 mm | 5.5 cm |
| up to 50° RP | Laths 40 x 60 mm | 4.5 cm |

The dimensions are planning figures and should be checked before laying.

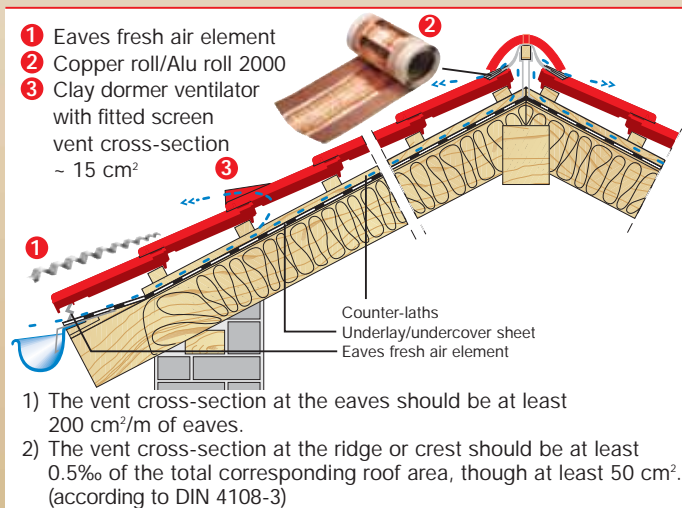
Verge details



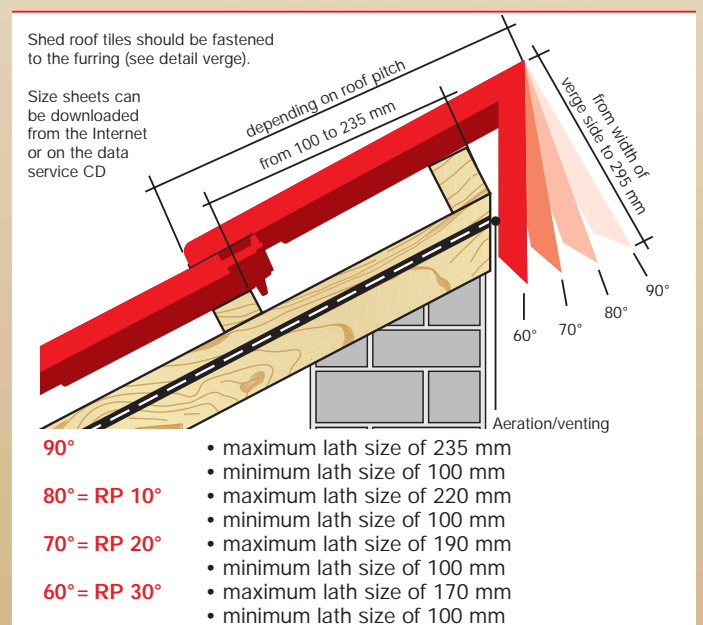
Ridge/crest details



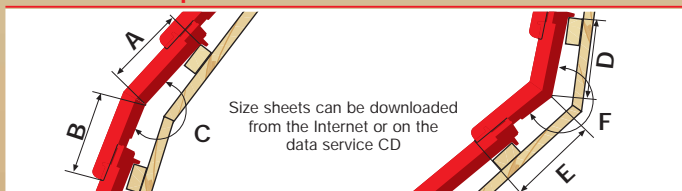
Aeration and ventilation in steep roof



Shed roof tile



Mansard and pent roof tile

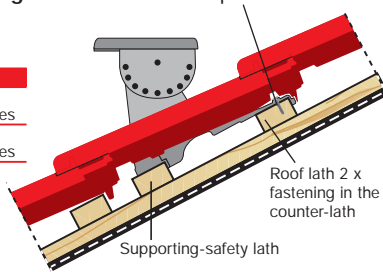


Installation instructions for safety step tile/walking grid tile/snow stop tile

Every safety step tile/walking grid tile must be provided with an additional supporting-safety lath (same lath cross-section as supporting laths). **Fastening to supporting lath:** two corrosion-proof wood screws (4.5 x 45 mm per tile)

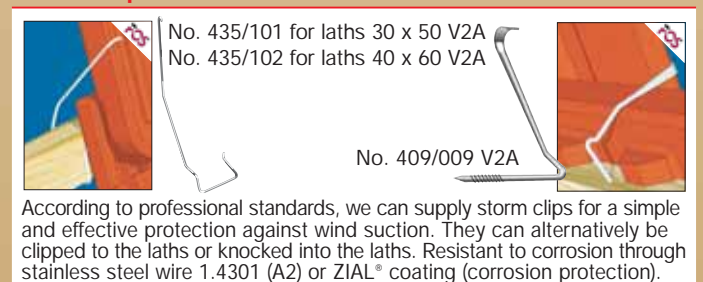
| Processing acc. to DIN 18160-5 | ≤ 45° | > 45° |
|--------------------------------|--------------------|--------------------|
| Walking grid tile | every row of tiles | every row of tiles |
| Safety step tile | every row of tiles | every row of tiles |

tested to DIN EN 516



The same applies for interlocking tiles with snow rib or round wood holder, whereby the max. support spacing should not exceed 90 cm. For higher demands you should reduce the support spacing (60 cm).

Storm clips



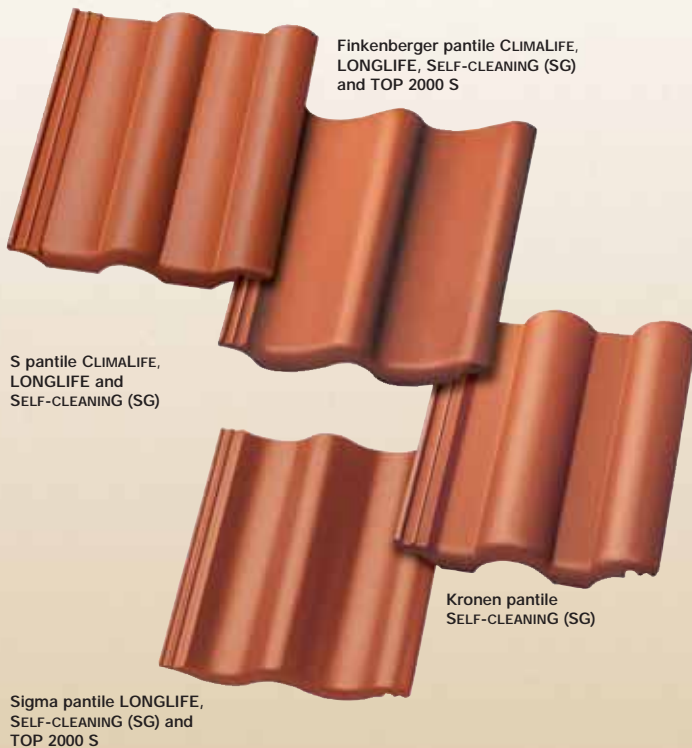
On the NELSKAMP data service CD or as a download on the Internet from www.nelskamp.de

- Product specifications
- Laying instructions
- CAD data

DOWNLOAD



For colourful, clean roofs. The Nelskamp concrete roofing tile program.



CLIMALIFE concrete roofing tiles

With their ClimaLife surface our roof pantiles clean our environment from contaminants resulting from heating, traffic and the industry. Up to 90 percent are neutralized in daylight, without sunlight up to 70 percent. This is due to the titanium oxide content in the micro concrete. It mainly converts nitrogen oxides (NO_x) into harmless substances like NO₃⁻. Again and again, because titanium oxide is a catalyst, which is never used up. The rain does the rest: It just flushes away the substances, which then are harmless.

LONGLIFE concrete roofing tiles

The leading technology of LONGLIFE concrete roofing tiles is based on the smooth surface of micro-concrete and a newly developed, silk-gloss colour coating. Both factors ensure clean roofs with long-lasting, intensive colours. The reason: dirt is washed off by rain and moss or algae find almost no base for growth.

SELF-CLEANING (SG) concrete roofing tiles

SG = Self-cleaninG concrete roofing tiles are also supplied with the newly developed colour coating. Moss and algae find almost no base for growth on the surface.

TOP 2000 S concrete roofing tiles

High-quality raw materials, the latest production methods and established coating technologies with numerous standard and special colours are characteristic of TOP 2000 S concrete roofing tiles.



Concrete roofing tiles and clay roof tiles from Nelskamp. The obvious solution.

Our strategically placed production facilities guarantee that our roof building materials are always well received. Six plants throughout Germany are the sound, logistical basis for co-operation and help spare the environment.

Administration and sales

Waldweg 6 · D-46514 Schermbeck
Postfach 11 20 · D-46510 Schermbeck
Phone: +49 28 53/91 30-0
Fax: +49 28 53/37 59
Email: vertrieb@nelskamp.de
Internet: www.nelskamp.de

Production of concrete roofing tiles

Gartrop Works
Gahlener Straße 158
D-46569 Hünxe-Gartrop
Phone: +49 28 53/91 30-31/32
Fax: +49 28 53/45 59

Dieburg Works
Lagerstraße 30
D-64807 Dieburg
Phone: +49 60 71/98 64-0
Fax: +49 60 71/16 73

Schönerlinde Works
Schönerlinder Bahnhofstraße 6
D-16348 Wandlitz
Phone: +49 30/94 03 91-0
Fax: +49 30/94 12 20 4

Production of clay roof tiles

Schermbeck Works
Waldweg 6
D-46514 Schermbeck
Phone: +49 28 53/91 30-23/17
Fax: +49 28 53/26 70

Unslieben Works
Wechterswinkler Straße 23
D-97618 Unslieben
Phone: +49 97 73/9 10 10
Fax: +49 97 73/7 49

Groß-Ammensleben Works
Magdeburger Straße 42
D-39326 Groß-Ammensleben
Phone: +49 3 92 02/88-6
Fax: +49 3 92 02/88 80 2

From clay. From concrete. From experience.

NELSKAMP