Plenera

Installation and staining instructions

Cleaning and maintenance

Issued: 01.09.2016
1. Choice of decking

- **Width:**
  - 125 mm
  - 185 mm

- **Length:**
  - 3000 mm
  - 4000 mm
  - 5000 mm

- **Material:**
  - □ coloured

- **Surface:**
  - □ stained on one side

- **Visible surface:**
  - □ smooth
  - □ grooved

- **Colour:**
  - □ Brown 5000
  - □ Grey 5002
  - □ Brown 5003
  - □ C08
  - □ D109
  - □ D114
  - □ D126
  - □ D151
  - □ D209
  - □ D251
  - □ D214
  - □ D253

- **Installation accessories:**
  - □ Centre clamps

2. Subframe

- **Subsurface:**
  - □ in frost-proof, stable bedding or on concrete slabs ➤ fixed connection
  - □ flat roof or other sealed subsurfaces ➤ floating installation

- **Joist:**
  - □ anthracite

- **Installation accessories for fixed connection:**
  - □ assembly brackets
  - □ optionally rubber pads (as height adjustment)

- **Installation accessories for floating installation:**
  - □ assembly brackets
  - □ connecting plates
  - □ rubber pads

3. Finishing options

- **Aluminium finishing profile:**
  - □ stainless steel anodized
  - □ bronze-anodized

- **Insertion profile (coloured)**

- **Installation accessories:**
  - □ spacers
  - □ dowels coloured

- **Plenera finishing profile:**

- **Material:**
  - □ coloured

- **Surface:**
  - □ stained

- **Stain:**
  - see stain for decking

You will find care and maintenance instructions at: www.terhuerne.de/service/download-center/terrassen
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<td>32 – 33</td>
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<td>Care and cleaning</td>
<td>32 – 33</td>
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<td>5</td>
<td>Colour development (Development process)</td>
<td>36 – 37</td>
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<td>5.1</td>
<td>Maturing process: Colour development of the coloured Plenera</td>
<td>36 – 37</td>
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Please make sure to always use the latest, up to date version of this document, available to download at: www.terhuerne.de/service/download-center/terrassen

These documents are merely intended to provide basic information; they are not meant to serve as a substitute for detailed individual advice from a retailer. Please keep these instructions for future reference.
Please read these installation instructions completely prior to installation.

Legal note
The Plenera decking, the subframe, as well as all other products made of the material Plenera were specifically developed for use as decking. Other applications (e.g. panelling, fencing as well as use indoors and in conservatories) are not subject to the ter hürne terms of warranty.

The following instructions and recommendations shall not release the installer from the duty to comply with any and all applicable safety and environmental regulations as well as those of the local trade governing bodies.

Additional materials such as the adhesives, alcohol-based cleaners and other highly inflammable materials should be stored safely according to manufacturer’s instructions. Personal safety equipment (such as gloves, protective goggles, ear protectors and dust mask) must be worn.

Record of installation
We recommend photographing the Plenera decking during assembly of the subframe as well as after completion and attaching the photos as documentation to the handover certificate. This is necessary to verify compliance with the installation instructions as well as for subsequent modifications.

**Storage**
The joists and decking are supplied shrinkwrapped on pallets, as protection from climatic influences. To prevent changes in colour and staining due to moisture or sunlight, the pallets must be stored inside, or at least under a roof. Please note that opened pallets and unused profiles are particularly at risk of becoming soiled. These must always be stored in a dry place and on a level surface. Mould (mildew spots) can form on the terrace or stored decking if left covered and in direct contact with plastic membranes. Underside ventilation must be ensured.

General guidelines include ensuring a clean workplace to avoid soiling and scratches as well as prevention of damage to Plenera products during transport or storage/stacking.
In addition the products must be acclimatized or stored in the place where they will be installed for at least 48 hours before assembly to allow the material to adapt to the ambient conditions.

**Tools/processing**
Generally Plenera profiles can be processed with conventional woodworking machines: they can easily be sawn, drilled and milled. Due to the high rice husk content (silicates), cutting tools have a reduced life expectancy. We recommend a tooth, alternate carbide saw blade (handheld circular saw). Subsequent deburring of cut edges must be carried out to prevent injury.
We recommend trimming the decking as well as the joists to length as they are supplied with a slight excess length. The decking should be cut and installed at constant material temperatures.

**Fixing**
The terrace is assembled by fixing the decking onto the subframe with specially designed centre clamps, which permit easy installation and sufficient stability of the construction. Applications at poolsides (chlorinated air) and the ocean (saline air) are possible thanks to the use of coated stainless steel screws V2A (included in the ter Hürne Plenera product range).
1.1 General information

**Product description**

Plenera is mainly composed of natural raw materials. When left untreated it might show slight colour variations, as with natural wood. This underlines the natural character of the product. Due to the natural rice husks Plenera can have natural colour variations, also between the various productions. For this reason, we recommend that planks from different batches are well distributed/mixed in the installation.

A more even overall colour effect can be achieved by applying stain. Depending on the colour of the stain and the quantity applied the natural colour variation can be preserved. Under the influence of weathering a slight change in the colour of the Plenera decking may occur, because as a natural substance, rice husks undergo a natural maturing process. These colour changes do not have any effect on the mechanical characteristics or longevity of the planks. Further information can be found in chapter 5 Attachment: Colour Development.

**Expansion gaps and joints**

The Plenera decking and joists can change their dimensions due to temperature and moisture. For this reason expansion joints must be left between the individual planks and joists themselves. Expansion gaps must be left between the decking/joists and all upright objects (house wall, etc.). Where the headers join, please allow for an expansion joint of 3 mm per linear metre for each decking plank.

In order to get an even joint pattern, we recommend fixing at the middle of every plank: In the middle of each plank, on either side of the middle clamp, just screw two screws horizontally into the plank (3.5 x 20mm halfrounded head A2, pre-drill 2mm).

**Installation direction**

All Plenera decking planks must be installed, without exception, in the direction of sanding (indicated by an arrow, printed in the side groove of the plank) to avoid an irregular colour appearance.

**Installation pattern**

The installation pattern must be determined during planning since the subframe must be designed accordingly. The selection of the edge finish and installation of decking lights also influence the layout of the joists.
1.1 General information

**Screw fixing**
The planks and the subframe may be screwed together only in special cases. Always follow the installation instructions in these cases. Pre-drill a hole for every screw and if screwed through the surface of the plank, the hole should be finished with the Plenera dowel.

**Gradient and water drainage**
For the installation of Plenera decking, as for all flooring in outdoor areas (e.g. wood, tiles, WPC), a gradient of 2% (i.e. 2 cm gradient per linear metre) in the lengthwise direction of the planks must be allowed, to ensure water drainage from the decking and the subsurface. In addition a sufficient drainage of the substrate must be guaranteed. This to avoid standing water under the Plenera terrace. If installed incorrectly (no gradient, gradient at right angles to the lengthwise direction of the planks, flexing planks, no drainage from the subsurface), accumulated water underneath the Plenera decking surface, inside the profile hollow sections and on the decking surface can lead to the formation of mould, algae or water rings.

**Cutting**
Products made of Plenera must be stored before cutting and/or assembly for at least 48 hours in the climate where they will be installed to allow the material to adapt to the outside conditions. The decking should be cut and installed at constant material temperatures. We recommend trimming the decking and joists to length because these are supplied with a slight excess length. We recommend cutting the planks with approx. 3x3 mm groove to facilitate water drainage in the direction of the gradient.
1.1 General information

1.1.2 Plenera product range & tool list

Plenera decking

<table>
<thead>
<tr>
<th>Application</th>
<th>Material</th>
<th>Colour</th>
<th>Thickness (mm)</th>
<th>Length (mm)</th>
<th>Width (mm)</th>
<th>Height (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>- for covering or cladding surfaces in outdoor areas, e.g. terraces, footpaths, pool surrounds or balconies. - maximum slip resistance also in wet areas (up to R13)</td>
<td>rice husk/polymer material</td>
<td>unfinished</td>
<td>25</td>
<td>3000 4000 5000</td>
<td>125 185 185</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>stained on one side CO8**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>coloured</td>
<td>25</td>
<td>3000 4000 5000</td>
<td>125 185 185</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>coloured stained on one side*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: all measurements given are approximate (length/width/height/weight).

Centre clamps

<table>
<thead>
<tr>
<th>Application</th>
<th>Material</th>
<th>Contents</th>
<th>Length (mm)</th>
<th>Width (mm)</th>
<th>Height (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>- for fastening approx. 30 m Plenera decking (maximum tightening force/torque of the screw 1 Newton meter) - can also be used as edge clamps</td>
<td>plastic</td>
<td>- 100 centre clamps - 100 stainless steel screws (3,5x30 mm countersunk head) - Bit</td>
<td>45</td>
<td>20</td>
<td>13</td>
</tr>
</tbody>
</table>

Plenera tapping block

<table>
<thead>
<tr>
<th>Application</th>
<th>Material</th>
<th>Contents</th>
<th>Length (mm)</th>
<th>Width (mm)</th>
<th>Height (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>- for installation of Plenera decking</td>
<td>plastic</td>
<td>-</td>
<td>240</td>
<td>65</td>
<td>25</td>
</tr>
</tbody>
</table>

Packing units

<table>
<thead>
<tr>
<th>Product</th>
<th>Width</th>
<th>Length</th>
<th>Pieces/ pack</th>
<th>m²/piece</th>
<th>Contents per pallet (piece)</th>
<th>Contents per pallet (m²)</th>
<th>Weight per piece (kg)</th>
<th>Weight per pallet (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plenera decking</td>
<td>125</td>
<td>3000</td>
<td>1</td>
<td>0,375</td>
<td>162</td>
<td>60,75</td>
<td>7,06</td>
<td>1190 - 1220</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4000</td>
<td>1</td>
<td>0,500</td>
<td>144</td>
<td>72,00</td>
<td>9,42</td>
<td>1426 - 1463</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5000</td>
<td>1</td>
<td>0,625</td>
<td>114</td>
<td>71,25</td>
<td>11,77</td>
<td>1434 - 1480</td>
</tr>
<tr>
<td></td>
<td>185</td>
<td>3000</td>
<td>1</td>
<td>0,555</td>
<td>104</td>
<td>57,72</td>
<td>10,21</td>
<td>1108 - 1138</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4000</td>
<td>1</td>
<td>0,740</td>
<td>100</td>
<td>74,00</td>
<td>13,61</td>
<td>1430 - 1468</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5000</td>
<td>1</td>
<td>0,925</td>
<td>80</td>
<td>74,00</td>
<td>17,01</td>
<td>1453 - 1499</td>
</tr>
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<table>
<thead>
<tr>
<th>Product</th>
<th>Contents per packing unit (piece)</th>
<th>Contents per master carton (packaging units)</th>
<th>Weight per packing unit (kg)</th>
<th>Weight per master carton (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centre clamps</td>
<td>100</td>
<td>30</td>
<td>0,700</td>
<td>24,00</td>
</tr>
<tr>
<td>Tapping block</td>
<td>1</td>
<td>10</td>
<td>0,240</td>
<td>2,80</td>
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1. Installation

1.1 General information

<table>
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<tr>
<th>Joist</th>
<th>Application</th>
<th>Material</th>
<th>Colour</th>
<th>Length (mm)</th>
<th>Width (mm)</th>
<th>Height (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>- required as framework element for Plenera decking</td>
<td>rice husk/polymer material</td>
<td>anthracite</td>
<td>4000</td>
<td>50</td>
<td>35</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Assembly brackets</th>
<th>Application</th>
<th>Material</th>
<th>Contents</th>
<th>Length (mm)</th>
<th>Width (mm)</th>
<th>Height (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>for fastening Plenera joists (a) onto the subsurface (b) as a frame for floating installation</td>
<td>stainless steel V2A</td>
<td>- 20 assembly brackets - 40 stainless steel screws (4 x 30 mm pan head)</td>
<td>32</td>
<td>25</td>
<td>30</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Connecting plates</th>
<th>Application</th>
<th>Material</th>
<th>Contents</th>
<th>Length (mm)</th>
<th>Width (mm)</th>
<th>Thickness (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>for fastening Plenera joists (a) within the underconstruction (b) as a frame for floating installation</td>
<td>stainless steel V2A</td>
<td>- 20 connecting plates - 40 stainless steel screws (4 x 30 mm pan head)</td>
<td>100</td>
<td>23</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rubber pads</th>
<th>Application</th>
<th>Material</th>
<th>Contents</th>
<th>Length (mm)</th>
<th>Width (mm)</th>
<th>Thickness (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>- must be used underneath the joints for floating installation - to prevent waterlogging - also suitable as height adjustment</td>
<td>rubber</td>
<td>- 50 rubber pads</td>
<td>80</td>
<td>80</td>
<td>3</td>
<td>8</td>
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</table>

**Packing units**

<table>
<thead>
<tr>
<th>Product</th>
<th>Pieces/pack</th>
<th>Metre/pieces</th>
<th>Contents per pallet (piece)</th>
<th>Contents per pallet (LM)</th>
<th>Weight per piece (kg)</th>
<th>Weight per pallet (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plenera joist</td>
<td>1</td>
<td>4.00</td>
<td>240</td>
<td>960.00</td>
<td>5.82</td>
<td>1.466 - 1.497</td>
</tr>
<tr>
<td>Assembly brackets</td>
<td>-</td>
<td>-</td>
<td>20</td>
<td>30</td>
<td>0.45</td>
<td>14.40</td>
</tr>
<tr>
<td>Connecting plates</td>
<td>-</td>
<td>-</td>
<td>20</td>
<td>30</td>
<td>0.60</td>
<td>18.90</td>
</tr>
<tr>
<td>Rubber pads (3/8/15 mm)</td>
<td>-</td>
<td>-</td>
<td>50</td>
<td>20</td>
<td>0.75/2.00/4.00</td>
<td>15.40/44.00/80.00</td>
</tr>
</tbody>
</table>

**Note:** all measurements given are approximate (length/width/height/weight).
## 1.1 General information

### Aluminium finishing profile

<table>
<thead>
<tr>
<th>Application</th>
<th>Material</th>
<th>Colour</th>
<th>Length (mm)</th>
<th>Width (mm)</th>
<th>Height (mm)</th>
</tr>
</thead>
</table>
| - for the perfect finish of the Plenera terrace  
- also as a finish to walls, can be used as an interior or exterior bracket  
- ideal as stair nosing | aluminium, angle-shaped, approx. 1.5 mm | stainless steel anodized  
bronze-anodized | 4000 | 35 | 55 |

### Plenera finishing profile

<table>
<thead>
<tr>
<th>Application</th>
<th>Material</th>
<th>Colour</th>
<th>Length (mm)</th>
<th>Thickness (mm)</th>
<th>Height (mm)</th>
</tr>
</thead>
</table>
| - for the perfect finish of the edges of the Plenera terrace  
- ideal within the colour concept | solid profile, made of Plenera | stained C08*  
coloured  
coloured/stained* | 2900 | 20 | 70 |

* Available made-to-order

### Insertion profile

<table>
<thead>
<tr>
<th>Application</th>
<th>Material</th>
<th>Colour</th>
<th>Length (mm)</th>
<th>Width (mm)</th>
<th>Height (mm)</th>
</tr>
</thead>
</table>
| - for the perfect finish of the edges of the Plenera terrace  
- as an insert in the longitudinal or head groove | solid profile, made of Plenera | coloured | 1000 | 17 | 12 |

### Dowels

<table>
<thead>
<tr>
<th>Application</th>
<th>Material</th>
<th>Colour</th>
<th>Contents</th>
<th>Length (mm)</th>
<th>Diameter (mm)</th>
</tr>
</thead>
</table>
| - for the unobtrusive filling of drill holes in products made of Plenera | solid profile, made of Plenera | coloured  
5 dowels | | 18 | ∅ 12 |

### Spacers

<table>
<thead>
<tr>
<th>Application</th>
<th>Material</th>
<th>Contents</th>
<th>Width (mm)</th>
<th>Thickness (mm)</th>
<th>Height (mm)</th>
</tr>
</thead>
</table>
| - for fastening Plenera finishing profiles and/or aluminium finishing profiles | made of Plenera  
- 11 spacers  
- 11 stainless steel screws (5 x 45 mm pan head) | 11 spacers  
11 stainless steel screws (5 x 45 mm pan head) | | 25 | 10 | 33 |

### Packing units

<table>
<thead>
<tr>
<th>Product</th>
<th>Pieces/pack</th>
<th>LM/pieces</th>
<th>Pieces/master carton</th>
<th>LM/Master carton</th>
<th>kg/piece</th>
<th>kg/master carton</th>
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<tr>
<td>Aluminium finishing profile</td>
<td>1</td>
<td>4.00</td>
<td>10</td>
<td>40.00</td>
<td>1.35</td>
<td>13.50</td>
</tr>
<tr>
<td>Plenera finishing profile</td>
<td>1</td>
<td>2.90 - 3.00</td>
<td>30</td>
<td>87.00 - 90.00</td>
<td>5.82</td>
<td>189.60 - 193.50</td>
</tr>
<tr>
<td>Insertion profile</td>
<td>1</td>
<td>1.00</td>
<td>30</td>
<td>30.00</td>
<td>0.32</td>
<td>9.80</td>
</tr>
<tr>
<td>Dowels</td>
<td>1</td>
<td>-</td>
<td>30 bags</td>
<td>-</td>
<td>0.09**</td>
<td>2.70</td>
</tr>
<tr>
<td>Spacers</td>
<td>11</td>
<td>-</td>
<td>30 packs</td>
<td>-</td>
<td>0.40**</td>
<td>12.60</td>
</tr>
</tbody>
</table>

**Note:** all measurements given are approximate (length/width/height/weight).  
**Weight per bag (kg)**
1.1 General information

Plenera colour stain

<table>
<thead>
<tr>
<th>Application</th>
<th>Material</th>
<th>Contents (ml)</th>
</tr>
</thead>
<tbody>
<tr>
<td>- for colour design and additional protection of Plenera decking or profiles made of Plenera</td>
<td>water-based, transparent colour stain</td>
<td>500</td>
</tr>
<tr>
<td>- particularly on cut edges</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- for the repair of damaged spots</td>
<td></td>
<td>3000</td>
</tr>
<tr>
<td>- coverage approx. 10 m²/litre.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Stain cleaner

<table>
<thead>
<tr>
<th>Application</th>
<th>Contents (ml)</th>
</tr>
</thead>
<tbody>
<tr>
<td>- highly concentrated cleaner for removing Plenera colour stain spots or as brush cleaner</td>
<td>500</td>
</tr>
</tbody>
</table>

Wide paint brush

<table>
<thead>
<tr>
<th>Application</th>
<th>Width (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>- with handle holder for applying Plenera colour stains</td>
<td>220</td>
</tr>
</tbody>
</table>

Packing units

<table>
<thead>
<tr>
<th>Product</th>
<th>Packing unit</th>
<th>Master carton (packing unit)</th>
<th>litres / packing unit</th>
<th>litres/master carton</th>
<th>kg/packing unit</th>
<th>kg/master carton</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour stain 500 ml-bottle</td>
<td>1</td>
<td>15</td>
<td>0,500</td>
<td>7,50</td>
<td>0,60</td>
<td>9,0</td>
</tr>
<tr>
<td>Colour stain 3000 ml-bottle</td>
<td>1</td>
<td>4</td>
<td>3,000</td>
<td>12,00</td>
<td>3,10</td>
<td>12,8</td>
</tr>
<tr>
<td>Stain cleaner</td>
<td>1</td>
<td>12</td>
<td>0,500</td>
<td>6,00</td>
<td>0,60</td>
<td>7,8</td>
</tr>
<tr>
<td>Wide paint brush</td>
<td>1</td>
<td>10</td>
<td>-</td>
<td>-</td>
<td>0,50</td>
<td>6,0</td>
</tr>
</tbody>
</table>

Not included in the product range:

PU adhesive (low foaming)  Concrete stone slabs (no lightweight building slabs)

Tool list:
1.2 Subsurface requirements

Selection of the subsurface
The Plenera terrace must be installed on a firm, load-bearing subsurface. Frost-free and abrasion-safe conditions must be guaranteed. Plenera must not be installed on grass/soil and/or sand if the subsurface is not frost-proof and/or erosion-proof because of possible settlement. Always avoid contact of Plenera products with the ground.

Note
A specialist firm must be commissioned with the design and construction of the subsurface (frost-proof, erosion-proof etc.). Local building regulations must be complied with.

Plenera decking including the subframe may be installed on the following subsurfaces:

**Fixed connection**
- Fixed connection on concrete block slabs*:
  (e.g. in frost-proof, stable gravel or ballast bedding) or on concrete slab with screw connection to the subsurface. The joist can be installed on edge or laid flat.

* Concrete stone slabs (no lightweight building slabs)

**Floating installation**
- Floating installation on a flat roof
  (or other sealed subsurfaces):
  The joists must be installed on edge. Do not use this installation method if subject to high winds!

The cavity between the subframe or the underlay slabs must not be filled, so that a circulation of warm and cold air can take place. Keeping the space will ensure sufficient ventilation and will also avoid waterlogging.

Plenera does not have building regulations approval for self-supporting constructions. Other applications, such as installation on balconies or on footbridges require a statically sound subsurface. Due to the risk of personal or material damage, a steel substructure with closely spaced supports must be used. Please consult a structural engineer for advice.
1.3 Plenera subframe

1.3.1 Framework assembly and installation dimensions

**General dimensions for subframe assembly**

![Diagram of framework assembly](image)

**Note**

The subframe spacing must be narrower by 10 cm in the following cases:

- constant loads of more than 200 kg/m²
- installation angles deviating from 90° to the subframe
- air temperatures exceeding constantly 30°C

**Gradient:**

2 % gradient, in the lengthwise direction of the planks

![Diagram of gradient](image)

**Edge finishing:**

The selection of the finishing for the edges of the terrace also influences the layout of the joists

![Diagram of edge finishing](image)
1.3 Plenera subframe

Fixed connection:
General dimensions for assembling the subframe framework on concrete stone slabs with screw connection to the subsurface

![Diagram of subframe framework with dimensions and labels A and B.]

Support spacing (concrete stone slab, rubber pads)

A The spacing at right angles to the main alignment of the subframe follows from the distance to the subframe spacing.
B The longitudinal spacing along the main direction of the subframe is 300mm for flat constructions and 400mm for on edge constructions.

Floating installation:
General dimensions for assembling the subframe framework on a flat roof and/or other sealed subsurfaces

![Diagram of subframe framework with dimensions and labels A and B.]

IMPORTANT
- Rubber pads must be used on sealed subsurfaces (i.e. PVC moisture barrier, protective mat, etc.) to prevent damage to the sealing membrane.
- Rubber pads must not be installed on plasticized subsurfaces (plasticized PVC moisture barriers, etc.) without using separating membranes.

Note
- Do not use more than two rubber pads on top of one another to prevent the stack from tipping when loaded.
1.3 Plenera subframe

Note

■ Each area of the deck must be suitably fastened at the edge:
  – fixed connection: at the edge with assembly brackets on the subsurface
  – floating installation (exception): at the edge with additional stone slabs on the subsurface

■ In general: The beginning/ end of each subframe element must always rest on a suitable underlay material
  (e.g. stone slabs, rubber pads etc.)

■ If subject to high winds, each subframe must be fixed to the subsurface

■ The selection of the finishing for the edges of the terrace also influences the layout of the joists
  (see separate chapter - finishing profiles page 24)

■ The selection of decking lights also influences the layout of the joists
  (see separate chapter - installation of decking lights, page 27)

IMPORTANT

■ For very large areas, we recommend dividing into separate installation areas of max. 6 m wide/long.

■ The following installation examples focus on the layout and spacing intervals of the subframe joists
  The double rows of subframe joists under the header joints of a terrace must be taken into account when planning.
1.3 Plenera subframe
1.3 Plenera subframe

1.3.2 Fixed connection: subframe fixing

Assembly brackets: Screw connection to subsurface

Note
- The joist can be installed on edge or laid flat when it is screwed directly on the subsurface using assembly brackets.
- In general: The beginning/end of each subframe element must always rest on a suitable underlay material (e.g. stone slabs, rubber pads etc.)

For screw connection to stone slabs: Attach the assembly brackets alternately to prevent the subframe from tipping!

Screws should be located in the middle of the assembly brackets (see markings)
1.3 Plenera subframe

1.3.3 Floating installation (exception): Subframe fixing

Assembly bracket, connecting plate to connect the joists to each other

![Diagram](image)

**IMPORTANT**

- Each area of the deck must be fastened at the edge with assembly brackets onto the stone slabs.
- Floating installation: The Plenera joist must always be installed **upright** in order to give the whole construction more stability. **The whole construction must be connected with the assembly brackets and connecting plates.**
- If subject to high winds, the floating installation is not permitted.
- The stone slabs must lie on rubber pads in order to prevent damage to underlying pvc-sheets, protective construction matting, etc.
- Rubber pads must not be installed on plasticized subsurfaces containing softeners (such as plasticized PVC moisture barriers, etc.) without using separating membranes.

**Note**

- Do not use more than two rubber pads on top of one another to prevent the stack from tipping when loaded.
1.3 Plenera subframe

**IMPORTANT**

- Floating installation (exception): Each area of the deck must be fastened at the edge with assembly brackets onto the stone slabs.
- For very large areas, we recommend dividing into separate installation areas of max. 6 m wide/long.
- The following installation examples focus on the layout and spacing intervals of the subframe joists. The double rows of subframe joists under the header joints of a terrace must be taken into account when planning.
1.4 Plenera decking

1.4.1 Expansion gaps and joints

**IMPORTANT**

- The expansion joints in the lengthwise direction must be calculated on the deck according to the longest plank length used.
- In case of 2 or more joints in a row, the individual plank length must not exceed 3 m to ensure that the expansion joints will not be too wide and to prevent risk of stumbling.
- In order to get an even joint pattern, we recommend fixing at the middle of every plank: In the middle of each plank, on either side of the middle clamp, just screw two screws horizontally into the plank (3.5 x 20 mm halfrounded head A2, pre-drill 2 mm).
1.4 Plenera decking

**IMPORTANT**

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- In case of 2 or more joints in a row, the individual plank length must not exceed 3 m to ensure that the expansion joints will not be too wide and to prevent risk of stumbling.
- In order to get an even joint pattern, we recommend fixing at the middle of every plank: in the middle of each plank, on either side of the middle clamp, just screw two screws horizontally into the plank (3.5 x 20 mm halfrounded head A2, pre-drill 2 mm).

**One expansion joint with or without wall finish**

- With finishing profile
- With insertion profile or without finishing

**Minimum gap between the subframe (short end) and the stationary structure**

![Diagram](diag_15.3)

- A: 10 mm for terrace widths up to 6 m
- B: 2 mm/m for terrace widths over 6 m

**Minimum gap between the planks (short ends) and the stationary structure**

![Diagram](diag_15.5)

- A: 10 mm with insertion profile or without finishing
- B: 0 mm with finishing profile

**Two or more expansion joints with or without wall finish**

**Special case: Expansion joints for diagonal installation**

**Rigid expansion joint by fixing one plank end.**
The drill hole is closed with a dowel.
1.4 Plenera decking

1.4.2 Fixing methods

**IMPORTANT**
Plenera name/arrow on the clamps must always be turned toward the plank to be installed, because the screw in the clamp is slanted.

**Diagram 1.5.11** Center clamps

**Diagram 1.5.12** Fabrication of an end clamp

**Diagram 1.5.13** Insertion of the centre clamps at the edge

**Diagram 1.5.14** The centre clamp can be used as is or shortened as an edge clamp.
1.4 Plenera decking

**Slot hole: Fabrication**

**Slot hole: Flush fastening**

**Closing the drill hole with a dowel**

1. Installation

Diag. 1.5.15

Diag. 1.5.16

Diag. 1.5.8
1.4 Plenera decking

1.4.3 Plank assembly

The decking is assembled by fixing the planks onto the subframe with specially designed mounting clamps. This ensures easy installation and sufficient stability of the structure. If screws are used, pre-drilling holes as in hard woods is recommended to produce stable and durable screw connections and to prevent the stainless steel screws from twisting off. Over-tightening of the screws must always be avoided. Do not put too much stress or overstrain the Plenera planks during installation.

**IMPORTANT**

The “Plenera” lettering on the clamps must always be turned toward the plank to be installed because the screw in the clamp is slanted.

1. Attach the first end clamp which is screwed only loosely at first

2. Screw the centre clamp*, then screw the edge clamp tight!

3. Attach the second plank

4. Install the subsequent planks

* maximum tightening force/torque of the screw 1 Newton meter

**Note**

Use either A a rubber hammer or B a tapping block together with the hammer to avoid damaging the plank.
1.4 Plenera decking

1.4.4 Finishing options

**MANDATORY!**

- Mandatory for all finishing profiles: Use of spacers between joist and finishing profile. The finishing profiles (aluminium and Plenera) should be installed using the spacers (assembly kit) from the Plenera product range to allow expansion of the planks and to ensure underside ventilation of the decking. The bottom edge of the finishing profile must be spaced at least 5 mm from the subsurface to ensure water drainage.

- **Do not install Plenera finishing profile as a stair nosing!**

Top end finishing:

*Plenera finishing profile (short end)*

![Diagram 1](image1.png)

**IMPORTANT**

- Only possible if the joist rests on the centre of the paving slab.

*Plenera finishing profile (short end): Flush finish of the framework with the paving slab*

![Diagram 2](image2.png)

**IMPORTANT**

- Only possible if joist is flush with paving slab and additional framework is installed (see 1.5.23).
1.4 Plenera decking

**Aluminium finishing profile (short end)**

![Diagram 1.5.24](image)

**IMPORTANT**

- Aluminium finishing profile also suitable as a stair nosing!
- Possible if the joist rests on the centre of the paving slab.
- Possible if joist is flush with paving slab and additional framework is installed (see 1.5.23).

**Long end finishing:**

Plenera finishing profile (long side) as decorative edge

![Diagram 1.5.25](image)

Aluminium finishing profile (long side) as step edge

![Diagram 1.5.26](image)
1.4 Plenera decking

1.4.5 Insertion profile

Top end finishing

*Milling one groove, top end.*
*Glueing the insertion profile into place.*

**Note**
- Mill a groove into Plenera decking plank; then glue the insertion profile with a little low-foaming PU adhesive into this groove.
- To ensure proper adhesion, remove dust from the glued areas with acetone if necessary
- Re-sand the groove edges for an even appearance (P 60-80)

![Diagram 1.5.27](image)

Mandatory!

*Mill the groove deep enough to allow drainage of accumulated water behind the insertion profile (leave 5 mm space).*

![Diagram 1.5.28](image)

Long end finishing

*Milling one groove, long side.*
*Glueing the insertion profile into place.*

**Note**
- Thin down insertion profile to approx. 5 mm for this finishing option.
- Resand the groove edges for an even appearance (P 60-80).

**Important**
- Do not mill into the screw. Risk of damage!
1. Installation

1.5 Installation of floor lights, pool surround

1.5.1 Installation of floor lights

Joist spacing

**IMPORTANT**

- Plan an additional joist for adequate support of the planks near the hole
- Check installation method for the floor light before drilling

Position in plank centre
1.5 Installation of floor lights, pool surround

1.5.2 Pool-surround

**Top end joint to the pool wall**

**Top-end joint to the pool wall with protruding border tile**

**Planks resting on the pool edge**

**Important**
- Drainage of rain and dirty water from the plank must be ensured away from the pool!

**Not permissible**
- Do not rest the planks on the pool edge because rain and dirty water can flow from the plank into the swimming pool!
- In addition the distance of the protrusion of the planks from the subframe would be too long.
2. Surface finishing: Plenera colour concept

2.1 Usage Information

Sealing is subject to usage-related wear. The lifespan depends on the coating thickness and intensity of wear. Abrasive wear can lead to scratches in the surface, which can be particularly noticeable with stained planks.

The sealed surface can look good longer with regular cleaning and care. Plenera colour stain cannot fully protect non UV resistant coatings from yellowing or bleaching due to sunlight. The UV resistance largely depends on the quantity of the colour stain applied. Darker colours offer greater UV protection than lighter colours. Faded, weathered or mechanically worn surfaces can easily be refreshed by reapplying a thin coat of Plenera colour stain.

Scratches:
After installation of Plenera decking, avoid pushing/pulling furniture, barbecues or other sharp objects on the Plenera surface. Any resulting scratches can be restored to the original colour by re-applying some colour stain. See para. 2.5 for the treatment of scratches.

2.2 General information

Plenera can be retrospectively finished with high-quality colour pigments. Plenera colour stains specially developed for this product feature high colour stability when exposed to the effects of UV and moisture.

Because the stains are also easy to apply and refresh, it is possible to colour Plenera planks individually. In addition, the colour stain facilitates easy removal of marks and ensures the deck will remain attractive for a long time.

Recommendation
To avoid applying the stain in low humidity and/or high temperatures, we recommend applying Plenera stains to the planks before installation in a space protected from the elements.

Plenera colour stain is based on a water-diluted lacquer system and is available in transparent colours with high-quality pigments.

Plenera colour stain is ready to use and does not need to be diluted. One litre of stain is sufficient for approx. 10 – 15m² coverage, depending on the application method and plank side used.

On surfaces with a transparent stain, the overall colour is produced by the combination of the subsu face colour and the transparent colour of the stain. The overall colour is determined by the amount of colour stain used.

After it has dried, it is no longer possible to remove the water-diluted lacquer system with water. Plenera cleaner can be used for this purpose.

The optimum application temperature is between 5°C and 20°C at a humidity of approx. 50 – 60%.

During physical drying (evaporation of water), climatic conditions have a direct impact on the drying behaviour of the stain.

Higher temperatures, low humidity, strong air movement (wind), direct sunlight and a heated subsurface accelerate the drying process tremendously.

When the colour stain is applied to the surface a second time after drying, the overall colour is influenced more strongly by the colour of the stain and is therefore much more intense.

If the colour stain is applied to individual areas twice, the colour of these areas changes and results in visual marking.

After use, always close the Plenera colour stain (container).

To prevent contamination, do not pour unused quantities back into the original container.

2.3 Preparation

The subsurface must be dry, hard, clean and free of all substances that could impair adhesion.

Before coating, remove dirt and grime from the surface with 100 - 120-grit sandpaper by lightly sanding along the length of the plank.
2. Surface finishing: Plenera colour concept

- A 120-grit sanding sponge is perfectly suitable for the grooved surface.
- Shiny spots, formed during installation or transport, can also be removed by lightly sanding along the length of the plank.
- Remove the resulting dust before staining.

2.4 Staining with a brush

- Stain can be applied in the same manner as for conventional colour stains.
- Stir Plenera colour stain thoroughly and shake it vigorously.
- Apply an even coat of stain quickly using a wide brush only, e.g. Plenera paint brush. Brush marks must be spread evenly. Do not apply with a roller.
- On the grooved surface make sure the stain is thoroughly applied to all areas and grooves.
- After application, immediately spread the stain with light pressure along the length of the individual planks (structure direction) if possible in one movement without lifting the brush.
- After spreading, do not touch the fresh surface for at least 2 hours depending on the temperature and weather conditions.
- Avoid contact with water and moisture during the first 8 hours (formation of white spots).

**IMPORTANT**

- Quick and even application of the stain is the basic requirement for visually perfect results (colour effect and gloss).
- The application quantities must be observed (material consumption 70 – 80 g/m²).
- If the material is applied unevenly, insufficiently or in excess, colour differences are unavoidable.
- Because the drying of the stain is influenced by various environmental factors, there is a risk of spotting (marks due to double colour application) especially on larger areas.

Staining in covered areas
To achieve an even, optimum colour result, the stain should be applied in constant surrounding conditions. Therefore we recommend applying the stain before installation, plank by plank in a place protected from sun and rain.

**Staining in the open**
If it is not possible to apply the stain before installation for work-related or special constructional reasons, we recommend the following procedure:

- Do not apply in direct sunlight.
- Apply only in dry weather.
- If installed surfaces are to be stained, separate them into easy-to-process areas of approx. 4 – 5 m² (e.g. with paper strips in the longitudinal and cross joints). Please ensure that surrounding building elements are protected from splashes of stain.
- Dilute colour stain 1:2 with water and apply a thicker coat to delay drying.
- Apply the strongly diluted colour stain twice if necessary to produce the desired colour.

When applying colour stain to the grooved side, please pay particular attention to the following:
During drying, stain deposits form in the recesses of the grooves, which dry more slowly due to the larger quantity. If the stain on the ridges of the grooving has dried, and not yet dry puddles in the recesses are spread over the dried ridges with a brush again, colour unevenness due to double colour application is unavoidable.

2.5 Care and repair with the colour stain

After the planks are installed and fixed, please check the surface for damage caused by assembly.

**In case of scratches:**

- Go over/repair scratches using a fine brush, taking care to remove the excess stain with a cloth. If necessary, repeat the process several times until the desired colour has been achieved.
2. Surface finishing: Plenera colour concept

In case of cut edges, milled grooves, dowels, etc.:
- Sand surface in these areas with a belt sander or sand paper (24-grit) in the structure direction.
- Smooth re-sanded areas lightly with 100 – 120 grit (as described above).
- Apply Plenera colour stain undiluted or diluted to the unstained areas with a brush or dab it on with a cloth.

In case of spots caused by spot removers (oil/grease) or bleaching agents:
- Spots can subsequently be blended in as far as possible with the rest of the surface, by the re-application of some Plenera colour stain.

In case of repaired areas:
- Spread subsequently applied Plenera colour stain lightly over the edges of spots so that only slight differences in colour due to puddling on the rim areas are visible.

General colour refreshment:
- Depending on the desired colour intensity, the colour of the planks can be refreshed with undiluted stain or with a solution diluted with water by wiping the surface with a damp mop.

2.6 Plenera stain cleaner

Plenera stain cleaner is suitable for:
- Removal of splashes of colour stain.
- Removal of stain residues on the brush.
- Careful removal of spots of colour on the decking surface.

Instructions for use:
- Apply the stain cleaner undiluted to the affected areas and clean vigorously with a brush.
- During cleaning, keep surfaces moist and then rinse with clear water.

As preparation for re-applying a renovation coat with Plenera colour stain:
- Clean surface vigorously with diluted cleaner (ratio of water to cleaner 5:1) using a brush.
- Then rinse with water.

2.7 Colour development

Plenera decking which has been treated with stain is extremely durable even when exposed to long-term weathering. In a standardised exposure test, known as a Q UV test (simulation of sunlight and rain, duration 1,200 hours), a slight lightening of the stains was determined after the equivalent of approx. 2 – 3 years based on outdoor weathering (depending on UV intensity). If required, the surface can easily be retreated and refreshed with some Plenera colour stain (undiluted or diluted).

2.8 Colour information

- The individual colour largely depends on the application quantity and preparation of the material to be coated.
- No liability is accepted for colour variations or differences from the colour chart or colour samples.
- Please test the colour on the material to be coated before application. Apply to a large area of the material only after checking the colour.
- NOTE: For some colours the individual shade of the Plenera stain inside the container differs from the applied colour stain when dry later on. This is due to technical/production reasons and is not a product fault.

2.9 Storage

Plenera colour stain as well as the cleaner must be stored in a closed container in a cool, dry place and protected from frost. After longer storage, always shake and stir colour stain well before use due to settlement of the pigments.

2.10 Safety and disposal

The material safety data sheet is available on request for professional users. For safety recommendations and notes on disposal, please refer to the material safety data sheet.
3. Cleaning and maintenance

3.1 Maintenance/repair

General information:
The purpose of treatment with Plenera stains is to enable the customer to create an individual look, to facilitate easy removal of marks and to ensure the decking will remain attractive-looking for a long time.

Thanks to its material properties, Plenera decking does not require any further treatment with protective coating, as is necessary for solid wood products.

- The more often the decking is cleaned by the user, the cleaner it remains in the long run.
- It is important to remove grime (e.g. grease, oil, red wine, mustard) from Plenera products immediately so that as little as possible of the substance penetrate the surface. Usually a mark can be removed by dabbing the soiled surface immediately with a cloth or sponge, without the mark spreading. Subsequent treatment with warm (soapy) water and a brush can improve the cleaning results. The natural weathering process (sun, rain) aids the cleaning process and fades stains.
- When bleaching or other special agents are used to remove severe grime (e.g. oil, grease), the discolouring effect of the cleaning agent must first be tested on a concealed area of the decking.

Scratches:
After installation of Plenera decking, avoid pushing/pulling furniture, barbecues or other sharp objects on the Plenera surface. Any resulting scratches can be restored to the original colour by re-applying some colour stain.

Attention
High-pressure cleaners must not be used for surface cleaning. Multiple use roughens the surface (stone, wood, WPC, RPC) and accelerates moss/algae/mould formation. In addition the high-pressure cleaning would make the colour stain fade faster.

- After intensive cleaning of a surface treated with Plenera stain, it may be necessary to restore the colour of the cleaned surface in some areas for a uniform appearance. The stain must be spread like a wood stain beyond the lighter area so that only slight or no outlines are visible.

- Depending on the desired colour intensity, the stain can be refreshed with undiluted stain or a solution diluted with water by wiping the surface with a moist mop.

We recommend the following cleaning procedures!

3.2 Care and cleaning

Basic cleaning (dirt):
- Leaves and other organic material (dirt, leftover food) can usually be removed by sweeping the surface weekly and rinsing and brushing it with warm (not too hot) water/soapsuds twice a year.
- This procedure protects the decking, prevents mould growth, otherwise encouraged by the debris, and preserves the original appearance of the decking.

Frequent reasons for cleaning

Shade:
- Permanent shade, caused by trees, overhanging balconies or roof overhangs next to the Plenera decking, or objects placed on the surface, can produce a colour difference on the surface of the decking.
- These colour differences can be compensated by retreatment with Plenera stain. The stain must be spread generously over the areas requiring treatment to avoid differences in colour due to puddling on the ridge areas.

Water rings:
- Drying water spots as well as water dripping from trees next to the Plenera surface, overhanging balconies, roof overhangs, etc., can cause water rings.
- They can be partially removed by brushing with soapy water
- The occurrence of water rings can be reduced by installing the surface with a gradient of 1 – 2%.

Animal excrement:
- Animal excrement and urine can normally be treated and removed like any other dirt with warm water, a brush and light cleaning agents.
3. Cleaning and maintenance

**Mould:**
- Despite the high durability of Plenera products, certain climatic conditions and incorrect installation can cause fungal growth.
- The risk of infestation by biological organisms (fungus, insects) can however be reduced by keeping the decking clean and dry. Therefore in accordance with the official installation instructions sufficient underside ventilation must be ensured as well as a gradient of 1 – 2 %.
- The use of bark mulch in the immediate vicinity of Plenera products should be avoided because it often contains mould spores.
- Warm water with the addition of soapsuds or chlorine cleaner (bleaching agent) helps to combat mould, moss and algae; for treatment of severe cases of mould, algal or fungal growth, special cleaners are available at specialist dealers.

**Grease/oil:**
- Grease or oil spots should be removed as quickly as possible. Usually a mark can be removed by dabbing the soiled surface immediately with a cloth or sponge, without spreading the mark. Subsequent treatment with warm soapy water and a brush can improve the cleaning results.
- If the substances have penetrated the surface, special deck cleaners or grease removers from specialist dealers can help.

**Barbecue grime:**
- If barbecuing on the decking, an appropriate underlay mat should be used for protection.
- Dropping glowing barbecue charcoal or cigarettes on the decking causes some of the most stubborn types of marks. They can only be removed by lightly sanding (80-grit) along the length of the decking planks.

**Snow and ice:**
- Ice and snow can easily be removed with conventional de-icing salt. After periods of frost, the remaining salt should be removed from the decking surface (sweep off or brush off with soapsuds).
- Snow and ice should only be removed with plastic shovels to prevent damage to the deck surface. Never use ice picks or similar implements.

**Rust:**
- The stainless steel screws supplied must be used to fasten the decking to the framework as well as all other Plenera products that must be screwed together.
- The use of normal steel screws can lead to the formation of rust and destruction of the fixing.
- The formation of rusty spots due to iron objects (e.g. garden furniture) can be avoided by using mats.
- Existing rusty spots can be sanded off along the length of the decking planks.

**Special cases:**
- Lacquer is very hard to remove; the spots must be dabbed off and lacquer residues must be sanded off after drying.
- We recommend 80-grit for pre-sanding and 100 – 120-grit for light re-sanding, always along the length of the planks.

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Einen Händler in Ihrer Nähe sowie vollständige Informationen zum Thema Plenera finden Sie auf unserer Homepage www.terhuerne.de/plenera
Sie können uns auch gern per Email unter: Plenera@terhuerne.de kontaktieren.
Allgemein, Materialität

Plenera decking is made of a rice husk/polymer material which is completely recyclable. The material features product properties which remain virtually constant for years, guaranteeing a long lifetime.

Product description Plenera is mainly composed of natural raw materials. When left untreated it might show slight colour variations, as with natural wood. This underlines the natural character of the product. Due to the natural rice husks Plenera can have natural colour variations, also between the various productions. For this reason, we recommend that planks from different batches are well distributed/mixed in the installation.

A more even overall colour may be achieved by the application of stain. Depending on the colour of the stain and the quantity applied the natural colour variation can be preserved.

Under the influence of weathering a slight change in the colour of the Plenera decking may occur, because as a natural substance, rice husks undergo a natural maturing process. These colour changes do not have any effect on the mechanical characteristics or longevity of the planks. Further information can be found in chapter 5 Attachment: Colour Development (maturing process).

Period of warranty

In addition to statutory claims of the warranty in accordance with German law, ter Hürne GmbH & Co. KG (hereinafter referred to as “the manufacturer”) shall grant the customer a limited warranty on function in the European Union, Switzerland, Norway, Iceland and Russia – apart from any and all statutory orders. The manufacturer shall offer the customer a 15-year warranty from the date of purchase for products, which were purchased new from an authorised dealer.

Extent of warranty

The function warranty for structural damage to the installed Plenera decking system shall apply if the following damage occurs:

■ Formation of cracks, scales and breakage, as a direct and sole effect of termites, insects or soft rot fungus.

Visual aspects such as greying, water rings, etc. are not covered by the granted warranty.

Warranty performance

If a defect is discovered pursuant to the warranty, the manufacturer undertakes to deliver a replacement product only. The manufacturer’s liability pursuant to this warranty refers without exception to the replacement of defective components from the Plenera decking system. The statutory warranty shall remain unaffected.

The manufacturer shall not be liable for:

■ Labour costs ■ Installation
■ Disassembly costs ■ Re-installation
■ Freight costs ■ Insurance
■ Customs duties ■ Taxes
■ Licence fees ■ Communication fees
and other fees in connection with the defective product.

The manufacturer is consequently not responsible for any subsequent damage, administrative fines, financial losses or claims for compensation.

Warranty exclusion

The warranty shall not come into effect in case of:

■ Misuse ■ Incorrect use
■ Negligence ■ Disregard of the installation instructions
■ Incorrect installation ■ Use of non-system accessories
■ Incorrect maintenance and cleaning ■ Product modification by the customer
■ Excessive stress and strain ■ Accidents
■ Fire ■ Natural catastrophes

No claim shall be accepted under the warranty because product modification or further development of the product is carried out by the manufacturer. Also in this case the warranty shall apply only in accordance with the intended extent of the warranty.
4. Terms of warranty

Technical terms of warranty
Proper use of the decking and/or product made of Plenera is a prerequisite. Proper use as well as the warranty claims themselves shall be reviewed by the manufacturer. Recognition of warranty claims shall be left to the discretion of the manufacturer’s expert assessment. The customer is obliged to ensure that the product is suitable for the planned application. Building regulations, structural requirements as well as safety measures must be reviewed by the customer and observed in accordance with statutory provisions. This warranty is only valid for use according to the intended application and product-specific installation in accordance with the enclosed or supplied written manufacturer guidelines.

General terms of warranty
No person is authorised by ter Hürne to issue any statements or assurances regarding the quality or performance of the Plenera products not covered by this warranty. This warranty may only be amended or supplemented by a written document which is signed by ter Hürne and the customer. The obligation to implement the warranty shall not come into effect until complete payment of the goods as well as of all existing claims from the business relationship.

The warranty is subject to German law (excluding CISG).

The period of warranty shall remain unaffected by the recognition of warranty claims, i.e. an extension of the period of warranty shall not come into effect.

These terms of warranty do not affect your statutory rights!

Lodging warranty claims
To raise claims under the warranty, the customer must send the sales receipt as well as documentary photos in conjunction with a damage report to the authorized dealer or to the manufacturer within 30 days after occurrence of damage.

The damage report must specify the following items:
- Time of installation, place of installation, any building regulations to be observed, development of damage. The manufacturer reserves the right to examine the claim on site.

Please lodge warranty claims – including sales receipt, documentary photos and damage report to the authorized dealer:

OR:

ter Hürne GmbH & Co. KG
Plenera
Ramsdorfer Straße 5
46354 Sülohn
Germany

By signing this document you confirm receipt of comprehensive expert advice, as well as handover and notice of the installation/assembly instructions as well as the maintenance and cleaning instructions. The technical options and limits (especially expansion and fixing) were explained to you. This certificate is only valid with your signature and the authorised dealer’s stamp.

Date of purchase, customer’s signature

Issued: 05.2014
5. Colour development (maturing process)

5.1 Maturing process: Colour development of the coloured Plenera

Depending on the weather conditions, especially in the period after installation, the rice husks will change colour slightly as they undergo a natural colour change due to the influence of weather. These changes can be visible if the untreated, natural Plenera planks are installed. The slight colour changes will however fade within the first weeks under the effect of water (rain, cleaning procedures). Thereafter the rice husks undergo the natural process of patina formation. This natural process can be accelerated, if the terrace is cleaned, sprayed and brushed with water in the first weeks after installation.
5. Colour development (maturing process)

Formation of patina depending on weathering after 2 to 5 months

Illustration: Natural colour changes to the coloured Plenera planks caused by weathering (sun, rain). The rapidity and the extent of the colour change depends on the UV intensity and the external weather humidity. The depiction of the colours shown here can vary from the actual colours due to technical printing reasons.

The colours can vary between different productions and this underlines the natural character of the product and is intentional.

The colour changes described do not have any effect on the mechanical characteristics or longevity of the Plenera planks. As the natural raw material contains rice husks, all samples of the untreated natural Plenera planks only serve as a guide for the selection of colours.

Moving objects around on the terrace can create visible colour differences in the terrace surface. These areas are exposed to the weather and also undergo the colour changes as described above. The colour changes to the rice husks can be greatly reduced if the decking is treated with the Plenera colour stain.