INSTALLATION GUIDE - FURRINGS OF WOOD

Legend:
- The furring should be min. 60 mm wide at the short end joints (if wood is used; the steel furring can be min. 45 mm). The remaining furring can be 45 mm wide.
- Screw (SN 3.5 x 30)
- Max. 300 mm

Best Practice: Handling the panels with care will avoid damage and surface contamination prior to painting and thereby ensure a good end result.

FURRING
- Furrings can be of wood or steel profiles; CD2 system can also be used as substrate - for more details please see page 92.
- Also see the sections “Fire” and “Acoustics” on page 95.

CEILING LAYOUT AND FURRING SYSTEM
- Divide the ceiling surface from the centre of the room or in accordance with the existing ceiling plans.
- As a rule, the furring must be at right angles to the longitudinal direction of the elements at centres of 300 mm to ensure that the panels are properly supported. Ensure full support for the short edges (e.g. steel band) on longitudinal furrings.
- Please note that expansion joints must be established on extensive ceiling surfaces at max. intervals of 15 metres in both directions. See detailed drawings on knaufdanoline.com
- Also see the sections “Fire” and “Acoustics” on page 95.
INSTALLATION GUIDE - FURRINGS OF STEEL (P45-S25)

CEILING LAYOUT
- Divide the ceiling surface from the centre of the room or in accordance with the existing ceiling plans.
- The furrings should usually run across the longitudinal direction of the element with a C-C distance of 300 mm. This will ensure that the end edges are fully supported. Ensure full furring support at short edge joints for longitudinal furrings (e.g. steel band).
- Please note that expansion joints must be established on extensive ceiling surfaces at max. intervals of 15 metres in both directions.
- Where conditions indicate an increased risk of movement in a building, this must be taken into account by reducing the distance between expansion joints.

INSTALLING THE WALL PROFILE
- Mark out.
- Install the wall profile MSK70. Choose the method of fixing in accordance with the substrate.

PRIMARY PROFILES/HANGERS
- Install primary profiles every 1200 mm centres (max).
- Using rigid or strap hangers. Connect hangers to primary profile with 2 screws (F/F 13).

SECONDARY PROFILES
- Fix the secondary profiles to the primary profiles at every 300 mm. Use 2 screws (F/F 13) in each connection.
INSTALLATION GUIDE - FURRINGS OF STEEL (CD2)

CEILING LAYOUT

- Divide the ceiling surface from the centre of the room or in accordance with existing loft plans.
- The furrings should usually run across the longitudinal direction of the element with a C-C distance of 300 mm. This will ensure that the end edges are fully supported. Ensure full furring support at short edge joints for longitudinal furrings (e.g. steel band).
- Please note that expansion joints must be installed in both directions at an interval of maximum 15 metres when working with large ceiling surfaces. Please see detail drawings on knaufdanoline.com.
- Where conditions indicate an increased risk of movement in a building, this must be taken into account by reducing the distance between expansion joints.

INSTALLING THE WALL PROFILE

- Mark out.
- Install the wall profile UD 28/27. Choose the method of fixing in accordance with the substrate.

Best Practice: Handling the panels with care will avoid damage and surface contamination prior to painting and thereby ensure a good end result.
**HANGERS**

- Secure the upper part to the construction above it at 900 mm c/c. Choose the fixings in accordance with the substrate.
- Secure the lower part to the primary profile.

**PRIMARY PROFILES**

- Connect the two parts of the hangers with two split pins, one immediately above the other.

**JOINING CD-PROFILES**

- Join the CD profiles with the help of length connectors.

**SECONDARY PROFILES**

- Place a cross fitting on the primary profile.
- Press the underlying secondary profile into it.
- Adjust the locations of the secondary profiles and lock the cross fitting.
- See distances in figure 1.
INSTALLATION

- Install the first row of panels with the help of string.
- See distances in figure 1 page 90-92 all according to furring. Screws must be fixed 10 mm from the long panel edge and 15 mm from the end panel edge.
- Panel length and breadth have a tolerance of +0/-4 mm. When installing, take into account the location of perforation fields to ensure they are flush in both directions. This can mean that there can be up to 4 mm between panel edges.
- The panels are supplied undersized and must be installed at distances of up to 4 mm from each other to ensure that it is possible to insert filler all the way up between the edges of the panels.
- Cut the elements to size from the front with a fine-toothed saw.
- Designpanel should always be installed with bevelled edge to bevelled edge (some applies for friezes). We recommend using Plan-4 Board for friezes.
- If joints with cut edges cannot be avoided, match cut edge to cut edge. We recommend sanding and priming cut edges before installation. Always maintain a gap between the panel edges for a 3-5 mm grout seal.
- Apply Knauf Uniflott (without paper strips) as grout.
- Alternatively, the perforated Designpanel boards can run right to the wall, using filler to fill the perforated holes when an unperforated surface is required. In such instances, the perforated holes should be sprayed first with deep primer and then filled with Knauf Uniflott, before finishing with Knauf Uniflott Finish.

SCREW DISTANCES 900 X 2700
- Fix the panels according to the template above.

SCREW DISTANCES 900 X 2400
- Fix the panels according to the template above.

SCREW DISTANCES 1200 X 2400
- Fix the panels according to the template above.

FILLING

- Apply the first layer of filler (Easy Filler Light). Ensure that it is pressed firmly between the panel edges if there is a gap between them.
- Avoid filler in the perforated holes (can be masked with a sensitive masking tape, but check that the tape can be removed without damaging the cardboard surface before starting).
- Apply filler tape to the wet filler.
- The first filling and application of filler tape can be carried out in a single, very simple operation by using a Mini Bazooka.
- Allow the filler to dry. Make sure that the filler is completely dry before sanding. Sand with fine sandpaper. Be careful not to damage the cardboard surface.
- Apply the second layer of filler (Easy Filler Light).
- Allow the filler to dry. Make sure that the filler is completely dry before sanding. Sand with fine sandpaper. Be careful not to damage the cardboard surface.
- Apply the third layer of filler (Easy Filler Light). Make sure that the filler is completely dry before sanding. Sand with fine sandpaper until the joint is completely smooth. Be careful not to damage the cardboard surface.

FILLING SCREW HOLES
- Check that the screws have been countersunk.
- Apply filler (Knauf Uniflott Finish or Easy Filler). Overfill slightly.
- We recommend the use of Knauf Danogips „Acoustic filling knife for holes” in order to avoid filler getting into the perforation holes.

FILLING PERFORATED HOLES
- spray the holes first with deep primer and fill with Knauf Uniflott. Finish off with Knauf Uniflott Finish.
INSTALLATION GUIDE - PAINTING

**ACOUSTICS**
- A perforated gypsum panel will lose its acoustic function if the perforations are blocked (this applies to the front and back of the panel).
- Where applicable, a vapour barrier should therefore always be placed behind the furrings so that it does not come into contact with the back of the perforated panel.
- When installing Designpanel on a fixed surface we recommend filling the cavity between the back of the panel and the furring with mineral wool. This is primarily to ensure low frequency sound absorption.

**FIRE**
- If there is a requirement for BD30 follow the instructions for this construction.
- The furring should be dimensioned in accordance with the load in question and should be at least 45 mm in width. Where BD30 constructions are concerned 25 x100 mm furrings should be used.

**PAINTING**
- Make sure that the filler is completely dry and the surface is smooth and free from dust.
- Priming should be carried out in accordance with the paint manufacturer’s instructions.
- Apply the paint with a roller so that the acoustic felt on the perforated panels is not sealed. Use a fine mohair roller.
- Make sure that the paint is not too thick and avoid applying too much paint at a time.
- Spraying cannot be recommended as this could influence the acoustic properties of the panels.

INSTALLATION GUIDE - CURVED PANELS

Apply water on the front face and leave for 30 minutes. If necessary the panel can be covered in plastic to assist the panel in absorbing the water.

Lay the panel over a template. Secure the panel on one side of the template.

To minimize the risk of mold formation during the process, make then sure that a fast drying of the boards is present. A good ventilation with high air exchange and relative high temperature is needed and with advantage the boards can be bended and dried out before mounting.

Press the panel against the template using a batten, moving it every 100 mm. Secure the panel on the other side of the template. Make sure that the panel is fully dry before mounting or closing the construction.
 DETAILS

DESIGNPANEL WITH 1 LAYER FURRING

DESIGNPANEL WITH CROSS-FURRING

Knauf Danoline Non-demountable Ceiling
## ACCESSORIES

<table>
<thead>
<tr>
<th>PRODUCT NAME</th>
<th>SAP NO.</th>
<th>W x L x H (mm)</th>
<th>Consumption per. m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary / secondary CD 60/27-profile</td>
<td>3294</td>
<td>60 x 4000 x 27</td>
<td>4.6 m</td>
</tr>
<tr>
<td>Wall angle UD 28/27</td>
<td>181589</td>
<td>28 x 3000 x 27</td>
<td>1.0*</td>
</tr>
<tr>
<td>Length connector CD 60/27</td>
<td>181080</td>
<td>59 x 80 x 28</td>
<td>1.1 pcs.</td>
</tr>
<tr>
<td>Cross-fitting</td>
<td>3446</td>
<td>-</td>
<td>3.3 pcs.</td>
</tr>
<tr>
<td>Split pin for hanger</td>
<td>198907</td>
<td>-</td>
<td>2.6 pcs.</td>
</tr>
<tr>
<td>Nonius hanger lower</td>
<td>198904</td>
<td>-</td>
<td>1.3 pcs.</td>
</tr>
<tr>
<td>Nonius hanger upper 85mm</td>
<td>198905</td>
<td>125 - 185</td>
<td></td>
</tr>
<tr>
<td>Nonius hanger upper 135mm</td>
<td>198906</td>
<td>135 - 235</td>
<td></td>
</tr>
<tr>
<td>Nonius hanger upper 235mm</td>
<td>198923</td>
<td>235 - 340</td>
<td></td>
</tr>
<tr>
<td>Nonius hanger upper 340mm</td>
<td>198924</td>
<td>340 - 440</td>
<td></td>
</tr>
<tr>
<td>Nonius hanger upper 440mm</td>
<td>198925</td>
<td>440 - 540</td>
<td></td>
</tr>
<tr>
<td>Nonius hanger upper 540mm</td>
<td>198926</td>
<td>540 - 640</td>
<td></td>
</tr>
<tr>
<td>Nonius hanger upper 640mm</td>
<td>198927</td>
<td>640 - 740</td>
<td></td>
</tr>
<tr>
<td>Nonius hanger upper 740mm</td>
<td>198928</td>
<td>740 - 840</td>
<td></td>
</tr>
<tr>
<td>Nonius hanger upper 840mm</td>
<td>198929</td>
<td>840 - 940</td>
<td></td>
</tr>
<tr>
<td>Nonius hanger upper 940mm</td>
<td>198930</td>
<td>940 - 1040</td>
<td></td>
</tr>
<tr>
<td>MSK 70 Perimeter profile</td>
<td>181029</td>
<td>2500</td>
<td>1.0 m*</td>
</tr>
<tr>
<td>P45 Primary profile</td>
<td>181684</td>
<td>3600</td>
<td>0.85 m</td>
</tr>
<tr>
<td>S25/85 Secondary profile</td>
<td>181685</td>
<td>3800</td>
<td>3.6 m</td>
</tr>
<tr>
<td>F/F13 Screw</td>
<td>2017</td>
<td>13</td>
<td>8 pcs.</td>
</tr>
<tr>
<td>Screw SN3.5x30</td>
<td>3503</td>
<td>3.5 x 30</td>
<td>20 pcs.</td>
</tr>
<tr>
<td>Joint Filler - Easy Filler Light</td>
<td>235309</td>
<td>-</td>
<td>0.35 kg</td>
</tr>
<tr>
<td>Uniflott Finish</td>
<td>129801</td>
<td>8 kg</td>
<td>≤ 0.1 kg</td>
</tr>
<tr>
<td>Filling tape</td>
<td>314828</td>
<td>-</td>
<td>1.5 m</td>
</tr>
<tr>
<td>Mini Bazooka</td>
<td>181232</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Filling knife</td>
<td>73962</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

*Depending on room size.
PATTERNS DESIGNPANEL 900 X 2700

Following perforation patterns are available for Designpanel Globe, Quadril og Micro 900 x 2700 mm.

**G1F, Q1F, M1F**

<table>
<thead>
<tr>
<th>Perforation percentage</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designpanel G1F</td>
<td>9.8%</td>
<td>60</td>
<td>780</td>
<td>60</td>
<td>780</td>
</tr>
<tr>
<td>Designpanel Q1F</td>
<td>13%</td>
<td>60</td>
<td>780</td>
<td>60</td>
<td>780</td>
</tr>
<tr>
<td>Designpanel M1F</td>
<td>9.8%</td>
<td>62.5</td>
<td>775</td>
<td>62.5</td>
<td>775</td>
</tr>
</tbody>
</table>

**G2F*, Q2F, M2F**

<table>
<thead>
<tr>
<th>Perforation percentage</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designpanel G2F</td>
<td>7.4%</td>
<td>60</td>
<td>330</td>
<td>60</td>
<td>330</td>
</tr>
<tr>
<td>Designpanel Q2F</td>
<td>10.2%</td>
<td>60</td>
<td>330</td>
<td>60</td>
<td>330</td>
</tr>
<tr>
<td>Designpanel M2F</td>
<td>7.1%</td>
<td>62.5</td>
<td>325</td>
<td>62.5</td>
<td>325</td>
</tr>
</tbody>
</table>

PATTERNS DESIGNPANEL 1200 X 2400

Following perforation patterns are available for Designpanel Globe, Quadril og Micro 1200 x 2400 mm.

**G2F, Q2F, M2F**

<table>
<thead>
<tr>
<th>Perforation percentage</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designpanel G2F</td>
<td>8.6%</td>
<td>60</td>
<td>480</td>
<td>60</td>
<td>480</td>
</tr>
<tr>
<td>Designpanel Q2F</td>
<td>11.6%</td>
<td>60</td>
<td>480</td>
<td>60</td>
<td>480</td>
</tr>
<tr>
<td>Designpanel M2F</td>
<td>8.4%</td>
<td>62.5</td>
<td>475</td>
<td>62.5</td>
<td>475</td>
</tr>
</tbody>
</table>

*Non standard*
Following perforation patterns are available for Designpanel Tangent 900 x 2400 mm.

**T3L1**

![Image of T3L1 perforation pattern]

Perforation percentage

T3L1 15.8%

**T3L2**

![Image of T3L2 perforation pattern]

Perforation percentage

T3L2 15.0%

**T3L4**

![Image of T3L4 perforation pattern]

Perforation percentage

T3L4 13.3%