The innovative acoustic plaster ceilings developed by Knauf Danoline Kraft combine perforated gypsum tiles with a fine coating of acoustic plaster, in a single, sustainable and robust unit.

The result is a stunning monolithic ceiling with high acoustic performance and a long service life, perfectly designed to meet today’s demands for contemporary ceiling designs and acoustic room comfort.

Benefits of our acoustic plaster ceiling system:

- Robust
- Easy to repair and repaint
- Possibility for built-in light fixtures
The Knauf Danoline Kraft acoustic plaster ceiling system consists of four components:

1. Knauf Danoline Tectopanel U-perforated gypsum board - ensures acoustic excellence through its high sound absorption qualities.

2. Isolation primer - seals the gypsumboard surface and the screws; and ensures a longer service life of the ceiling.

3. Acoustic fleece glued to the gypsumboard - ensures a smooth surface for plastering.

4. Picco S acoustic plaster layer - ensures a seamless, monolithic acoustic ceiling surface.
**DATASHEET**

**SUPPORT SYSTEM FOR ACOUSTIC PLASTER**

<table>
<thead>
<tr>
<th>Property</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acoustic panel as plaster support surface</td>
<td>Knauf Danoline Tectopanel U (perforated gypsum board) produced according to DIN EN 520, processed according to DIN EN 14190</td>
</tr>
<tr>
<td>Size</td>
<td>12.5 x 600 x 1200 mm</td>
</tr>
<tr>
<td>Perforation percentage</td>
<td>17.3%</td>
</tr>
<tr>
<td>Perforation size</td>
<td>3.5 x 3.5, c/c 8.33 mm</td>
</tr>
<tr>
<td>Edge</td>
<td>Edge TU</td>
</tr>
<tr>
<td>Weight without substructure</td>
<td>approx. 8.5 kg/m² without coating approx. 9.7 kg/m² inclusive of coating</td>
</tr>
<tr>
<td>Fire class</td>
<td>A2-s1,d0 (report 230007299-3 MPA-NRW)</td>
</tr>
<tr>
<td>Building code</td>
<td>According to DIN EN 13501-1</td>
</tr>
<tr>
<td>Ambient conditions</td>
<td>Class B according to DIN EN 13964</td>
</tr>
<tr>
<td>Load-bearing capacity</td>
<td>1/A/No load 2/A/30N</td>
</tr>
<tr>
<td></td>
<td>According to ASTM E 1264:14</td>
</tr>
<tr>
<td></td>
<td>Tested in accordance to UL 723: Follow up service no R26164</td>
</tr>
<tr>
<td></td>
<td>Up to a maximum of 90% RH and +30°C</td>
</tr>
<tr>
<td>Surface</td>
<td>White</td>
</tr>
<tr>
<td>Surface acoustic plaster</td>
<td>Picco S Smooth surface structure with 0.1 - 0.3 mm grain size</td>
</tr>
<tr>
<td>Upkeep &amp; maintenance</td>
<td>Using acoustic renovation plaster with limited absorption loss</td>
</tr>
<tr>
<td>Emission class</td>
<td>M1</td>
</tr>
</tbody>
</table>

**ABSORPTION VALUES FOR KNAUF DANOLINE KRAFT ACOUSTIC PLASTER SYSTEM**

<table>
<thead>
<tr>
<th>Frequency (Hz)</th>
<th>(\alpha_p)</th>
<th>(\alpha_p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>125</td>
<td>0.60</td>
<td>0.40</td>
</tr>
<tr>
<td>250</td>
<td>0.85</td>
<td>0.65</td>
</tr>
<tr>
<td>500</td>
<td>0.90</td>
<td>0.85</td>
</tr>
<tr>
<td>1000</td>
<td>0.90</td>
<td>0.80</td>
</tr>
<tr>
<td>2000</td>
<td>0.70</td>
<td>0.75</td>
</tr>
<tr>
<td>4000</td>
<td>0.50</td>
<td>0.80</td>
</tr>
</tbody>
</table>

- 200 mm suspension and 30 mm mineral wool, NRC: 0.85
- 200 mm suspension without mineral wool, NRC: 0.75
INSTALLATION OF SUPPORT SYSTEM FOR ACOUSTIC PLASTER

SUPPORT SYSTEM FOR ACOUSTIC PLASTER

1. Hangers 1.5 x 20 mm metal straps installed at max. 1000 mm c/c in both directions, screwfixed to the primary profile with 2 F/F 13 screws. Fix hangers max. 300 mm from the wall.

2. Primary profile – P 45 (C profile 45x15mm) c/c 1000 mm

3. Secondary profile S 25 (M profile 85x25mm) /300 mm, screw fixed to the primary profile with 2 F/F 13 screws in every profile cross

4. MSK wall angle (70mm C profile)

5. Gypsum-based, perforated Tectopanel U 600x1200 mm

6. 20 pcs. SN 3.5x30 screws / board c/c 200/300 mm - screw fixed in the perforation holes

7. End profile for gypsum edges (L profile 23/13)

OPEN EXPANSION AND DILATION JOINT

- Expansion joint must be established every 1.5 metres in both directions.
INSTALLATION OF SUBSTRUCTURE AND SUPPORT FOR ACOUSTIC PLASTER - STEP BY STEP

**Joint Between Ceiling and Wall**
- Gap between wall and MSK wall angle must be min. 20 mm. Same gap of minimum 20 mm between wall and end profile.

**Installation of Wall Angle**
- MSK wall angle (70 mm C profile) fixed with hangers 1.5 x 20 mm metal brackets (Min 50x50 mm metal brackets material thickness min. 2.0 mm).
- Gap between wall and MSK wall angle must be min. 20 mm.
- Distance between hangers 1.5 x 20 mm metal brackets is max. 1000 mm.

**Installation of Primary Profiles**
- Primary profiles – P 45 (C profile 45 x 15 mm) c/c 1000 mm
- The distance to the wall and to the first/last P 45 primary profile must be max. 500 mm.
- Hangers 1.5 x 20 mm metal straps installed at max. 1000 mm c/c in both directions, screwfixed to the primary profile with 2 F/F 13 screws.

**Installation of Secondary Profile**
- Secondary profile S 25 (M profile 85x25mm) /300 mm, screw fixed to the primary profile with 2 F/F 13 screws in every profile crossing.

**Preparing of Panels**
- Sand all edges with fine sandpaper on the front to avoid fraying of cardboard during painting.
- Brush the edges free from gypsum dust and prime them with Knauf Dybdegrunder (universal primer).

**Installation of End Profile**
- Use end profile (L profile 23/13) as edge finish of the gypsum ceiling.
- Ensure a min. 20 mm gap between wall and end profile.
INSTALLATION OF SUBSTRUCTURE AND SUPPORT FOR ACOUSTIC PLASTER - STEP BY STEP

**INSTALLATION OF TECTOPANEL U**
1. Use SN 3.5x30 screws to fix Tectopanel U to the substructure.
2. Screw-fix the panel through the perforation holes at 200 mm c/c in width and 300 mm c/c in length.
3. Ensure a gap between the Tectopanels and the wall in order to insert an end profile at the edges.
4. Ensure a min. 20 mm gap between the wall and the end profiles.

**CUTTING**
- Cut the elements to size from the front with a fine-toothed saw or a knife.
- Prime the edges with Knauf Dybdegrunder (universal primer).

**INSTALLATION FINISH**
- After installation, please check the surface in order to get a perfect finish. There must be no height difference between panels.
- The screw heads must be countersunk, edges must not be torn or have any irregularities, to ensure the most optimal result.

**PREPARATION FOR FILLING OF JOINTS**
- Check that the screws are countersunk.
- Check that the edges have been primed and are free from dust.
- Use Knauf Uniflott for filling.

**PREPARATION OF KNAUF UNIFLOTT FILLER**
- Prepare the filler according to the instructions on the filling package.
- Fill the tube with joint filler with the help of a putty knife.
- Attach the jointing nozzle.
- Insert the tube and nozzle into a jointing gun.

**FILLING**
- Fill the joint with filler (Knauf Uniflat). Use a jointing gun or press the filler into the joint with a filling knife. Overfill slightly and make sure that the filler is pressed all the way up between the edges of the panels and avoid getting filler in the perforations.
- Press the filler up again by running a finger over the joint. Allow the filler to dry for about 45 minutes. Remove surplus filler.
APPLICATION OF ACOUSTIC PLASTER

IMPORTANT!
Surfaces must be **COMPLETELY CLEAN AND FREE** from particles before applying fibreglass felt, as any traces of particles in the finished result will appear as highly visible protrusions that cannot subsequently be repaired. Acoustic plaster must be applied twice.

**ISOLATION PRIMER**
- Apply isolation primer to the installed Tectopanels.

**GLUING**
- Fill the pistol with glue and apply at low pressure at a distance of 0.5-0.8 metres. Apply the glue at an angle of 30 degrees in order to avoid damaging the acoustic felt.

**FIBREGLASS FILT**
- Cut the fibreglass felt into required lengths and apply them to the surface. Make sure there are no impurities or folds in the surface.
- Place width no. 2 over width no. 1 covering 3 cm from the edge.
- Cut in the middle of the overlap (incision line) with a knife.
- Tear off surplus.

**DRYING**
- Allow the surface to dry for 12 hours.
- Flatten joints with a flat filling knife.
APPLICATION OF ACOUSTIC PLASTER

KNAUF PICCO S 0.1
• Use Knauf Picco S 0.1 acoustic plaster as the finishing layer. Knauf Picco S 0.1 is delivered in 25 kg buckets and is ready-mixed.

APPLYING ACOUSTIC PLASTER
• Use a spraygun to apply the acoustic plaster. A spraygun makes it possible to apply 600 m² a day.
• You will need a compressor producing 400 litres of air per minute at 2-2.5 bar for this purpose.
• Hold the pistol 50-70 cm from the surface.

APPLYING ACOUSTIC PLASTER
• Spray the mixture onto the surface with a circular movement.
• Continue spraying until the surface has been covered.

APPLYING ACOUSTIC PLASTER AND FINISHING
• Apply second layer of acoustic plaster when the first coat has dried.
• It is possible to take a break during spraying.
• Remove any protection, paper or plastic, immediately after work has been completed.

REPAIRS
• The remaining acoustic plaster can be mixed during the next three days.
• Surfaces can be repaired after installation of lamps, for instance. Smooth these places with sandpaper and spray again.
UPKEEP AND MAINTENANCE

CLEANING
Loose dust, cobwebs and similar can be removed using a vacuum cleaner with a brush attachment.

REPAIRS
Stubborn dirt marks, surface damages etc. can be repaired by sanding the area, removing residual dust and spraying the original Kraft acoustic plaster. No visible reparation marks, as long as the colour similarity is ensured.

RENOVATION:
A full renovation of the surface can be carried out as follows:
1. Clean the surface with Kraft Cleaner.
2. Treat the areas around air inlets etc. with suitable primer.
3. Spray a layer of original Kraft acoustic plaster to the surface.

The absorption values will be reduced by approximately 5% per renovation. This means that several renovations can be made without notable reduction of acoustical values.

Please do not apply any type of paint, including acoustic paint. This will reduce the absorption values of the acoustic plaster ceiling by 30 – 50%.

FIXTURES AND LIGHT FITTINGS:
Knauf Danoline Kraft acoustic plaster ceiling allows for direct build-in of fixtures of up to 3kg, thanks to the robustness of the gypsum ceiling panels.

Light fittings and other fixtures can either be installed underneath the ceiling or build in to the ceiling. A build-in solution requires fixtures with a flange to cover the edges in the cut out.
ACCESSORIES

PRODUCTS - SUBSTRUCTURE AND SUPPORT

Primary profiles
- P 45 (C profile 45x15mm)
  L: 3600 mm
  SAP No. 181684
  Consumption per. m²: 1.66 lbm/m²

Secondary profile
- S 25 (M profile 85x25mm)
  L: 3800 mm
  SAP No. 181685
  Consumption per. m²: 4 lbm/m²

MSK wall angle
(C profile 70x30 mm)
  L: 3600 mm
  SAP No. 181030
  Consumption per. m²: depending on room size

End profile
(L profile 23x13 mm)
  L: 2750 mm
  SAP No. 3681
  Consumption per. m²: depending on room size

Gypsum board Tectopanel U
Measure: 600x1200 mm
  SAP No. 600363
  Consumption per. m²: 1.39 board/m²

Knauf Dybdegrunder, 5 L
(Universal Primer)
  SAP No. 253759
  Consumption per. m²: 0.02 L

Knauf Uniflott, 25 kg
  SAP No. 253631
  Consumption per. m²: 0.4 kg/m²

Filler tube set
  SAP No. 4707

Filling knife
  SAP No. 73962

Screws SN 3.5x30
  1.000 pcs. per package
  L: 30 mm
  SAP No. 3503
  Consumption per. m²: 28 pcs./m²

F/F 13 screws
  1.000 pcs. per package
  L: 13 mm
  SAP No. 2017
  Consumption per. m²: 13 stk./m²

PRODUCTS - ACOUSTIC PLASTER TREATMENT

Isolation primer, grey, 15 litres
Universal primer, absorbency regulating, free from solvents and softening agents, low-emission, free from active fogging substances
  SAP No. 593969
  Consumption per. m²: 100 ml/m²

Plaster base fleece. Special glass fibre fleece as plaster base for coating with acoustic plaster, not flammable, A2, crack-bridging properties, moisture-resistant, dimensionally stable, grey colour. Roll width 1000 mm. Roll length 60 m
  SAP No. 593955
  Consumption per. m²: 1.03 m²

Special adhesive, 18 kg
Ready-to-use, dispersion adhesive, tested for harmful substances, for bonding the plaster base fleece to perforated ceiling panels, free from solvents and softening agents, low emission, free from active fogging substances, ready-mixed product.
  SAP No. 593951
  Consumption per. m²: 0.3 kg/m²

Knauf Picco S 0.1, 25 kg
Decorative, openpored, machine-applied acoustic plaster, very fine texture, grain size 0.1 - 0.3 mm, dull matt, high degree of whiteness, ready-mixed product.
  SAP No. 593962
  Consumption per. m²: 1.0 kg/m²

Material consumption per m² is based on a ceiling of 100 m² (10x10 m, not considering loss or waste, approximate values). These are estimated consumptions based on controlled environment of our laboratories, without considering wastages. These may vary due to site conditions or ambient temperatures and should be referred only as a guideline. We shall not be held responsible for any variations (surplus or deficit) arising at the workites.
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METRO STATIONS IN QATAR
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