K716 Knauf Diamant

Hard gypsum board GKFI for premium drywalling

- Impact-Resistant
- Fire-Resistant
- Moisture-Resistant

New

- Board dimensions and thicknesses for even more fields of application
- Diamant Screws self-tap HGP-TB
- Higher permissible dowel loads with Cavity Dowel Knauf Hartmut
- Sound Improvement
- Structural Height Improvement
- High density for improved acoustic performance

GERMAN TECHNOLOGY
K716 Knauf Diamant
Hard gypsum board for premium drywalling

Product Description
Knauf Diamant are hard gypsum boards of type GKF in compliance with DIN 18180 or DFR2IR according to DIN EN 520 respectively and consist of an impregnated special gypsum core with high quality paper lining.

Storage
Store on pallets in a dry environment.

Fields of Application
Knauf Diamant Boards are the system component for premium drywall constructions and components with high requirements regarding:
- fire protection (fire resistant GKF)/DFR2IR
- sound insulation (high, flexure ductile surface mass)
- mechanical load capacity (high hardness and strength)
- bracing effect of the cladding (high strength due to increased density)
- moisture resistance (special impregnation in acc. with DIN 18180)
- Impact-Resistant
- Areas subject to high impact

Examples of such fields of application:
- Knauf Cubo room-in-room system
- Wooden frame constructions (also outdoors beneath weather protection coat)
- Construction of schools and sports facilities
- Construction of hospitals
- Areas of critical, highly frequented traffic zones (e.g. hallways)
- Impact-resistant lining
- Areas of high humidity

Properties
- Universal application
- High surface hardness
- Increased dowel load capacity
- Suitable for areas of high humidity (impregnated)
- Excellent sound insulation properties
- Fire-resistant board acc. to DIN 18180
- Easy screwing
- Mouldable
- Impact-Resistant

Diamant Range
Diamant 12.5
A proven classic
1200x2200x12.5 mm

Diamant 15
Another proven classic
1200x2200x15 mm

Other dimensions available on request

Technical Data

<table>
<thead>
<tr>
<th></th>
<th>Diamant 12.5</th>
<th>Diamant 15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Board thickness (mm)</td>
<td>12.5</td>
<td>15</td>
</tr>
<tr>
<td>Board width (mm)</td>
<td>1250</td>
<td>1250</td>
</tr>
<tr>
<td>Board length</td>
<td>2000 or 2500</td>
<td>2000 or 2500</td>
</tr>
<tr>
<td>Board weight (kg/m²)</td>
<td>12.8 ± 0.2</td>
<td>15.5 ± 0.2</td>
</tr>
<tr>
<td>Edge design:</td>
<td>long edges</td>
<td>HRAK SK</td>
</tr>
<tr>
<td></td>
<td>front edges</td>
<td>HRAK SK</td>
</tr>
</tbody>
</table>

Board type
- DIN 18180
- DIN EN 520
- GKF
- DFR2IR
- Building material class DIN 4102-1 A2
- Reaction to fire DIN EN 13501-1 A2-s1,d0 (B)
- Characteristic compressive strength perpendicular (N/mm²) approx. 10
- Bending E Modulus (N/mm²) approx. 3500

1) characteristic value determined following DIN 1052:2004-08
2) at 20 °C (68 °F) and 65 % rel. humidity
3) production average
# Dowel load capacity in partitions – tension and shear load

<table>
<thead>
<tr>
<th>Thickness of cladding</th>
<th>Plastic cavity dowel Ø 8 or 10 mm</th>
<th>Metal cavity dowel Screws M5 or M6</th>
<th>Cavity Dowel Knauf Hartmut Screw M5</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.5 mm</td>
<td>30 kg</td>
<td>35 kg</td>
<td>40 kg</td>
</tr>
<tr>
<td>15 / 18 mm</td>
<td>35 kg</td>
<td>40 kg</td>
<td>45 kg</td>
</tr>
<tr>
<td>2x 12.5 mm</td>
<td>45 kg</td>
<td>55 kg</td>
<td>60 kg</td>
</tr>
<tr>
<td>≥ 2x 15 mm</td>
<td>50 kg</td>
<td>60 kg</td>
<td>65 kg</td>
</tr>
</tbody>
</table>

# Application

**Cutting**
Score Knauf Diamant with knife and break along the edge, slice rear side paper. Rework and bevel edges with rasp planer.

**Fastening on substructure**
Spacing of fasteners as indicated in the Technical Data Sheet of the respective Knauf system and with fasteners acc. to the following tables.

# Screws in metal substructure

<table>
<thead>
<tr>
<th>Cladding</th>
<th>Fastening with Knauf Diamant Screws HGP profile gauge s ≤ 0.7 mm</th>
<th>1st layer</th>
<th>2nd layer</th>
<th>3rd layer</th>
<th>Knauf Diamant Screws HGP-TB profile gauge 0.7 &lt; s ≤ 2.25 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.5 mm</td>
<td>3.9x23</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3.9x35</td>
</tr>
<tr>
<td>15 mm</td>
<td>3.9x35</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3.9x35</td>
</tr>
<tr>
<td>2x 12.5 mm</td>
<td>3.9x23</td>
<td>3.9x35</td>
<td>-</td>
<td>-</td>
<td>3.9x35</td>
</tr>
<tr>
<td>2x 15 mm</td>
<td>3.9x35</td>
<td>3.9x55</td>
<td>-</td>
<td>-</td>
<td>3.9x35</td>
</tr>
<tr>
<td>3x 12.5 mm</td>
<td>3.9x23</td>
<td>3.9x35</td>
<td>3.9x55</td>
<td></td>
<td>3.9x35</td>
</tr>
</tbody>
</table>

# Screws / nails / staples
in wooden substructures acc. to DIN 18181

<table>
<thead>
<tr>
<th>Fastener</th>
<th>Penetration depth -s- in wood substructure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diamant Screw HGP</td>
<td>≥ 5 dₙ</td>
</tr>
<tr>
<td>Steel staples</td>
<td>≥ 15 dₙ</td>
</tr>
<tr>
<td>Nails smooth</td>
<td>≥ 12 dₙ</td>
</tr>
<tr>
<td>Nails corrugated</td>
<td>≥ 8 dₙ</td>
</tr>
</tbody>
</table>

dₙ ... Shank diameter of fastener
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Filling

Surface quality
- Filling of the Diamant Boards for the spe-
cified quality grade Q1 to Q4 in accordance with
Code of Practice no. 2 “Verspachtelung von
Gipsplatten, Oberflächengüten” of the BVG
(IGG).

Filling materials
Choose filling materials suitable for desired quali-
• TRIAS: Hand filling without joint tape, easy
mixture, very pliable and easy to sand, with
high strength and suitable for areas of high hu-
midity, reduced suction, for surfaces with uni-
form appearance
• Uniflott: Hand filling without joint tape
• Uniflott impregnated: Hand filling without joint
tape in areas of high humidity, hydrophilic
• Fugenfüller Leicht: Hand filling with Knauf Joint
Tape Kurt
• Jointfiller Super: Hand filling or filling with filling
device with Knauf Joint Tape Kurt

• Recommendation: Fill front edge and cut edge
joints and mixed joints (e.g. HRAK + cut edge)
of the visible cladding layers with Knauf Joint
Tape Kurt, no matter which filling material is used.
Finishing compound to create the required sur-
facing quality grade:
• Readygips: for Q3 and Q4
• Finisch-Pastos: for Q2
• Spezialgrund in combination with Finisch-Pastos:
for Q3
• Multi-Finish / Multi-Finish M in combination
with Putzgrund: for Q4

Application
• In case of multi-layer cladding, fill joints of con-
cealed layers in quality Q1, fill and smooth
joints of top layer acc. to specified quality.
Filling of all concealed board layers in case of
multi-layer cladding is necessary to preserve
the required properties for fire protection,
sound insulation and stability.

When using Knauf Diamant with square edge
(VK) beneath the weather protection on the out-
side of structural wood frame exterior walls filling
is not necessary.
• Fill all visible screw heads.
• Slightly sand visible surface after drying of fill-
ing compound, if necessary

Application temperature/climate
• Filling and covering of joints should only take
place after the boards have been allowed to
rest in the given humidity and temperature
zones, and no more longitudinal changes can
be expected, i.e. expansion or contraction.
• Do not fill joints at air and surface tempera-
tures below 10 °C (50 °F).
• In case of mastic asphalt, gypsum or cement
screed, fill joints after screed application.
• Notes of the Code of Practice no. 1 “Baustel-
lenbedingungen” of the BVG (IGG) are to be
observed.

Coats and Linings

Pre-treatment
Before applying paints or coats the filled surface
should be dust-free.
Pre-treat and prime gypsum board surfaces be-
fore the application of coats and linings (wall-
paper) in accordance with the Code of Practice no. 6
of the BVG (IGG) “Vorbereitung von Trocken-
bauflächen aus Gipsplatten zur weitergehenden
Oberflächenbeschichtzung bzw. -bekleidung”.
Ensure that the primer and the coat or paint
lining are compatible. To settle the different suc-
tion properties of the filled areas and the paper
surface, primers such as Knauf Tiefengrund/
Spezialgrund/Putzgrund are suitable.
In case of wallpaper lining a primer that allows
for an easier removal of wallpaper for redecora-
tion is recommended.

A sealing with Knauf Flächenlicht is required for
covering splash water areas with tiles.

Suitable coats and linings
The following coats and linings can be used on
Knauf Diamant Boards:
- Wallpapers: Paper, textile, and synthetic wall-
papers; use only adhesives made of cellulosic
according to Code of Practice no. 16 “Techni-
siche Richtlinien für Tapeteier- und Klebe-
bauteilen” released by Bundesausschuss Farbe
und Sachwertschutz.
- Ceramic tiles on partitions
- Plasters: Knauf Structured Plasters / Finishing
Plasters, entire surface skimming such as
Readygips, Multi-Finish or Multi-Finish M
In case of plastering, it is recommended to fill
front and cut edge joints with Knauf Joint Tape
Kurt, even if Uniflott or TRIAS is used for fill-
ing.
- Coats: Resin emulsion paint, multicoloured
(rainbow) emulsion, oil paint, matte-finish lac-
quers, alkyd resin paint, PUR lacquer, polymer
resin paint, epoxy-based lacquer (EP).
- Silicone-based emulsion paints may be used
after referring to the manufacturer’s recom-
mendations for priming.

Not suitable are:
- Alkaline coats such as lime, water glass col-
ours and silicate-based paints.

After wallpapering with paper and fibre glass
wallpapers or the application of resin / cellulose
plasters, quick drying must be ensured through
adequate airing.

Notes
Gypsum board surfaces that have constant-
ly been exposed to light without any protection
can cause yellowing after coating. Therefore
a trial coat is recommended that will extend across
several boards including all joints. Yellowing can,
however, be successfully avoided only by using
a special primer.

Fire protection: The duration of the fire resist-
ce of Knauf Systems is not influenced by the usual
paints or coatings and vapour barriers up to ap-
prox. 0.5 mm thickness or claddings (sheet met-
al excluded).

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