Screw Anchor Range

Part of Knauf’s wall and ceiling framing solutions
Knauf proudly introduces the new Knauf Screw Anchor Range.

The new Screw Anchor Range has been designed for use with Knauf's steel wall framing and ceiling frame systems to provide a complete solution from one manufacturer with full certification.

With the addition of our very own Screw Anchor Range, Knauf can now offer everything you need to install our systems – right down to the last detail.

Because the Knauf Screw Anchor Range is an integral part of the full Knauf system performance, it is essential for the Knauf Warranty and engineering certification.

Did you know?

- The Knauf Warranty is unique in the industry. The Warranty does not only guarantee the products, but the whole wall and ceiling systems (when using Knauf products installed according to our recommendations). By incorporating Knauf’s screw anchors into your design, you can enjoy full peace of mind knowing that you are covered! Knauf also offers full engineering design compliance certifications on each of the projects we design.

CONTENTS

SCREW ANCHOR RANGE 3
CONSTRUCTION DETAILS 7
INSTALLATION 12
KNAUF KNOWHOW 14
CASE STUDY 15
Knauf’s screw anchors are made of robust carbon steel and zinc-plated and are available in three shaft lengths of 45, 60 and 65 mm.

The benefits:

› Part of the complete certified Knauf wall and ceiling system
› Compatible with Knauf metal products
› Minimal edge distance and anchor spacing required
› ETA certified and complies with AS 5216:2018 Design of post-installed and cast-in fastenings in concrete

Anchor Dimensions

<table>
<thead>
<tr>
<th>ANCHOR</th>
<th>KSA6X45</th>
<th>KSA6X60</th>
<th>KSA8X65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal embedment depth $h_{nom}$ (mm)</td>
<td>40</td>
<td>55</td>
<td>60</td>
</tr>
<tr>
<td>Maximum fixture thickness $t_{fix}$ (mm)</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Threaded outer diameter $d_t$ (mm)</td>
<td>7.85</td>
<td>7.85</td>
<td>10.3</td>
</tr>
<tr>
<td>Core diameter $d_k$ (mm)</td>
<td>5.85</td>
<td>5.85</td>
<td>7.85</td>
</tr>
<tr>
<td>Shaft diameter $d_s$ (mm)</td>
<td>6.15</td>
<td>6.15</td>
<td>8.45</td>
</tr>
<tr>
<td>Shaft length (mm)</td>
<td>45</td>
<td>60</td>
<td>65</td>
</tr>
</tbody>
</table>
Knauf screw anchors are compatible with the following substrates:
› Cracked and uncracked concrete for wall, floor and overhead applications
› Autoclaved aerated concrete for walls
› Solid brick for walls

They are suitable for use in the following loads:
› Static loads
› Quasi-static load
› Seismic C1 load certified
› Fire resistance loads

Knauf screw anchors are for internal use and behind external cladding, but not for outside the building envelope.

Knauf Metal
› Download the Knauf Metal Catalogue for more information on our range of metal products and systems.
PRODUCT INFORMATION

Properties

<table>
<thead>
<tr>
<th>ANCHOR</th>
<th>KSA6X45</th>
<th>KSA6X60</th>
<th>KSA8X65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head type</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KSA6X45</td>
<td>Hex-head SW13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrosion protection</td>
<td>8 µm zinc coating</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nominal tensile strength $f_{uk}$ (N/mm²)</td>
<td>930</td>
<td>810</td>
<td></td>
</tr>
<tr>
<td>Yield strength $f_{yk}$ (N/mm²)</td>
<td>745</td>
<td>695</td>
<td></td>
</tr>
<tr>
<td>Stressed cross-section $A_s$ (mm²)</td>
<td>26.9</td>
<td>48.4</td>
<td></td>
</tr>
</tbody>
</table>

Concrete Thickness and Anchor Placement

<table>
<thead>
<tr>
<th>ANCHOR</th>
<th>KSA6X45</th>
<th>KSA6X60</th>
<th>KSA8X65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum concrete thickness (mm)</td>
<td>80</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Minimum spacing $S_{min}$ (mm)</td>
<td>35</td>
<td>35</td>
<td>50</td>
</tr>
<tr>
<td>Minimum edge distance $C_{min}$ (mm)</td>
<td>35</td>
<td>35</td>
<td>40</td>
</tr>
</tbody>
</table>

Knauf Knowhow

› The Knauf Knowhow suite of tools and technical support services is developed through dialogue and an understanding of your challenges. It's been designed to give you full project support and enable us to be part of the solution.

› Discover the Knauf Knowhow suite of tools.
# PRODUCT INFORMATION

## Static and Quasi-static Performance in Concrete

### Design resistance in cracked concrete

<table>
<thead>
<tr>
<th>Nominal embedment depth $h_{nom}$ (mm)</th>
<th>Static / Quasi-static Loads</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pull-out (kN)</td>
<td>Shear (kN)</td>
</tr>
<tr>
<td>KSA6X45</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>KSA6X60</td>
<td>55</td>
<td>55</td>
</tr>
<tr>
<td>KSA8X65</td>
<td>60</td>
<td>60</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Concrete Grade (MPa)</th>
<th>20</th>
<th>25</th>
<th>32</th>
<th>40</th>
<th>50</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>1.39</td>
<td>1.54</td>
<td>1.76</td>
<td>1.96</td>
<td>2.19</td>
</tr>
<tr>
<td>25</td>
<td>3.33</td>
<td>3.70</td>
<td>4.22</td>
<td>4.70</td>
<td>5.27</td>
</tr>
<tr>
<td>32</td>
<td>6.00</td>
<td>6.66</td>
<td>7.59</td>
<td>8.46</td>
<td>9.48</td>
</tr>
<tr>
<td>40</td>
<td>3.77</td>
<td>4.22</td>
<td>4.77</td>
<td>5.33</td>
<td>5.96</td>
</tr>
<tr>
<td>50</td>
<td>8.33</td>
<td>8.33</td>
<td>8.33</td>
<td>8.33</td>
<td>8.33</td>
</tr>
</tbody>
</table>

1. No edge distance and spacing influence, or reinforcement affects.  
2. Interaction of both Pull-out and Shear to be considered as per AS5216-2018 Equation 8.2.1(1) and 8.2.1(2)

### Seismic C1 Performance in Concrete

<table>
<thead>
<tr>
<th>Nominal embedment depth $h_{nom}$ (mm)</th>
<th>Seismic C1 Loads</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pull-out (kN)</td>
</tr>
<tr>
<td>KSA6X45</td>
<td>40</td>
</tr>
<tr>
<td>KSA6X60</td>
<td>55</td>
</tr>
<tr>
<td>KSA8X65</td>
<td>60</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Concrete Grade (MPa)</th>
<th>20</th>
<th>≥ 25</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>1.39</td>
<td>1.39</td>
</tr>
<tr>
<td>≥ 25</td>
<td>2.22</td>
<td>2.22</td>
</tr>
</tbody>
</table>

1. No edge distance and spacing influence, or reinforcement affects.  
2. Interaction of both Pull-out and Shear to be considered as per AS5216-2018 Equation 8.2.1(1) and 8.2.1(2)

3. $\alpha_{gap} = 0.5$
CONSTRUCTION DETAILS

NON-FIRE RATED
HEAD AND BASE DETAILS FOR INTERNAL STUD WALLS LINED FULL HEIGHT

- Knauf Screw Anchor for up to 92mm tracks
- 2 Knauf Screw Anchors across width for 150mm tracks

FIRE RATED
HEAD AND BASE DETAILS FOR INTERNAL STUD WALLS LINED FULL HEIGHT - UP TO 2 LAYERS

- Knauf Fire and Acoustic Sealant
- Knauf fire rated plasterboard
- 2 Knauf Screw Anchors across width for 150mm tracks
FIRE RATED AND NON-FIRE RATED
TYPICAL DETAILS FOR NON-LOAD BEARING EXTERNAL STEEL STUD WALLS

Knauf Screw Anchor. Single anchor for up to 92mm tracks and 2 anchors across width for 150mm tracks.

Knauf plasterboard

Knauf insulation

Knauf steel top-hats

Knauf Universal Bracket

8mm diameter Knauf Screw Anchor. Check minimum edge distance.

Knauf Universal Bracket

8mm diameter Knauf Screw Anchor. Check minimum edge distance.
FIRE RATED AND NON-FIRE RATED
FURRING CHANNEL CLIPS INTO MASONRY

- 6mm diameter Knauf Screw Anchor
- Furring Channel Anchor Clip

- 6mm diameter Knauf Screw Anchor
- Grip Clip (ACGRIP)

- 6mm diameter Knauf Screw Anchor
- Grip Clip Long (ACGRIP:LONG)

- 6mm diameter Knauf Screw Anchor
- Adjustable Mount (ACFCAM)
FIRE RATED AND NON-FIRE RATED
INTERNAL DIRECT FIX CEILING FRAMES

6mm diameter Knauf Screw Anchor

Grip Clip (ACGRIP)

Furring Channel Anchor Clip
9mm hole (AC37-7H)

6mm diameter Knauf Screw Anchor

Grip Clip Long (ACGRIP-LONG)

6mm diameter Knauf Screw Anchor

Adjustable Mount (ACFCAM)
FIRE RATED AND NON-FIRE RATED
INTERNAL SUSPENSION ROD CLIPS

8mm diameter
Knauf Screw Anchor

Knauf Dropper Bracket

6mm diameter
Knauf Screw Anchor

Spring Adjustable Direct Fix Clip (AC60LDF)

Suspension Rod Multi-purpose Bracket (AC47-74)
**INSTALLATION**

**KSA6X45 and KSA6X60**

1. **General Applications**
   - **KSA6X45**
     - $h_1$: 50mm
     - $h_{\text{nom}}$: 40mm
     - $t_{\text{fix}}$: 5mm maximum
   - **KSA6X60**
     - $h_1$: 65mm
     - $h_{\text{nom}}$: 55mm
     - $t_{\text{fix}}$: 5mm maximum

2. **Overhead Applications**
   - **KSA6X45**
     - $h_1$: 48mm
     - $h_{\text{nom}}$: 40mm
     - $t_{\text{fix}}$: 5mm maximum
   - **KSA6X60**
     - $h_1$: 63mm
     - $h_{\text{nom}}$: 55mm
     - $t_{\text{fix}}$: 5mm maximum

3. **Hilti Impact Driver / Wrench**
   - Hilti SID 2-A ½"
   - Hilti SIW 6AT-A22 ½"
   - Hilti SIW 22T-A ½"
   - **Installation torque**
     - 40mm: 20 Nm
     - 55mm: 25 Nm

4. **Check fitting**
   - $d_0$: Ø 6mm
   - $d_1$: Ø ≤ 9mm
   - SW13 T30

5. **Check fitting**
   - SIW 6AT-A22 ½"
KSA8X65

**General Applications Section**

1. Hammer drill setting

2. SIW 22-A ½”, SIW 6AT-A22 ½”, SIW 22TA ½”, SIW 22TA ¾”, SIW 9-A22 ¾”

3. 60mm

4. Ø ≤ 12mm

5. Check fitting

---

**Overhead Applications Section**

1. SIW 22T-A ½”, SIW 22T-A ¾”

2. SIW 9-A22 ¾”

---

**Installation**

**Product Data Sheet**

AUGUST 2020

Knauf Screw Anchors
HOW KNAUF KNOWHOW SUPPORTS YOU

Knauf supports its customers with Knauf Knowhow – a range of architectural tools and technical support services that provide customised solutions for your unique challenges, saving you precious time.

Our Knowhow Suite was developed through dialogue and a real understanding of your questions and requirements.

Our tools provide unrivalled value and expertise to your project management and specification process.

Included in the Knauf Knowhow offering are the following:

**Engineering design and technical support**
Knauf offers full engineering design compliance certifications on each of the projects we design. We also have the expertise of our technical team on hand to support our clients and customers with guidance, advice and information about our products. 
[Contact us](#)

**Knauf Calculators**
Knauf Australia offers a variety of online calculation tools for the professional to quickly and accurately find solutions for their project. The Knauf calculators are developed in-house, and comply with the National Construction Code (NCC) 2019.
[Read more...](#)

**Knauf BIM & CAD Solutions**
Knauf’s unique BIM & CAD Solutions make it easy to select, design and create the correct wall or ceiling system for your project requirements. Regardless of whether you use Graphisoft Archicad or Autodesk Revit, our BIM & CAD Solutions allow you to import the BIM or CAD object of your chosen Knauf system directly into your project file, saving you valuable time.
[Read more...](#)

**Sustainable Solutions**
Our business actions are guided by a commitment to sustainable development. The attention paid to employees’ health and safety, reducing our impact on the environment, respect for local communities and social responsibility are the foundations of our long term-growth.
[Read more...](#)
The new, world-class $177 million Brisbane International Cruise Terminal (BICT) project, some 20 km north-east of Brisbane and adjacent to the Brisbane Airport, is an excellent example of where Knauf provided not only products, but full design support to deliver the best outcome for the client.

Knauf’s engineers provided a total of 8 unique and project specific designs for this project, and these designs led to a significant reduction in the material required.

While the BICT project was completed before Knauf introduced its own screw anchor range to the market, it indicates how our offering extends beyond the supply of products. Involving our engineers and Knowhow from the start can lead to the development of the best possible design and systems that can be covered by the comprehensive Knauf Warranty.

About the project:
Knauf’s engineers provided a total of 8 unique and project specific designs and supplied specialist metal products such as made-to-length 1.5 BMT jamb studs, which increased the installation speed and reduced waste on site as the studs did not need to be cut down.

In total over 60,000 pieces of metal were supplied to the project, comprising of 15,000 clips; 7,000 studs and track; 4,000 furring channels and top cross rails and 3,000 top hats.

Knauf also supplied a total of approximately 19,000m² plasterboard products, including TruRock (5886m²), FireShield (3456m²), Designpanel (302m²) and Stratopanel (2760m²).

Stratopanel access panels were also supplied.

The feedback
Superior Walls & Ceilings Foreman Joel Creevey said: “I was very impressed by the service provided by Knauf on this project.

“From the start the service provided by their engineering team was exceptional, and thanks to the smart put into the designs we managed to reduce the amount of material needed.

“Knauf also provided expert installation advice, and the turnaround time on any enquiries was way above the industry average. I was on the phone with Salim (Zadeh, Knauf Structural Field Engineer QLD) almost every week and he also visited the site when needed. Knauf’s support was hands-on,” he said.

Read the full case study here...
Sales: 1300 725 675
Queensland (Head Office)
Cnr Quindus St & Spanns Rd
Beenleigh QLD 4207
Metal-orders.qld@knauf.com.au

New South Wales
19 Distribution Drive
Orchard Hills NSW 2748
Metal-orders.nsw@knauf.com.au

Victoria
55 Zenith Road
Dandenong VIC 3175
Metal-orders.vic@knauf.com.au

South Australia
9 Kaurna Ave
Edinburgh SA 5111
Metal-orders.sa@knauf.com.au

Western Australia
27 Somersby
Welshpool WA 6106
Metal-orders.wa@knauf.com.au

Knauf Metal
ABN 61 003 621 010
Cnr Quindus St & Spanns Rd
Beenleigh QLD 4207
Customer Service 1300 725 675
knauf.solutions

Knauf Plasterboard Pty Ltd
ABN 61 003 621 010
31 Military Road
Matraville NSW 2036
Customer Service 1300 724 505
knauf.solutions