

KNAUF

KNAUF
maxspace

- ✓ *A slim residential separating wall system*
- ✓ *Sustainable choice*
- ✓ *Substantial optimization of useable floor area*

**Less wall,
more space**

The ideal profile for more profit per m²

Build on us.





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About Knauf

The German family-owned company Knauf has a rich history. For decades, it has been one of the world market leaders within the construction industry. Around the world, Knauf supplies a full range of innovative finishing systems and materials for new construction and renovation. And with over 41,000 employees worldwide, we work together for the success of our customers.

Knauf is also a leading organisation within the construction industry in the Netherlands. We understand the ever changing and complex requirements of modern construction. That is why we continuously renew our products and services. With innovative materials that guarantee energy efficiency and a high-quality finish. Safety and sustainability come first.

With more than 200 employees, Knauf Netherlands is committed every day to create the ideal environment for living, working or accommodation. An environment tailored to the wishes and needs of its users. We do this from our headquarters in Utrecht, the plasterboard factory in Oosterhout and at our customers and processors' sites.

Support

Knauf stands for top-quality products and systems. Together with Knauf, you deliver the best end result for your customers every day. Because without the craftsman, ideal spaces cannot be created. That is why we enjoy building a project together from the design phase to completion.

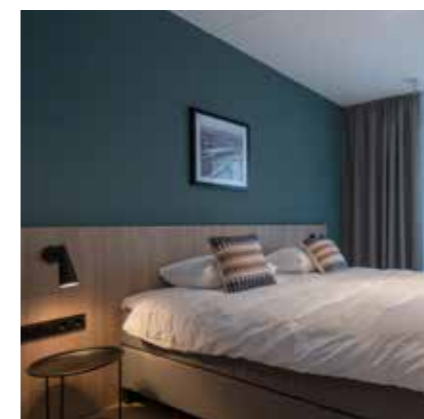
We are happy to support you with, for example, personal technical advice and BIM support, thus relieving you of worries and providing certainty. In addition, we invest in knowledge by offering training courses in our Knauf Akademie and support on the building site.

In this way, together we ensure that desired performance is actually achieved. Indeed, on many of our systems we provide a 100% performance guarantee with KnaufZeker®. And so we provide the user with an ideal environment to live, work or stay in.



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Introduction

In real estate, every square metre counts. Knauf helps with a new, space-saving wall. Compared to the thinnest, earlier common alternative, the Knauf MaxSpace wall saves 3 cm of space. That doesn't seem like much but on 100 units with 5 metres of wall length, you gain 15 m² of rentable area. Compared to the more usual 205 mm thick residential partition wall, the gain is even 8 cm, or 40 m² for the same 100 units! That obviously adds up nicely in the yields.

Scope

Combining a low thickness with excellent performance in terms of sound insulation and fire resistance, the wall is optimally suited to projects such as flats, hotels, studios and student accommodation.

Wall construction

The Knauf MaxSpace wall consists of a single stud frame of galvanised steel profiles:

- › Knauf UW75 profiles for the floor and ceiling connection.
- › Knauf MaxSpace profiles as wall uprights. The Knauf MaxSpace profiles consist of a standard CW50 profile as a core with a layer of coir felt on either side with an additional steel flange on which plasterboard can be attached. The coir felt provides acoustic decoupling, preventing direct sound transmission through the wall studs.



The wall will be clad on both sides with 12.5 mm Knauf A-board and 12.5 mm Knauf Diamond Board. The cavity space is provided with 60 mm of glass wool Knauf Acoustifit. The total wall thickness is 125 mm.

Performance

Sound insulation

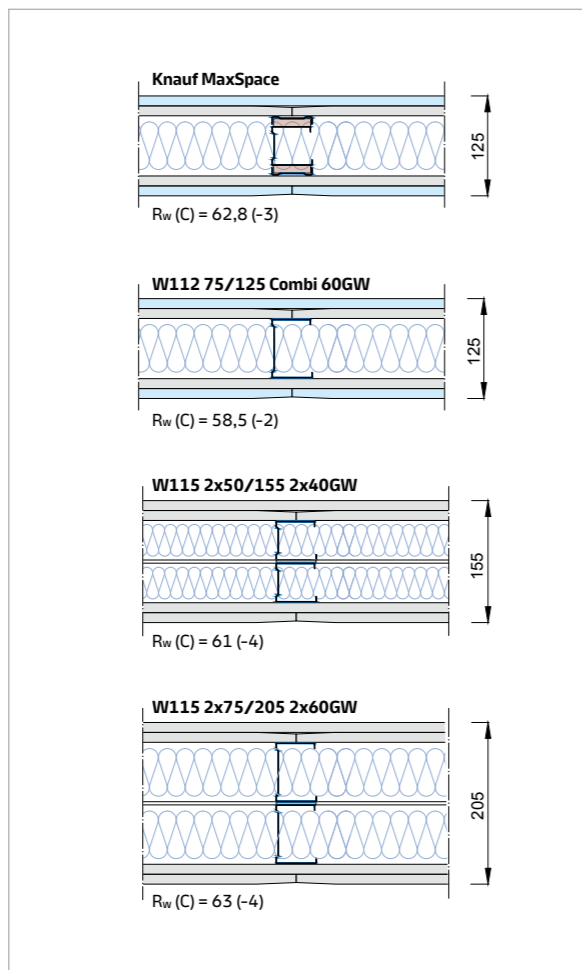
The sound insulation of the Knauf MaxSpace wall is $R_w(C;C_{tr}) = 62.8 (-3;-9)$ dB, substantiated by report P-BA 92/2024e.

For comparison:

- › W112 75/125 Combi 60GW:
 $R_w(C;C_{tr}) = 58,5 (-2;-9)$ dB.
- › W115 2x50/155 2x40GW:
 $R_w(C;C_{tr}) = 61 (-4;-10)$ dB.
- › W115 2x75/205 2x60GW:
 $R_w(C;C_{tr}) = 63 (-4;-11)$ dB.

Fire resistance

The Knauf MaxSpace wall has a fire resistance of 60 minutes, substantiated by report 24-001281-PR02 KB-F12-01-en-01.



Provide all profiles connecting to the surrounding building elements with Knauf Sealing Tape.



Tailoring of Knauf MaxSpace profiles.

Stability

The Knauf MaxSpace wall may be built up to a maximum height of 2800 mm high. In doing so, the wall is slightly more resilient than comparable walls with a normal single or double stud structure. However, the Knauf MaxSpace wall has been subjected to stability tests in accordance with EAD 21005-00-0505 (non-load-bearing partition walls) by SKG-IKOB and passes the impact load tests, console load test and surface load test (report 24.00303). The wall can move slightly more than comparable other walls with standard wall studs. For the intended application area, this is considered acceptable.

As a result, Knauf MaxSpace walls are not recommended for tiling and cannot be combined with in-wall fixtures for washbasins and suspended toilets. Knauf MaxSpace walls should therefore switch to into the equally thick wall W112 75/125 Combi 60GW with standard CW75 uprights and combined cladding of Knauf A-board and Knauf Diamond Board in the area of bathrooms.

Processing

Storage

For transport and storage of materials the normal conditions apply, see the 'Knauf Walls and Ceilings Processing Manual'. It is further important that Knauf MaxSpace profiles should be stored dry on a level surface and free from the floor i.e. on pallets, beams or trestles. UW profiles may be stored outdoors for a limited time.

Subconstruction

The horizontal UW75 profiles should be fitted with 70 mm Knauf sealing tape, or apply UW75 profiles that are factory fitted with sealing tape. Fix the profiles to floor and structural ceiling using suitable fasteners at 1000 mm centres:

- › Knauf Nailable Plug 6 x 35 mm or Knauf Steel Ceiling Dowel for brickly/concrete substrates.
- › Knauf Universal screw 4.5 x 35 mm for wooden substrates.

If necessary, Knauf MaxSpace profiles can be cut to size using a cut-off saw with a universal or metal saw blade or an angle grinder with a cutting disc. As with other metal stud walls, the Knauf MaxSpace profile should be approx. 10 mm shorter than the distance between the webs of the UW profiles.

Provide the first Knauf MaxSpace profile with 70 mm of Knauf Sealing Tape. Place the profile between the flanges of the UW profiles and fix it at three points against the side wall using suitable fasteners (see page 5). Insert the remaining Knauf MaxSpace uprights at intervals of 600 mm into the UW profiles. The Knauf MaxSpace profiles cannot be punched to the UW profiles.

If you do wish to fix them, use pieces of duct tape to do so. If desired, the uprights can be attached to the lower UW-profiles with short metal-to-metal marker screws (max. 10 mm). Such rigid fastening should be avoided at the top connection, as it would put the wall under tension in case of floor deformation.



Temporarily fix the Knauf MaxSpace uprights to the UW profile with duct tape.



Attach any required Knauf MaxSpace traverses at the appropriate locations between the uprights with four quick-release parkers (length max. 10 mm).

Cladding and insulation

The first cladding layer consists of horizontally applied Knauf A-boards. The second cladding layer consists of vertically applied Knauf Diamond Boards. For sound insulation, it is essential that the plasterboard screws do not touch the CW50 core profiles.

The screws should be short for this purpose. Use the following screws for cladding:

- > Diamond Board screws XTN 3.5 x 23 mm for the first plating layer.
- > Diamond Board screws XTN 3.5 x 33 mm for the second cladding layer.

Screw the first layer of A-boards next to the AK edges and once in the middle. Screw the second layer of Diamond Board at 250 mm centres.

Further observe the following processing instructions:

- > Edge spacing 10 mm for the AK edges and 15 mm for end edges.
- > Do not screw into the UW-profiles.



Application of Knauf Acoustifit between the uprights.

The screws protrude less far through the plasterboard than in standard metal stud walls. This makes it harder for the screws to engage with the metal. To still get the screws right:

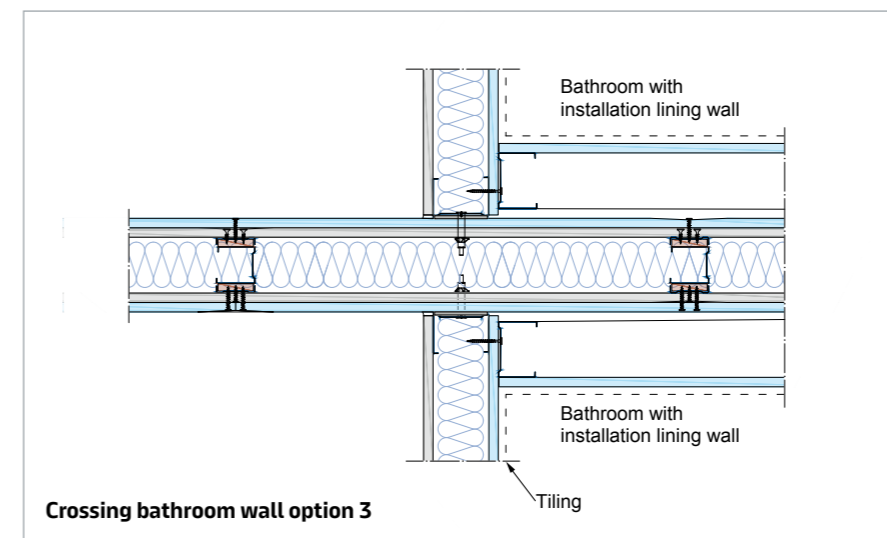
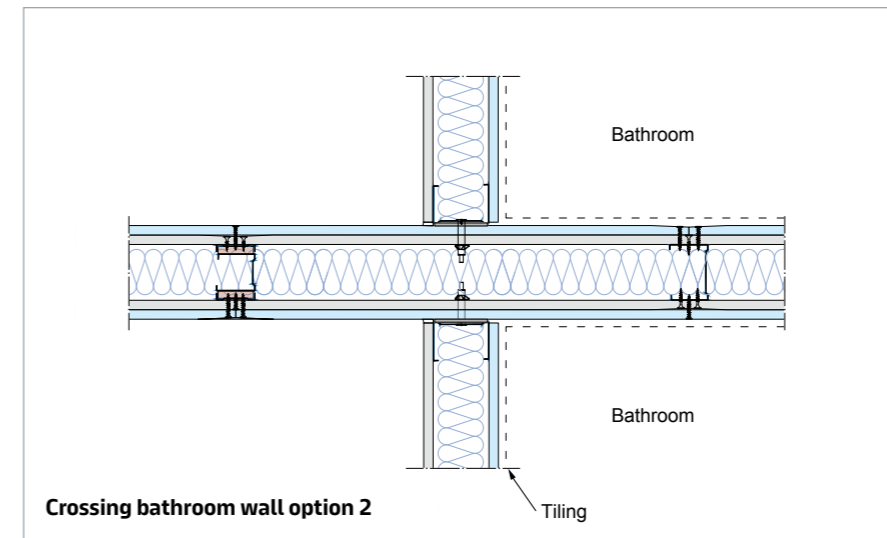
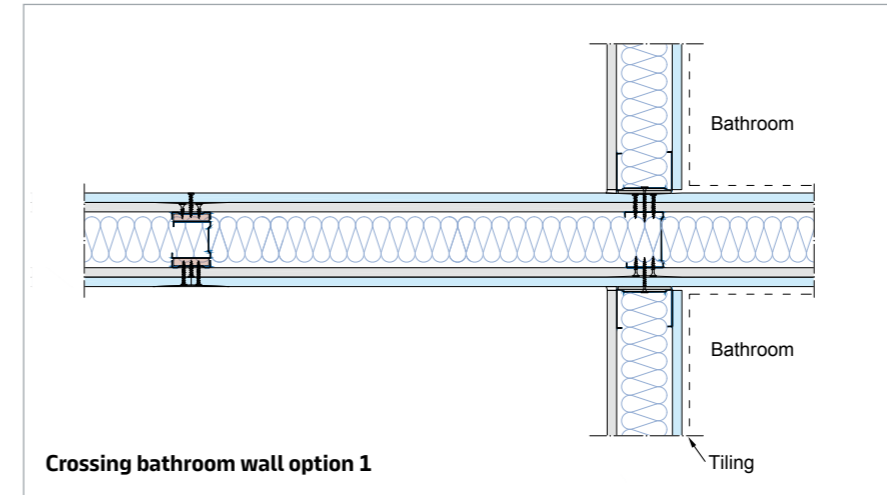
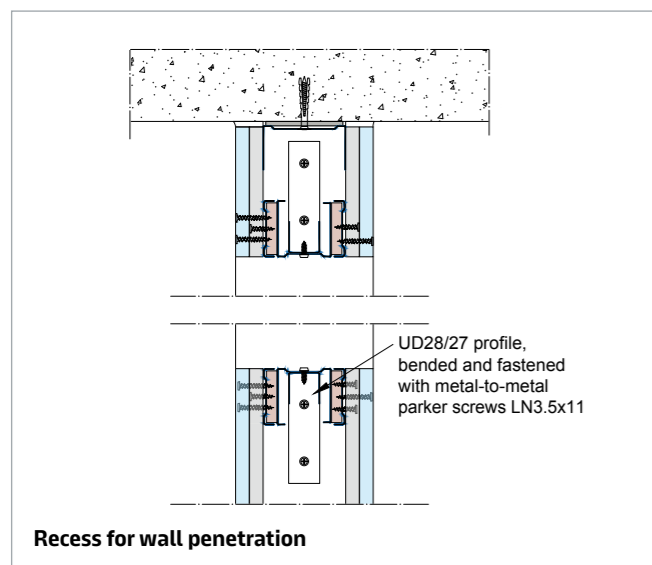
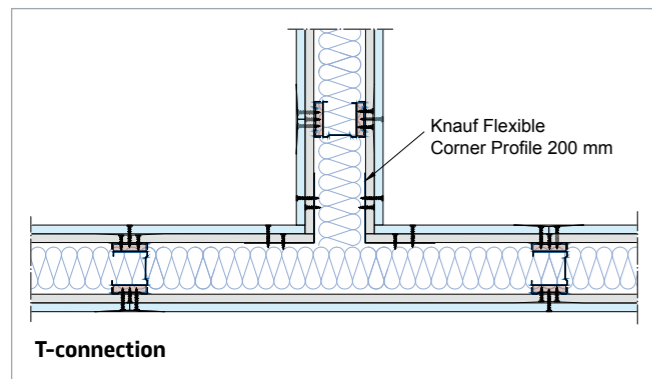
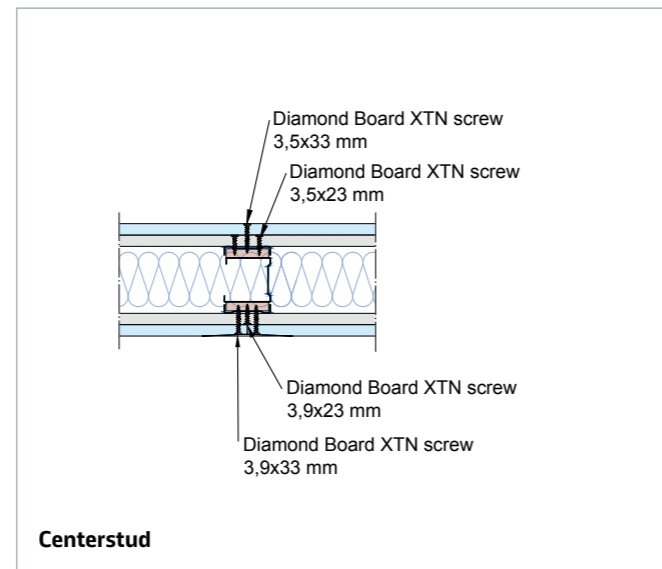
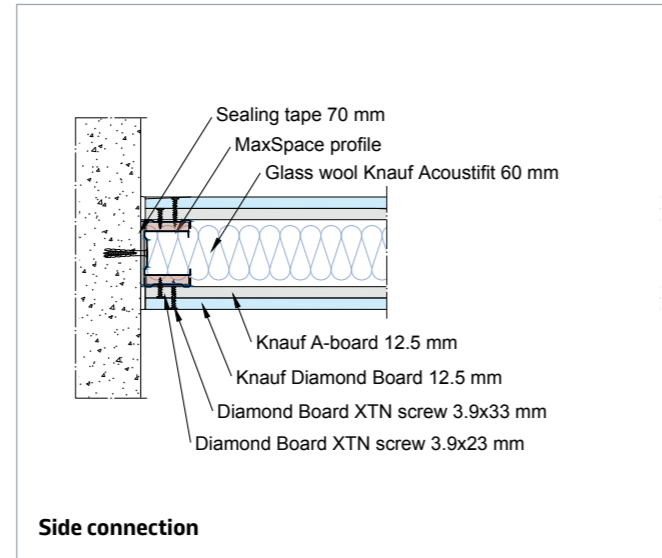
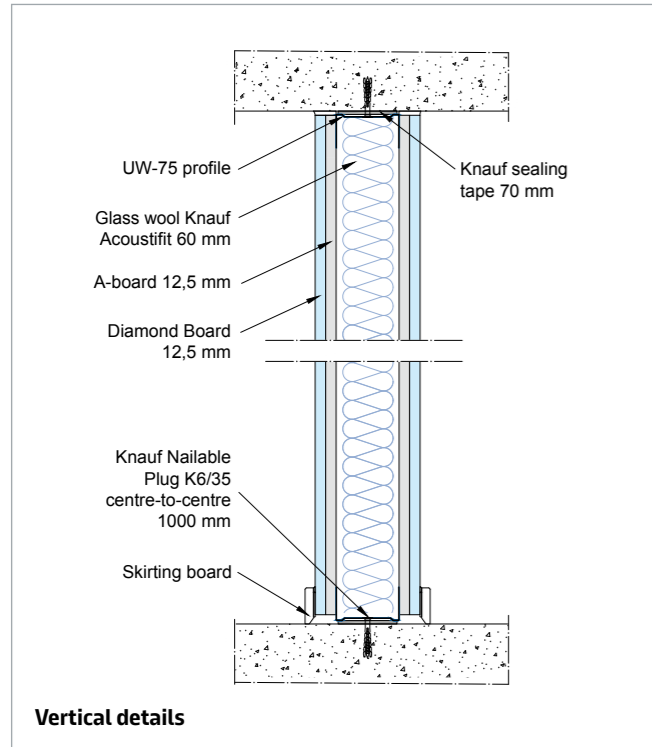
- > Use a drywall screwdriver with a relatively low speed (e.g. Makita DFS251 with 2500 rpm).
- > Rather, start in the middle of the upright and then work towards the ends.
- > Allow slightly more time for assembly.

After one wall side is cladded, 60 mm of Knauf Acoustifit glass wool is inserted between the uprights. Compressing the 60 mm glass wool into the CW50 core uprights is problem-free, as no screws protrude through the flanges of the core uprights.

The cladding is then applied to the other side of the wall in the same way.



Principle details



At the location of the bathrooms, normal CW75-studs are used because tiling on the Knauf MaxSpace wall is not permitted. Normal Diamond Board screws of 25 and 35 mm can be used for the normal CW75-studs.

An acoustically better option for connecting bathroom walls to the Knauf MaxSpace wall is between two uprights with three metal hollow wall plugs.

Optionally, an installation lining wall can be added in the bathroom for tiling and installations. In this case, the Knauf MaxSpace wall can be continued with the MaxSpace posts.

Grouting

The jointing of the Knauf MaxSpace wall is done in the usual way with self-adhesive reinforcement mesh and Knauf EasyFiller or Uniflott. Top and side joints should be elastically sealed on both sides. The underside can be finished with a skirting board.

Final finishes

Knauf MaxSpace walls can be finished with most common products such as wall paints, glass fibre wallpaper, decorative plasters, etc. Tiling as a finish is not permitted. See details of the connection to the bathroom wall.

Electric wall boxes

Electric wall boxes can reduce sound insulation, especially if they are mounted opposite each other. It is recommended to use electric wall boxes type HW52-F from ABB with the corresponding airtight inserts.

Research shows:

- > Electric wall without airtight inserts on one wall side gives virtually no loss.
- > Electric wall boxes without airtight inserts on both wall sides, but staggered one stud distance field, result in approx. 1 dB loss.
- > Electric wall boxes without airtight inserts on both wall sides, mounted opposite each other, result in approx. 10 dB loss.
- > Airtight inserts in all recessed boxes practically cancel out all losses.

To maintain fire resistance, use the fire-resistant version of the flush-mounted box, HW52-F BW.

Fixing objects

Light objects such as picture frames, whiteboards, etc. can be fixed in the cladding in the usual way for metal stud walls, using screws or hollow wall plugs.

Console loads

From objects with an eccentricity (i.e. protruding a certain distance from the wall), the load should be transferred to the uprights using the special Knauf MaxSpace traverses. This is steel plate-reinforced lumber, which is attached to the uprights by means of this steel plate with four short quick-release pins (max. 10 mm). Common loads such as kitchen cabinets, televisions, etc. can thus be fixed to the wall.



Application of Knauf Diamond Boards as second cladding.

Materials needed

Image	Description	Article number	Notes	
	Knauf MaxSpace profile	837506 (2800 mm) 837852 (other lengths)	Other lengths: delivery time approx. 3 weeks.	
	Knauf MaxSpace profile heavy gauge	856520		
	Knauf UW75 profile, 4.0 m	178702		
	Knauf UW75 profile with sealing tape, 4.0 m	11930		
	Knauf A-board 12.5 mm	Various		
	Knauf Diamond Board 12.5 mm	Various		
	Diamond Board screws XTN 3.5 x 23 mm	670655		
	Diamond Board screws XTN 3.5 x 33 mm	669561		
	Glass wool Knauf Acoustifit 60 mm	519123	Delivery via Knauf Insulation, Gilze.	
	Knauf MaxSpace traverse, steel plate with chipboard	200 x 595 mm	863285	> border stud field
		200 x 620 mm	837514	> middle stud field

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