



### Rigips® - The Original. For space to live.

### More comfort for everyone

Every day we spend up to 90% of our time inside rooms. That's why we at Rigips believe

that well-designed rooms make a key contribution to our well-being. So we develop forward-looking, sustainable interior solutions aimed at maximizing user comfort for all requirements and living situations.

### Forward-looking construction

As a trailblazing pioneer and synonym for drywall construction in Germany, Rigips has constantly developed this method since

the company was established - through many diverse innovations and high-quality system solutions. Our goal is to develop solutions today that are already oriented to the challenges of tomorrow to enable forward-looking building and room design.

### Simple and safe solutions

Our developments focus on reliable, safe systems which meet the constantly rising and ever more sophisticated requirements involved

in construction. With our proven systems we make an important contribution to improved planning and processing reliability, as well as greater efficiency and cost-effectiveness in drywall construction.

# RIGIPS FOREVER

Multi Komfort

### Sustainable living spaces for generations

Rigips stands for the manufacture of particularly eco-friendly construction materials from the natural raw material gyp-

sum. We are highly committed to sustainable construction. For us this also means improving comfort and quality of life for people and the value of their living spaces. From generation to generation.

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### 1.1 Overview of Rigidur® Flooring Elements

|   | Element-<br>thickness | Format<br>(width x length)       | Weight<br>kg/m² | Properties  | Application  |
|---|-----------------------|----------------------------------|-----------------|---|--|
| Rigidur* Flooring Elements 20/25  2 x 10.0 mm/2 x 12.5 mm               | 20 mm<br>25 mm        | 500 x 1,500 mm<br>500 x 1,500 mm | 26.0<br>32.4    | Pre-primed gypsum fibreboards with rebate edges. Extremely hard and smooth surface without lamination on the reverse. Reaction to fire in acc. with DIN EN 13501-1: A2-s1,d0 (C.3).                   | For the quick creation of dry floor screeds with fire protection requirements, in new buildings and the renovation of old buildings. Suitable for installation with underfloor heating (according to the manufacturer's instructions). |
| Rigidur* Flooring Elements 30/35 MW  2 x 10.0 mm/2 x 12.5 mm + 10 mm MW | 30 mm<br>35 mm        | 500 x 1,500 mm<br>500 x 1,500 mm | 27.7<br>34.0    | Pre-primed gypsum fibreboards with rebate edges. Extremely hard and smooth surface with mineral wool lamination on the reverse. Reaction to fire in acc. with DIN EN 13501-1: A2-s1,d0 (C.3).         | For the quick creation of dry floor screeds with fire and sound protection requirements, in new buildings and the renovation of old buildings.   |
| Rigidur* Flooring Elements 45 MW  2 x 12.5 mm + 20 mm MW                | 45 mm                 | 500 x 1,500 mm                   | 34.1            | Pre-primed gypsum fibreboards with rebate edges. Extremely hard and smooth surface with mineral wool lamination on the reverse. Reaction to fire in acc. with DIN EN 13501-1:A2-s1,d0 (C.3).          | For the quick creation of dry floor screeds with fire and sound protection requirements, in new buildings and the renovation of old buildings.   |
| Rigidur* Flooring Elements 65 MW  2 x 12.5 mm + 40 mm MW                | 65 mm                 | 500 x 1,500 mm                   | 37.9            | Pre-primed gypsum fibreboards with rebate edges. Extremely hard and smooth surface with mineral wool lamination on the reverse. Reaction to fire in acc. with DIN EN 13501-1:A2-s1,d0 (C.3)           | For the quick creation of dry floor screeds with fire and sound protection requirements, in new buildings and the renovation of old buildings.   |
| Rigidur* Flooring Elements 30/35 HF  2 x 10.0 mm/2 x 12.5 mm + 10 mm HF | 30 mm<br>35 mm        | 500 x 1,500 mm<br>500 x 1,500 mm | 27.9<br>34.0    | Pre-primed gypsum fibreboards with rebate edges. Extremely hard and smooth surface with soft wood fibre lamination on the reverse. Reaction to fire in acc. with DIN EN 13501-1: B <sub>fl</sub> -s1. | For the quick creation of dry floor screeds with fire and sound protection requirements, in new buildings and the renovation of old buildings.   |
| Rigidur* Flooring Elements 40/50 PS  2 x 10.0 mm + 20 mm PS/30 mm PS    | 40 mm<br>50 mm        | 500 x 1,500 mm<br>500 x 1,500 mm | 26.4<br>26.8    | Pre-primed gypsum fibreboards with rebate edges. Extremely hard and smooth surface with polystyrene lamination on the reverse. Reaction to fire in acc. with DIN EN 13501-1: E.                       | For the quick creation of dry floor screeds with high heat insulation requirements, in new buildings and the renovation of old buildings.  |

### 1.2 Rigidur® accessory range for Flooring Elements







|                         | Rigidur* Nature Line<br>screed adhesive  | Rigidur*<br>screed adhesive  | Rigidur*<br>drywall screws  |
|-------------------------|--|--|---|
| Product specification   | Environmentally safe screed adhesive which contains no substances subject to labelling requirements, solvents or other hazardous substances                    | Solvent-free polyurethane-based adhesive   | Made of steel, specially treated, black phosphated  |
| Application area        | For the bonding of rebate/edge areas of Rigidur Flooring Elements and/or an additional layer of Rigidur H on top of Elements that have already been installed. | For the bonding of rebate/edge areas of Rigidur Flooring Elements and/or an additional layer of Rigidur H on top of Elements that have already been installed. | For the fastening of Rigidur Flooring Elements: $3.9 \times 19$ mm for $2 \times 10$ mm floor screed structures $3.9 \times 22$ mm for $2 \times 12.5$ mm floor screed structures |
| Container size          | 1 kg/bottle  | 1 kg/bottle  | 1,000 pcs./box  |
| Consumption             | Approx. 60 g/m²  | Approx. 60 g/m²  | 14 pcs/m²   |
| Coverage                | 17 m²/bottle   | 17 m²/bottle   | Approx. 70 m <sup>2</sup>   |
| Processing time         | Approx. 10 minutes   | Approx. 10 minutes   | -   |
| Processing temperaturer | 7-25 °C  | 5-30 °C  | -   |
| Storage period          | 12 months if unopened  | 12 months if unopened  | Unlimited   |
| Storage                 | In a frost-free location   | Not frost-sensitive  | In a dry location   |







|                         | Rigips* mineral wool edge insulation strips  | Rigidur*<br>levelling compound  | Rigidur*<br>MixBinder   |
|-------------------------|--|---|---|
| Product specification   | Mineral wool, building material classification<br>A1 in acc. with DIN EN 13501-1   | Natural expanded clay, reaction to fire classified as A1 in accordance with DIN EN 13501-1, non combustible, extremely resilient to loads, rotproof | Cementitious binding agent; reaction to fire in accordance with DIN EN 13501-1                            |
| Application area        | As sound insulation elements between Flooring Elements/adjacent components and as system components in the creation of fire-proof structures | As a dry fill to level out unevenness in floors<br>or to adjust floor heights under Rigidur<br>Flooring Elements                                    | For creating bound fills for fill heights exceeding 20 mm in combination with Rigidur levelling compound. |
| Container size          | Boxes containing<br>40 units: 10 × <b>100</b> × 1,250 mm<br>60 units: 10 × <b>75</b> × 1,250 mm  | 50 I / bag  | 15 kg/bag   |
| Consumption             | 1 piece per 1.25 m of wall joint   | 10 l/m² (at a fill height of 1 cm)  | 15 kg/100 l Rigidur levelling compound  |
| Coverage                | 50/75 meter per box  | 5 m² (at a fill height of 1 cm)   | -   |
| Processing time         | -  | -   | -   |
| Processing temperaturer | -  | -   | Not below 5 °C  |
| Storage period          | Unlimited  | Unlimited   | 6 month   |
| Storage                 | In a dry location  | In a dry location   | Dry and protected from frost  |



|                         | Rigips*<br>VARIO joint filler   |
|-------------------------|---|
| Product specification   | High polymer-modified material in accordance with DIN EN 13963/type 4B              |
| Application area        | For the filling of joints in Rigidur Flooring<br>Elements and covering of fasteners |
| Container size          | 5 kg/bag, 25 kg/bag   |
| Consumption             | Approx. 0.1 kg/m²   |
| Coverage                | 50 m <sup>2</sup> /5 kg bag   |
| Processing time         | Min. 40 minutes   |
| Processing temperaturer | Not below 5 °C  |
| Storage period          | Max. 3 months once opened   |
| Storage                 | In a dry and frost-free location  |

# 2 Construction requirements

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### 2.1 Construction site conditions

Construction involving gypsum fibreboard systems has now reached a highly technically sophisticated level. The following recommendations and notes are provided to ensure high quality installation and clarity about general structural conditions when using gypsum fibreboard systems.



### Note

It is also essential to observe the load classes if the dry screed is installed before the planned extension. It is therefore extremely important that suitable protective measures are taken to preserve the installed dry screed, e.g. through full-surface and pressure-resistant covers.

- Rigidur Flooring Elements should not be installed in buildings with a permanent relative humidity of more than 70%.
- Gypsum fibreboard systems should be protected from longterm exposure to moisture before, during and after installation.
- Sufficient ventilation should also be ensured in buildings once installation work is complete.
- Filing work may only be carried out once no more major changes in the length of the gypsum fibreboards are expected as a result of changes in humidity and temperature.
- The material and room temperature may not fall below + 5 °C on a sustained basis for bonding and filling work.



### Note

Please observe the processing temperatures on the packaging of the special Rigidur screed adhesives.

### Winter construction

- Rapid, sudden heating of rooms should be avoided as stress cracks may otherwise occur as a result of changes in length.
- Direct blowing of hot or warm air onto the surface of gypsum fibreboards should be avoided at all costs.
- Sufficient ventilation must be ensured.



### Notes

- Plastering work generally leads to a drastic increase in relative humidity. Thorough and even ventilation must be ensured. Screeds should be installed after plastering work has been completed and the plaster has dried.
- Any mineral wool installed must comply with the Ordinance on Hazardous Substances.

### 2.2 Storage

- The Elements should be laid on a stable and flat surface, ideally on a pallet as deformation may occur if they are stored vertically.
- The load-bearing capacity of the substrate must be taken into account for storage.
- The Elements should be protected from moisture (rain, snow) and stored under installation conditions for at least 24 hours before installation.



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### 3.1 Rigidur® Flooring Elements

Rigidur Flooring Elements comprise two gypsum fibreboards joined at the manufacturing stage. The reverse of the Rigidur Flooring Elements can be laminated with various insulating materials to achieve special properties.

The Rigidur Flooring Elements are  $500 \times 1,500$  mm in size and feature a 50 mm wide rebate edge on all four sides. This rebate edge allows frictional and overlapping installation of the boards to create a continuous dry floor screed surface. The outstanding quality properties of the Rigidur Flooring Elements permit system solutions tailored to all types of floors:

- Ideal for new buildings and the renovation/refurbishment of old buildings
- Tailored to meet sound/heat insulation and fire protection requirements in the construction of residential, office and administrative buildings
- Suitable for under-floor heating systems
- Prefabricated elements allow easy installation
- Lower weight which results in lower ceiling loads
- Quick, clean and dry solution

### i Rigips information

Rigidur Flooring Elements are produced in board thickness combinations of  $2 \times 10$  mm and  $2 \times 12.5$  mm and with/without laminations. The numerical part of the name, e.g. Rigidur Flooring Element 20 or 25 denotes the total thickness of the element (20 or 25 mm thick), while a subsequent pair of letters indicates the laminated insulating material (MW = mineral wool, HF = soft wood fibre, PS = polystyrene).



Rigidur Flooring Elements 20/25



Rigidur Flooring Elements 30/35 MW



Rigidur Flooring Elements 45 MW



Rigidur Flooring Elements 65 MW



Rigidur Flooring Elements 30/35 HF



Rigidur Flooring Elements 40/50 PS

### 3.2 Areas of use for Flooring Elements

Depending on their composition, Rigidur Flooring Elements may demonstrate special properties with respect to permitted loads, sound/fire protection and heat insulation. They may also be combined with other products to achieve optimum floor structures.

With the wide range of technical combination options available, the following pages are aimed at helping you select a safe and proven floor structure for your planned area of application.

The suitability of Rigidur Flooring Elements for specific uses, also in combination with further insulating materials, is based on the permitted loads set out in DIN EN 1991-1-1/NA:2010-12.

| Areas of use on the basis of DIN EN 1991-1 / NA  |   |              |                    |  |  |  |  |
|--|---|--------------|--------------------|--|--|--|--|
| Example of use/<br>area of use   | Category on the<br>basis of DIN EN<br>1991-1 / NA<br>(perpendicular<br>loads) | Area<br>load | Individual<br>load |  |  |  |  |
| 1 Residential rooms  | A1, A2, A3  | 2 kN/m²      | 1 kN               |  |  |  |  |
| 2 Offices  | B1, D1  | 2 kN/m²      | 2 kN               |  |  |  |  |
| 3 Clinics  | B2  | 3 kN/m²      | 3 kN               |  |  |  |  |
| 3 Schools, restaurants<br>(Load assignment differs<br>from that stated in DIN EN<br>1991-1-1/NA:2010-12) | C1  | 4 kN/m²      | 3 kN               |  |  |  |  |
| 4 Cinemas, auditoriums   | C2  | 4 kN/m²      | 4 kN               |  |  |  |  |
| Museums, concert halls, factories  | B3, C3, C5, D2,<br>E1.1   | 5 kN/m²      | 4 kN               |  |  |  |  |

These category assignments offer e.g. the following potential application areas for the various Rigidur Flooring Element types:

### Residential rooms

Selected systems from underfloor heating suppliers can be used in combination with Rigidur Flooring Elements 20 to create high-quality dry screeds at a low heights. Advantages include short warm-up times and good controllability.



Cosy hot water under-floor heating system with a Flooring Element height of just 20 mm

### Offices

Rigidur Flooring Elements 30 MW are also suitable for offices with floor loads of up to 2 kN/m² while offering an improvement in footstep sound insulation of 22 dB on solid floors.



Rigidur Flooring Elements MW offer high stability and good sound insulation properties

### Clinics

Flooring Elements with soft wood fibre lamination (HF) are also suitable for clinics and schools with floor area loads of up 4 kN/m². Rigidur levelling compound may be used to level out uneven surfaces.



Rigidur Flooring Elements HF for highly durable flooring areas

### 3.3 Application areas for usage classes 1 to 4

| Application on stable substrates  |                           |   | Bearing layer   | Bearing layer Possible combination with fill and one type of insulation                        |  |  |  |  |
|---|---------------------------|---|---|--|--|--|--|--|
| Application areas/use/areas of use  | Area Individual load load | Suitable<br>Rigidur Flooring<br>Element | Rigidur levelling<br>compound                                   | Bound fill   | Wood fibre insulation<br>board, e.g. Gutex<br>with a compression<br>strength ≥ 150 kPa | EPS, XPS, PUR<br>with a compression<br>strength ≥ 150 kPa                  |  |  |
| Residential rooms Rooms and corridors in residential buildings, hotel rooms, incl. associated kitchens & bathrooms  | 2 kN/m²                   | 1 kN                                    | FE 20/25<br>FE 30/35 HF<br>FE 30/35/45/<br>65 MW<br>FE 40/50 PS | 10 - 100 mm<br>10 - 100 mm<br>10 - 100 mm<br>10 - 100 mm                                       | ≥ 20 mm<br>≥ 20 mm<br>≥ 20 mm<br>≥ 20 mm   | ≤ 100 mm <sup>1)</sup><br>≤ 100 mm <sup>1)</sup><br>≤ 100 mm <sup>1)</sup> | ≤ 200 mm<br>≤ 200 mm<br>≤ 200 mm                 |  |
| Offices Corridors in office buildings, office areas, medical surgeries without heavy equipment, wards and common rooms incl. corridors. Sales areas up to 50 m² in residential, office and comparable buildings   | 2 kN/m²                   | 2 kN                                    | FE 20/25<br>FE 30/35 HF<br>FE 40/50 PS<br>FE 30/35/45/<br>65 MW | 10 - 60 mm<br>10 - 60 mm<br>10 - 60 mm<br>10 - 30 mm   | ≥ 20 mm<br>≥ 20 mm<br>≥ 20 mm<br>≥ 20 mm   | ≤ 100 mm<br>≤ 100 mm<br>≤ 50 mm<br>≤ 50 mm                                 | ≤ 200 mm<br>≤ 200 mm<br>≤ 100 mm<br>≤ 100 mm     |  |
| Clinics Corridors and kitchens in hospitals, hotels, retirement homes, corridors in boarding schools, etc.; treatment rooms in hospitals incl. operating theatres without heavy equipment; cellars in residential buildings   | 3 kN/m²                   | 3 kN                                    | FE 20<br>FE 25<br>FE 30/35 HF<br>FE 40/50 PS                    | 10 - 60 mm <sup>2)</sup><br>10 - 60 mm<br>10 - 60 mm <sup>2)</sup><br>10 - 30 mm <sup>2)</sup> | ≥ 20 mm<br>≥ 20 mm<br>≥ 20 mm<br>≥ 20 mm   | ≤ 50 mm<br>≤ 50 mm<br>≤ 50 mm<br>≤ 20 mm                                   | ≤ 100 mm<br>≤ 100 mm<br>≤ 100 mm<br>≤ 60 mm      |  |
| 3 Schools, restaurants Areas with tables, e.g. child day care centres, nurseries, classrooms, cafes, restaurants, dining halls, reading rooms, reception rooms, staff rooms (load assignment deviating from DIN EN 1991-1-1/NA:2010-12)   | 4 kN/m²                   | 3 kN                                    | FE 20<br>FE 25<br>FE 30/35 HF<br>FE 40/50 PS                    | 10 - 60 mm <sup>2)</sup><br>10 - 60 mm<br>10 - 60 mm <sup>2)</sup><br>10 - 30 mm <sup>2)</sup> | ≥ 20 mm<br>≥ 20 mm<br>≥ 20 mm<br>≥ 20 mm   | ≤ 50 mm<br>≤ 50 mm<br>≤ 50 mm<br>≤ 20 mm                                   | ≤ 100 mm<br>≤ 100 mm<br>≤ 100 mm<br>≤ 60 mm      |  |
| 4 Cinemas, auditoriums Areas with fixed seating such as churches, theatres or cinemas, congress halls, auditoriums, waiting rooms   | 4 kN/m²                   | 4 kN                                    | FE 20/25<br>FE 30/35 HF   | -  | ≥ 20 mm<br>≥ 20 mm   | ≤ 20 mm <sup>2)</sup><br>≤ 20 mm <sup>2)</sup>                             | ≤ 100 mm <sup>3)</sup><br>≤ 100 mm <sup>3)</sup> |  |
| Museums, concert halls Freely accessible areas as museum and exhibition space, lobbies in public buildings, hotels, areas where large numbers of people may gather, e.g. in buildings such as concert halls. Entrances to and floors in shops and dept. stores, floors in factories and workshops with light-duty operations (stationary loads) | 5 kN/m²                   | 4 kN                                    | FE 20/25<br>FE 30/35 HF   | -  | ≥ 20 mm<br>≥ 20 mm   | ≤ 20 mm <sup>2)</sup><br>≤ 20 mm <sup>2)</sup>                             | ≤ 100 mm <sup>3)</sup><br>≤ 100 mm <sup>3)</sup> |  |

 $<sup>^{1)}</sup>$  A compression strength  $\geq$  70 kPa is sufficient

 $<sup>^{2)}</sup>$  In combination with a Rigidur H load distribution board  $\geq$  10 mm

<sup>&</sup>lt;sup>3)</sup> Compression strength ≥ 200 kPa



- Permitted individual loads are based on spacing of at least 50 cm between each one and a gap of at least 10 cm to the corner of the room.
- The individual load area is based on a circle with 50 mm diameter.
- The sum of the individual loads may not exceed the maximum load-bearing capacity of the floor structure.
- It is important to ensure that loads on dry floor screed elements do not exceed the permitted individual loads (e.g. loads transported on a hand pallet truck).
- Assuming installation is realised correctly, the maximum deformation caused by all individual loads stated will be \$ 3 mm.



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Rigidur Flooring Elements should be laid on a stable, level and dry substrate and cover its entire surface. For construction elements in direct contact with the ground, a permanent moisture guard should be used.

### 4.1 Solid floor

Any unevenness in the existing concrete surface should be levelled out. A 0.2 mm thick PE film should then be laid on top, overlapping each sheet by approx. 300 mm.



### Note

The film may be eliminated when refurbishing dry, solid floors.

### 4.2 Wooden beam floor

The load bearing capacity of existing wooden beam floors must be checked. Loose planks or boards must be fixed in place. The substrate may not give or be elastic. A vapour-permeable trickle protection layer (e.g. soda kraft paper or raw felt board) should be laid on wooden beam floors rather than film

### 4.3 Steel trapezoidal sheet floor

Before laying Rigidur Flooring Elements, a full layer of e.g. loaddistributing wooden boards, sheet or similar must be installed. Grooves up to 50 mm deep may alternatively be covered with Rigidur levelling compound to a height of 10 mm above the highest point.

### 4.4 Levelling of unevenness in the slab

Rigidur Flooring Elements should be laid on a level and dry substrate and cover its entire surface. Any unevenness in the slab should be levelled in accordance with the following recommendations:

- Levelling up to 5 mm: Fill small surface defects with Rigips VARIO ioint filler
- Levelling up to 30 mm: Levelling filler, e.g. weber.floor 4320, weber, floor 4160 or weber, floor 4150
- Levelling above 10 mm: Rigidur levelling compound up to the maximum fill height (in accordance with the table on page 22)
- Levelling exceeding 20 mm in depth: Bound fill for particularly high compression strength (as per the table on page 22).



### Processing notes

Levelling of unevenness using dry or bound fills.

### 1. Levelling using Rigidur levelling compound (dry fill)

Rigidur levelling compound is a dry fill made of natural expanded clay which is suitable for levelling out any floor unevenness ≥ 10 mm. It is non-combustible, highly durable and rot-proof. It not only improves heat and sound insulation, but also increases the fire resistance time of floor structures to up to 120 minutes.

### 2. Levelling using bound fill

Rigidur levelling compound is mixed with Rigidur MixBinder to create a bound fill which is then applied to the floor. The bound fill exhibits greater compression strength and is thus also capable of absorbing greater loads. It can be used for fill heights ≥ 20 mm and displays outstanding heat and sound insulation properties. Fill heights ≥ 30 mm also meet fire protection requirements.

4. Substrates 4. Substrates

## Loose fill Rigidur® levelling compound



# Technical data: Rigidur\* levelling compound Grain size 1-5 mm Volume/weight per sack 50 I, approx. 17.5 kg Thermal conductivity $\lambda_R$ 0.16 W/(m·k) Bulk density at 10 cm bulk height approx. 35 kg/m² Residual moisture max. 1.5 Vol. % Reaction to fire A1 in accordance with DIN EN 13501-1

### i Rigips information



Due to the low weight of the Rigidur levelling compound, it is particularly recommended for use in wooden beam ceilings from a structural point of view.

# Bound fill Rigidur® levelling compound with Rigidur® MixBinder



Cementitious binding agent for use with Rigidur levelling compound to create a bound fill. Two bags of Rigidur leveling compond are combined with one bag of Rigidur MixBinder.

| Technical data: Bound fill with Rigidur® MixBinder |   |  |  |  |  |
|--|---|--|--|--|--|
| Bulk density at 10 cm bulk height                  | approx. 60 kg/m²                        |  |  |  |  |
| Compression strength (N/mm²) - initial test        | > 1                                     |  |  |  |  |
| Shrinkage (mm/m)                                   | < 1                                     |  |  |  |  |
| Yield when mixed 2:1                               | 90 to 100 l                             |  |  |  |  |
| Reaction to fire                                   | A1 in accordance with<br>DIN EN 13501-1 |  |  |  |  |

### i Rigips information



The bound fill exhibits greater compression strength and good sound insulation, while its low weight also make it suitable for use in wooden beam and trapezoidal sheet ceilings.

4. Substrates 4. Substrates

### 4.5 Preparations

To avoid the transmission of footstep sound between the Rigidur Flooring Elements and abutting walls, 10 mm thick edge insulation strips should be inserted between the two 1. In fireproof structures, approved Rigips mineral wool edge insulation strips should be used.

Any required trickle protection films/papers should be laid under cables and pipes. If this is not possible, they should be laid loosely on the ground over installations and pressed tightly around them. It is important to ensure that no cavities remain. The paper ensures that no levelling material flows through any gaps such as knotholes or open joints. The edge of the film (paper) should stand approx. 50 mm higher than the expected final height of the dry floor 2.



Laying edge insulation



Laying out the film

### **Rigips information**

Rigips mineral wool edge insulation strips are available in widths of 50/75/100 mm and a length of 1,250 mm.

After determining and marking the finished height of the dry screed using a level or tube level, the edge insulation strips should be attached, ensuring they are fitted closely to the surface of the wall and right into the corners of the room. There should be no curves in the corners under any circumstances. The compound must completely fill out the corners of the room.



Attach edge insulation strips

### 4.6 Processing of loose fill

To avoid unnecessary dust when spreading the Rigidur levelling compound, place the sack in the appropriate position on the floor and cut it open at the bottom 1. The sack can then simply be lifted upwards 2.

With deeper fill layers, the levelling compound can be poured between parallel dams of the appropriate height and levelled off using a screed rail. Rigidur levelling compound should then be tipped into any remaining cavities, spread evenly 3 and levelled off again with the screed rail 4. It is particularly important to ensure a flat surface. It is not necessary to compact the fill or use an excessive quantity.



Cut the sack open at the bottom



Carefully lift the sack upwards

### **Processing notes**

- The use of standard screed templates is recommended when laying Rigidur levelling compound.
- The fill layer should be at least 10 mm deep.
- No post-processing is required for fill heights up to 100 mm.
- When laying Rigidur Flooring Elements onto dry fill, it is possible to start in the front right-hand corner of the room rather than use the stated laying sequence to avoid treading on the levelled fill.
- Installation pipes which should be covered with fill must be laid at least 20 mm apart and covered by a minimum fill layer of 10 mm.



Spread out the compound



Flat fill surface

4. Substrates 4. Substrates

### 4.7 Processing of bound fill



### Mix ratio 2:1



 $2 \times 50$  l Rigidur levelling compound and  $1 \times 15$  kg Rigidur MixBinder.

### Manual mixing:

Add approx. 10-12 | of water

### Mechanical mixing:

Add approx. 12-14 | of water.

### Manual processing of the bound fill

Tip two sacks of Rigidur levelling compound into the concrete mixer.



Add the 15 kg container of Rigidur MixBinder ...



... and then the required amount of water.



The material should be mixed for approx. 3-4 minutes and can then be applied to the floor.



The mixed fill material should be spread over the floor 1. With deeper fill heights, the levelling compound can also be poured between parallel dams 2 before using screed rails to spread and smooth off the fill 3. Once the surface is completely flat the bound fill can be left to dry. Drying times may vary as they are dependent on fill heights 4.



Tip out fill material



### **Processing notes**

- Before laying Rigidur Flooring Elements 20/25 a layer of e.g. Rigidur MixBinder should be applied to the floor to ensure a smooth and flat surface.
- Empirical values for drying times for bound fills have shown that they are dependent on room temperatures and fill heights. A fill height of 100 mm will take approx. one week to dry at a room temperature of at least 20 °C.



Spread material



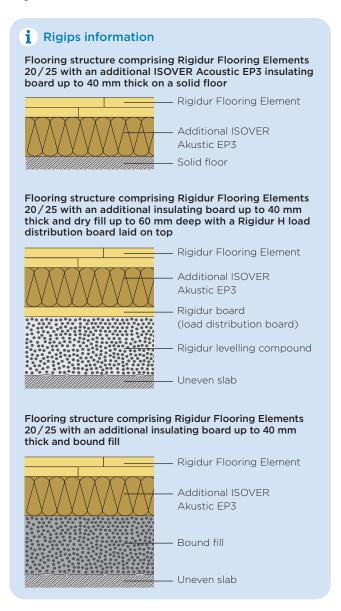
Smooth off using screed rails



Flat bound fill surface

### 4.8 Use of mineral wool insulating boards

Suitable mineral wool insulating boards may be installed under Rigidur Flooring Elements 20/25. Rigips recommends ISOVER Acoustic EP3 up to a thickness of 40 mm. The maximum permitted single load is  $1\,\mathrm{kN}$ .



# 5 Installation instructions

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### 5.1 Laying Rigidur® Flooring Elements

The Rigidur Flooring Elements should be laid longitudinally, beginning in the far lefthand corner of the room. The transverse joints of the Elements should generally be offset by at least 200 mm.

| 1           |      |    |    | 2   |    | 3  | 3  |
|-------------|------|----|----|-----|----|----|----|
| 3 a         | 3a 4 |    |    |     | 5  |    | 6  |
| 6a          |      |    | 7  | 7 8 |    |    |    |
| 9 ≥200mm    |      |    | -  | 10  |    | 1  | .1 |
| <b>11</b> a |      | 12 |    |     | 13 |    | 14 |
| 1           | 4a   | 15 |    |     | 16 |    |    |
| 17          |      |    | 18 |     | 1  | .9 |    |
|             |      |    |    |     |    |    |    |

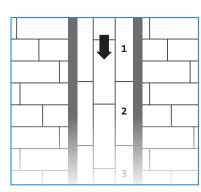
Laying the Flooring Elements, begin in the far lefthand corner of the room and work towards the door

When laying Rigidur Flooring Elements onto dry fill, it is possible to start in the front righthand corner of the room.

| 1  | .9 |    |      | 18 |    |    | 17 |     |
|----|----|----|------|----|----|----|----|-----|
|    | 1  | .6 |      |    | 15 |    | 14 | ŀa  |
| 14 |    |    | 13   |    |    | 12 |    | 11a |
| 1  | 11 |    | 10 9 |    | 9  |    |    |     |
| 8  |    |    | 7    |    | 6  | а  |    |     |
| 6  |    |    | 5    |    |    | 4  |    | 3 a |
| 3  |    | 2  |      |    | 1  |    |    |     |
|    |    |    |      |    |    |    |    |     |

Laying the Flooring Elements from the front righthand corner into the room

In corridors or rooms ≤ 1.5 m wide, Rigidur Flooring Elements should be laid lengthways.



Longitudinal arrangement of the Flooring Elements in narrow corridors

The rebate edges of Flooring Elements that abut walls should be sawn off to ensure a full board layer over the substrate.



The rebate edge should be cut off where it abuts a wall



Laying the Flooring Elements on Rigidur levelling compound using "stepping stones"

### Processing notes

- Please take care when cutting the elements that the Flooring Elements are provided with two steel wire staples.
- The longitudinal joints of the first row of Flooring Elements should be aligned in such a way that the subsequent rows can be joined tightly when laid without offsetting.
- The transverse joints should also be a tight fit and flush with the surface.
- Whether it is necessary to fill the joints and fastening points depends on the floor covering to be laid in each individual case (see section 8 "Floor coverings")

### 5.2 Bonding the Rigidur® Flooring Elements



Apply the Rigidur floor adhesive to the rebate and board edges using the double nozzle.



### **Rigips information**













### Rigidur Nature Line floor adhesive:

This environmentally safe floor adhesive, which contains no substances subject to specific labelling requirements, is free of solvents and other hazardous substances. It is used for the bonding of rebate and edge area of Rigidur Flooring Elements.The expanding adhesive is suitable for bonding Rigidur Flooring Elements and an additional layer of Rigidur H boards.

### Rigidur floor adhesive:



Polyurethane-based, solvent-free floor adhesive. The expanding adhesive is suitable for bonding Rigidur Flooring Elements and an additional layer of Rigidur H boards.

### **Bonding process**



The double nozzle enables the simultaneous application of the floor adhesive to the rebate and board edge.



Swelling of the adhesive out of the edge area indicates optimum bonding. Once the surface of the adhesive has hardened (approx. 1 hour depending on temperature conditions), it can be scraped off to create a smooth and flat surface.

### Notes

- To avoid impacting the adhesive setting process for Flooring Elements which have already been laid, we recommend the use of "stepping stones" to avoid standing directly on them during work.
- The adhesive will have hardened fully after approx. 24 hours. The surface will then be able to bear a load and floor coverings can be applied.

### 5.3 Fastening the Rigidur® Flooring Elements

The Rigidur Flooring Elements should be fastened in place at the edges on a row-by-row basis as they are laid using Rigidur drywall screws or galvanized, resin-coated expansion clamps.

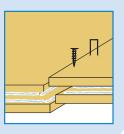
(A gap of approx. 250 mm should be left between each Rigidur drywall screw and approx. 150 mm between each clamp). An appropriate fastener length should be selected to ensure that the reverse of the Rigidur Flooring Elements is not penetrated.



Fastening with expansion clamps

### Rigips installation tips

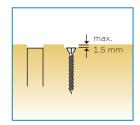
- Apply your body weight to the Flooring Element when inserting the fasteners to create the required pressure on the boards.
- This bonded and screwed/stapled joint offers maximum stability.



| Fasteners for Rigidur* Flooring Elements    |                            |                                     |  |  |  |
|---|----------------------------|-------------------------------------|--|--|--|
|   | Rigidur drywall-<br>screws | Expansion clamps                    |  |  |  |
| Elements with 2 x 10 mm<br>Rigidur boards   | 3.9 x 19 mm                | Ave. 1.4-1.6 mm<br>Length: 18-19 mm |  |  |  |
| Elements with 2 x 12.5 mm<br>Rigidur boards | 3.9 x 22 mm                | Ave. 1.4-1.6 mm<br>Length: 21-22 mm |  |  |  |
| Gap   | 250 mm                     | 150 mm                              |  |  |  |

### 5.4 Correct penetration depth for screws and clamps

When using clamps and screws, it is important to ensure the correct penetration depth. Clamps and screws should not be sunk too deeply, nor should they protrude above the surface as it will otherwise be impossible to achieve a smooth finish when filling the fastening points. Clamps and screws should either be flush with the board surface or sunk to a max. depth of 1.5 mm.



After removing any screed adhesive which oozes out of the rebate edges using a scraper once it has sufficiently set, the fasteners and any surface defects can be filled using VARIO joint filler.



Filling of fastening points and any surface defects

### Note

The adhesive will have fully hardened after approx. 24 hours. The surface can then bear the permitted loads and be covered with the corresponding flooring.

# 5.5 Inspection following installation of the Rigidur® Flooring Elements

In general, reference may be made to national regulations or standard "flatness tolerances in building construction" when inspecting laid dry screed floors, insofar as no additional agreements have been concluded.

The maximum height offset between the rebate edges of the laid Rigidur Flooring Elements may not exceed 2 mm.

The laid Rigidur Flooring Elements may not yield by more than 3 mm, also at the edges, when the maximum permitted individual load is applied (see table on page 22).

Under normal conditions the Rigidur dry floor screed structure will have reached full strength and be ready for floor coverings 24 hours after installation.

The surface of the Rigidur Flooring Elements must be clean, dry and free of grease before being covered. Screed adhesive residues and excessive adhesive in the joint area should be removed to ensure a optimum adhesive bond between the surface of the gypsum fibreboard surface and products subsequently applied to it.

Any joints which open up between the Elements should simply be filled with Rigips VARIO joint filler.

# Rooms with high moisture levels

### Chapter contents

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# 6.1 Rigidur® Flooring Elements in domestic rooms with high moisture levels

Rigidur Flooring Elements may also be used as dry floor screeds in domestic rooms with high moisture levels. These include domestic bathrooms and kitchens, bathrooms in hotel rooms and similar areas.

### Water exposure classes and application examples (Extract: stress classes according to DIN 18534, table 1)

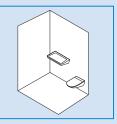
| Water exposure class | Exposure to water  | Application examples  |
|----------------------|--|---|
| WO-I                 | low resistance<br>Areas with less frequent<br>exposure to water spray  | - Areas of floor areas in<br>the domestic area with-<br>out drain, for example<br>in kitchens, utility<br>rooms, guest toilets                                    |
| W1-I                 | Areas with frequent<br>exposure to water<br>spray or not more often<br>exposure to process<br>water, without intensifi-<br>cation due to water<br>build-up | - Floor areas in domestic<br>bathrooms with drain<br>- Floor areas in bath-<br>rooms without/with<br>drain without high water<br>exposure from the<br>shower area |

### Rigips notes

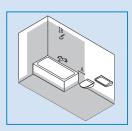
- Rigidur Flooring Elements may be used in bathrooms with walk-in showers where the shower tray is installed as a prefabricated element with an integrated slope. We recommend using Rigidur Flooring Elements with pressureresistant insulating materials such as soft wood fibre or EPS lamination.
- Depending on classification in the aforementioned W0-I and W1-I stress classes, additional sealing measures may as with all other screed systems - be necessary.

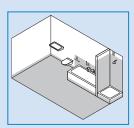
### i Rigips information

The following diagrams show examples of requirements with respect to stress classes WO-I and W1-I in domestic rooms with high moisture levels.



Toilet and washstand with no sealing requirements





Examples of bathrooms with sealing requirements

**A** > 30 cm, **B** > 20 cm

No or minimal splashing, stress class W0-I

Moderate splashing (splashed area), stress class W1-I

| Definition of measures for different stress classes (extract) |                        |   |  |  |  |  |
|---|------------------------|---|--|--|--|--|
| Stress class  | Colour in the diagrams | Required measures   |  |  |  |  |
| W0-I  | White                  | No further sealing<br>measures necessary<br>between the Flooring<br>Element and floor<br>covering.  |  |  |  |  |
| W1-I  | Light grey             | Additional sealing measures are necessary. Manufacturer-approved systems for gypsumbased pre-fabricated screeds are suitable. Polymer dispersion sealants, plastic/cement mortar combinations or resin-based thermosetting sealants may be used here. |  |  |  |  |

### 6.2 Necessary sealing measures

A wide range of components from a variety of manufacturers are available for the professional sealing of dry screed floors and joints. However, the combination of Rigidur Flooring Elements and sealing components from Saint-Gobain Weber offers users a range of proven solutions:

- weber.tec 822 liquid waterproofing membrane
- weber.tec 828 sealing tape
- weber.xerm 844 sealing and tile adhesive for use in walk-in showers

The manufacturer's processing instructions must be observed.

More information on flooring can be found in section 8 "Floor coverings".

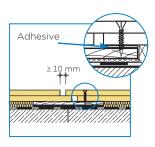
# 7 Joint details

### Chapter contents

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| 7.7 | Installation of Rigidur H boards only            | 52 |

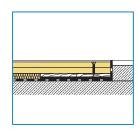
### 7.1 Expansion joints

If expansion joints already exist in the building shell, they must be continued in the dry floor screed. Expansion joints in the dry floor screed should be located at intervals of at least 15 meters (depending on the shape of the room). They should only be screwed and bonded on one side (see detail).



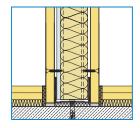
### 7.2 Joints to solid floors

Joints to solid floors should be underlaid (e.g. with wooden planks). The Rigidur Flooring Element should be bonded to the underlay and fastened in place using screws or clamps. The PE film should also be turned upwards in the same way as for walls.



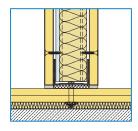
### 7.3 Joints between panels and unfinished floors

The wall panel should be fastened to the unfinished floor. The Rigidur dry floor screed elements should be placed directly against the wall panel with edge insulation strips in between (to prevent sound transmission).



### 7.4 Joints between panels and dry floor screeds

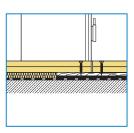
Stand the wall panels directly on the Rigidur dry floor screed. The maximum permitted loads must be observed. (Information on fire protection on request)



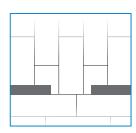
### 7.5 Installation in doorways

### Variant 1

The elements are continued through the doorway into the next room without joints. However, if butt joints are planned, a floating board (with a 3 mm felt underlay) should be installed underneath, and then bonded and fastened into place.



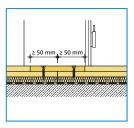
Cross-section diagram



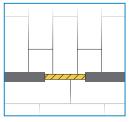
Top view

### Variant 2

Approx. 50 mm should be removed from the top board layer of each Flooring Element ending at the doorway. An approx. 100 mm piece of Rigidur H board should be fitted into the space, then bonded and fastened into place using Rigidur drywall screws.



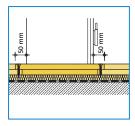
Cross-section diagram



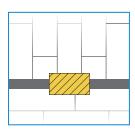
Top view

### Variant 3

The door opening should initially remain clear. Approx. 50 mm should be removed from the subsequent top layers. A piece of Rigidur floor screed cut to the appropriate size (with and/ or without lamination) should be bonded into place and fas tened using Rigidur drywall screws.



Cross-section diagram



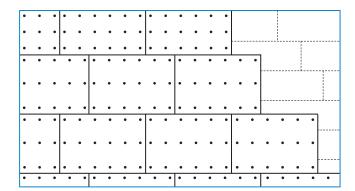
Top view

### Note

Element joints: Any open joints up to 2 mm wide between the Elements should simply be filled flush with the surface with Rigips VARIO joint filler once the adhesive has hardened.

### 7.6 Installation of an additional layer of Rigidur® H

To increase fire protection or load bearing capacity, an additional layer of Rigidur H 10 or Rigidur H 12.5 can be laid on the Rigidur dry floor screed. To avoid cross joints and ensure that joints are offset by at least 200 mm, the longitudinal edge of the additional layer of Rigidur H boards should be laid parallel to the longitudinal edge of the Flooring Elements. The additional layer of Rigidur H should be laid in position and the outlines of the boards marked on the dry floor screed. The board should then be removed and lines of Rigidur Nature Line screed adhesive applied approx. 100 mm apart in the marked area. The board layer should then be laid in position again and fastened to the dry floor screed. The screws or clamps should be inserted in rows along the edges of the boards and down the centre (see laying diagram). Before installing the next board of the additional layer, adhesive should also be applied to the short edges of the already installed boards so that they are completely filled with adhesive when the next board is laid.





### Processing notes

- Approx. 140 g/m<sup>2</sup> of Rigidur screed adhesive per square metre is required to lay a third layer.
- A bottle covers approx. 6 m<sup>2</sup>.

### 7.7 Installation of Rigidur® H boards only

It is essential that the following points are observed when bonding Rigidur H gypsum fibreboards together as dry floor screeds:

- The dimensions 1,500 x 1,000 mm should ideally be used.
- The first board layer should be laid with the stamped, rough side facing up and must be free of dirt and dust before applying the second layer to ensure optimum bonding.
- Rigidur screed adhesive should be applied in the same way as described in the notes on installing an additional layer of boards. Adhesive should also be applied to the short edges of the boards already laid in the second layer to ensure that they are completely filled with adhesive when the next board is laid.
- Where possible, the adhesive should only be applied to an area equivalent to one board at a time to ensure that the maximum processing time is not exceeded.
- The joints in the second layer must be offset from those in the first layer by at least 200 mm.
- Lay the second layer with the stamped, rough side facing down.
- Once the second layer has been laid, it should be fastened into place immediately using expansion clamps set max. 150 mm apart or Rigidur drywall screws set max. 250 mm apart longitudinally/transversely.



### Chapter contents

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A wide range of components from a variety of manufacturers are available for the professional installation of floor coverings on Rigidur dry screed floors. Saint-Gobain Weber, UZIN or MAPEI offer proven solutions for the professional installation of floor coverings on Rigidur Flooring Elements.

### Notes

- The processing information for Rigidur Flooring Elements, relevant trade guidelines and instructions specified by the adhesive, mortar and floor covering manufacturers must be observed.
- The adhesives and mortar used must be expressly suitable for use with gypsum-based dry floor screeds. If the adhesive manufacturer specifies system-based priming, this must be observed irrespective of any pre-priming of the Flooring Elements.
- Any expansion joints in the dry floor screed and substrate must be taken into account when laying floor coverings and appropriate expansion joints must be included.
- The permitted individual loads must be observed for bathtub and shower feet. Where the dry floor screed is subject to point loads, we recommend installing the feet directly onto the slab while taking account of sound insulation aspects.

### 8.1 Pre-treatment

When bonding floor coverings to Rigidur Flooring Elements, the Elements must be primed to limit moisture absorption. Otherwise it is possible that the required setting times for the adhesive will be inaccurate and that the properties stated by the manufacturer will not be exhibited. Primers specifically approved for use with gypsum-based dry floor screeds by the manufacturer are suitable.

Levelling filler must be used with thin floor coverings. The board joints should first be filled with Rigips VARIO joint filler flush with the surface.



### Note

If the floor covering manufacturer has specified the use of a specific primer or filler in their system, it must be ensured that it is suitable for gypsum-bound dry floor screeds.

### 8.2 Chair caster resistance



As a result of the specific material properties of the gypsum fibreboards used, Rigidur Flooring Elements are ideally suited to withstanding the stresses caused by chair casters. It is important to ensure that the

selected floor covering meets chair caster resistance requirements. Special chair casters which meet the requirements of DIN EN 985 and EN 12529 should also be used on such chaircaster-compatible floor coverings.

### 8.3 Elastic floor coverings



All thicker elastic floor coverings such as textile carpets may be laid directly after installation of the Rigidur Flooring Elements and flush filling of joints and fastener heads with Rigips VARIO joint filler.



### Note

Floor coverings such as carpet should be fixed in place using e.g. adhesive carpet tape. This should ensure that the covering can subsequently be removed without residues or damage to the screed. Alternatively, a liquid adhesive may be used. The manufacturer's installation recommendations should be observed.

Where floor coverings are to be bonded to the surface of the finished dry floor screed, Rigips recommends using the structures set out in the tables below.

If using PVC or similarly thin floor coverings, a layer of levelling filler should be applied to the Flooring Elements to ensure a homogeneous and completely smooth surface.

The relevant trade guidelines and processing instructions from the adhesive and flooring manufacturers must be observed.

| System structure for bonding | elastic floor | coverings using |
|------------------------------|---------------|-----------------|
| SaintGobain Weber products   |               |                 |

| Saint Gobain Weber products  |   |  |   |   |  |  |
|------------------------------|---|--|---|---|--|--|
| Floor covering               | Carpet  | Linoleum                                   | PVC in sheets                                       | PVC in tiles<br>and planks<br>(PVC design<br>coverings) |  |  |
| Substrate                    | Install Rigidur Flooring Elements in accordance with instructions. Seal joints with Rigips VARIO joint filler |  |   |   |  |  |
| Preparation of the substrate | clean, grind, vacuum off  |  |   |   |  |  |
| Priming of the substrate     | weber.floor 4716 bonding primer,<br>1:1 thinned   |  |   |   |  |  |
| Filler                       | weber.floor 4033 Fibre Fine Filler<br>in 2-3 mm   |  |   |   |  |  |
| Adhesive                     | adhesive and t  | 1820 linoleum<br>cextile covering<br>esive | weber.floor<br>4891 adhesive<br>and wet<br>adhesive | weber.floor<br>4818 designer<br>flooring<br>adhesive    |  |  |

Process in accordance with the manufacturer's instructions in the technical datasheets

### System structure for bonding elastic floor coverings using UZIN products

| Floor covering               | Carpet  | PVC  | Linoleum                        |  |  |  |
|------------------------------|---|--|---------------------------------|--|--|--|
| Substrate                    | acco  | Install Rigidur Flooring Elements in accordance with instructions. Seal joints with Rigips VARIO joint filler. |                                 |  |  |  |
| Preparation of the substrate | Cl  | clean, grind, vacuum off   |                                 |  |  |  |
| Priming of the substrate     | ~ 100   | UZIN PE 360 PLUS<br>- 100-150 g/m² roll out thinly   |                                 |  |  |  |
| Filler                       |   | UZIN NC 110/UZIN NC 170<br>2 mm thick, - 1,4 kg/m²/mm  |                                 |  |  |  |
| Adhesive                     | UZIN UZ 88 /<br>UZIN UZ 57<br>B 1<br>- 250-450 g / m <sup>2</sup> | UZIN KE 66<br>A 2<br>- 300 g/m²  | UZIN LE 44<br>B 1<br>~ 350 g/m² |  |  |  |

Process in accordance with the manufacturer's instructions in the technical datasheets

| Floor covering                        | Textile and needle-punch flooring       | PVC   | Linoleum                                  | Rubber   | LVT*  | Self-levelling<br>flooring |  |
|---------------------------------------|---|---|---|--|---|----------------------------|--|
| Substrate                             |   | Install Rigidur dry floor screed elements in accordance with processing instructions  |   |  |   |                            |  |
| Preparation of the substrate          | Observ                                  | Clean, grind, vaccum off, preparation in accordance with the DIN 18365 flooring work standard  Observe the Federal Association of Screed and Floor Covering (BEB) guidelines "Assessing and preparing substrates, laying elastic and textile flooring, laminate, parquet and wood block parquet" (latest edition) |   |  |   |                            |  |
| Priming of the substrate              |   | Eco Prim T Plus<br>(Diluted with water at a ratio of 1:2)   |   |  |   |                            |  |
| Levelling<br>(filler where necessary) |   | Ultraplan Xtra<br>Planitex Fast   |   |  |   |                            |  |
| Adhesive/bonding                      | Ultrabond Eco TX3,<br>Ultrabond Eco TX2 | Ultrabond Eco V4 SP,<br>Ultrabond Eco VS90 Plus   | Ultrabond Eco 530,<br>Ultrabond Eco V4 SP | Ultrabond Eco V4 SP<br>Fiber,<br>Ultrabond Eco V4 SP | Ultrabond Eco 4 LVT,<br>Ultrabond Eco V4 SP,<br>Ultrabond Eco VS90 Plus | Ultrabond Eco Tack TX      |  |
| Tooth profile                         | TKB B1/B2                               | TKB A1/A2   | TKB B1                                    | TKB A1/A2  | TKB A1/A2   | Apply using a roller       |  |
| Consumption                           | Approx.<br>350-450 g/m²                 | Approx.<br>250 g/m²   | Approx.<br>350 g/m²                       | Approx.<br>250 g/m²                                  | Approx.<br>250 g/m²   | 80 g/m²                    |  |

The technical guidelines for the products and currently valid standards and directives must be observed.

 $<sup>^{\</sup>ast}$  LVT (= Luxury Vinyl Tile) refers to PVC design floor coverings in panel form.

### 8.4 Tiles and flags



Stoneware, flags and other tiles which can be installed using the thin-bed method can in principle be laid on all Rigidur Flooring Elements.



### Rigips tip

Rigips recommends tile adhesive products from Saint-Gobain Weber or MAPEI (see table below).

### Dimensions and system structure for bonding ceramic tiles

| and flags using s            | Saint-Gobain Weber products   |  |  |
|------------------------------|---|--|--|
| Floor covering               | Ceramic tiles with edge lengths up to 90 cm/<br>flags up to 60 cm   |  |  |
| Substrate                    | Install Rigidur Flooring Elements in accordance with instructions. Seal joints with Rigips VARIO joint filler |  |  |
| Preparation of the substrate | Clean, vacuum off   |  |  |
| Priming of the substrate     | Prime using weber.prim 801. Seal if necessary - see notes about rooms with high moisture levels               |  |  |
| Tile adhesive                | weber.xerm 861 blue comfort or weber.xerm 859F<br>athermal adhesive   |  |  |
| Joints                       | Fill with weber.fug 877 after observing drying time   |  |  |

Process in accordance with the manufacturer's instructions in the technical datasheets

### System for bonding ceramic floor tiles and flags using products manufactured by MAPEI GmbH

| Covering                     | Ceramic coverings Ashlar covering  |  |  |  |  |
|------------------------------|--|--|--|--|--|
| Substrate                    | Install Rigidur dry floor screed elements in accordance with processing instructions                       |  |  |  |  |
| Preparation of the substrate | Clean, grind, vacuum off   |  |  |  |  |
| Priming of the substrate     | Eco Prim T Plus<br>(diluted with water at a ratio of 1:2)  |  |  |  |  |
| Levelling<br>Filler          | Ultraplan Xtra /<br>Planitex Fast <sup>1)</sup>  |  |  |  |  |
| Waterproofing                | Mapelastic   |  |  |  |  |
| Application<br>Tile mortar   | Ultralite S1 Consumption: 0.8 kg/m²/mm  Keraflex Maxi S1 Keraflex Vario Quick S1 Consumption: 1.1 kg/m²/mm | Elastorapid Consumption: 1.6 kg/m²/mm  Mapestone 1 Consumption: 1.6 kg/m²/mm |  |  |  |
| Tooth profile                | Apply with a toothed comb -<br>comb size dependent on panel format   |  |  |  |  |
| Joints<br>Joint grout        | Ultracolor Plus  |  |  |  |  |

The technical guidelines for the products and currently valid standards and directives must be observed.

Square ceramic tiles and flags with edge lengths of up to 33 cm may be laid with straight joints (stereotomy) using the thin-bed method.

<sup>1)</sup> When laying ceramics and laying natural stone with cement-bound adhesive mortars, an intermediate primer with ECO PRIM T PLUS is required after drying.

### Important notes about tiles and flags

- The maximum permitted individual loads for the tile sizes given in the table amount to 2 kN (residential and office areas). Where the load-bearing layer structure in the application area only permits 1 kN (cf. table on page 22), the maximum individual load when using tiles may also only be 1 kN (residential area).
- Large-format tiles (edge length > 330 mm) must meet the requirements of at least class Bla in accordance with FN 14411.
- The aspect ratio of the tile dimensions may be max. 1:3 in combination with a Rigidur H load distribution board ≥ 10 mm. Without a load distribution board, the aspect ratio is limited to 1.2
- Stoneware tiles must be at least 9 mm thick and flags at least 15 mm thick.
- Slabs must be sufficiently rigid to bear the corresponding loads. In particular the upper panelling of wooden beam floors may not bend by more than I/500 under variable loads.
- Butt-jointing tiles does not offer sufficient protection from moisture.
- Pre-soaking of the tiles is not permitted.

### 8.5 Parquet flooring



Parquet flooring can in principle be laid on all types of Rigidur Flooring Elements. However, the following rules and restrictions must be taken into account.

The construction site conditions must allow acclimatisation of the Flooring Elements. The room temperature should be 15 - 18 °C when installing parquet flooring. The ideal relative humidity range is 50 - 65%. Relative humidity of less than 40% or more than 75% should be avoided. In addition, DIN 18356 "Parguet flooring work" and DIN EN 13226 apply by analogy.

### Parquet types and use on Rigidur Flooring Elements

- Floating parguet and laminate flooring can be used without problems. The fibre orientation is of no consequence.
- Two- or three-layer parguet may be bonded to the Flooring Element (see pages 64 to 67).
- When using solid parquet made from non-swelling types of wood, the entire surface may be bonded (see pages 64 to 67).
- Solid parquet made from types of wood susceptible to swelling is not suitable for bonding to Flooring Elements as the transfer of the strong expansion and shrinkage forces to the Flooring Element would result in significant damage.
- Other solid parguet structures such as wood block parguet and solid parquet boards (e.g. in accordance with EN 13629) should also not be bonded to Rigidur Flooring Elements.

### Processing notes

- An edge joint of at least 10-15 mm must be observed through the screed, parquet and underlay layers.
- Do not fasten skirting boards to the floor.
- Fibre orientation changes such as those in basket weave and herringbone patterns reduce the forces generated by the deformation of the wood under varying moisture conditions.
- When bonding parquet, in particular solid parquet, moisture levels in the wood must be in line with standards to prevent strong expansion or shearing forces. The moisture level in the wood must be allowed to acclimatise to the expected ambient humidity in the room before installation.
- Appropriate edge distances to adjacent components must be observed when bonding parquet.
- When realising floating installation and bonding to a decoupling insulation layer, the expected point loads must be taken into account.
- The Flooring Element joints do not need to be filled when installing parquet flooring.
- Water-based synthetic resin dispersion adhesives are not suitable as their water content may cause deformation of the structure.
- Solvent-based single- or multi-component adhesives should not be used due to concerns about their ecological and work properties.

| Type of parquet  | Multi-layer parquet  | strip parquet 19-22 mm   | Solid parquet 8-16 mm |  |  |
|--|--|--|-----------------------|--|--|
| Substrate  | g .  | Install Rigidur Flooring Elements in accordance with instructions.  Seal joints with Rigips VARIO joint filler |                       |  |  |
| Preparation of the substrates                                |  | clean, grind, vacuum off   |                       |  |  |
| Priming of the substrate<br>(where filling is not necessary) | Optional: weber.floor 4718 1K-PUR quick primer, approx. 100-150 g/m² |  |                       |  |  |
| Priming of the substrate<br>(where filling is necessary)     | weber.floor 4716 bonding primer<br>1:1 thinned with water            | Optional: weber.floor 4716 bonding primer,<br>1:1 thinned with water   |                       |  |  |
| iller  | weber.floor 4033 Fibre Fine Filler<br>in 2-3 mm                      | weber.floor 4033 Fibre Fine Filler<br>in 2-3 mm  |                       |  |  |
| Adhesive for decoupling insulation                           | not necessary  | weber.floor 4832 1-K STP parquet adhesive /<br>weber.floor 4836 1-K STP Parquet adhesive, thrust resistant     |                       |  |  |
| Decoupling insulation  | not necessary  | weber.sys 832 Impact plate and decoupling plate laid across / diagonally to the parquet                        |                       |  |  |
| Parquet adhesive   | weber.floor 4833<br>1-K SMP parquet adhesive MP                      | weber.floor 4832 1-K S<br>weber.floor 4836 1-K STP parc  |                       |  |  |

Process in accordance with the manufacturer's instructions in the technical datasheets

| Type of parquet  | Multi-layer parquet<br>where joint filling<br>is required  | Multi-layer parquet<br>with no joint filling         | Strip parquet 19-22 mm   | Solid parquet 8-16 mm  |
|--|--|--|--|--|
| Substrate  |  | Install Rigidur Flooring Eleme                       | nts in accordance with instructions  |  |
| Preparation of the substrates                                |  | clean, grind,  | vacuum off   |  |
| Priming of the substrate<br>(where filling is not necessary) |  | UZIN PE 414 Turbo<br>- 100-150 g/m², roll out thinly |  |  |
| Priming of the substrate<br>(where filling is necessary)     | UZIN PE 360 PLUS<br>- 100-150 g/m²,<br>roll out thinly   | -  |  |  |
| Filler (where necessary)                                     | UZIN NC 174<br>3 mm thick,<br>approx. 1.6 kg/m²  | -  |  |  |
| Adhesive for decoupling insulation                           | not necessary  | not necessary  | UZIN MK 92 S<br>B 3, ~ 800 g/m²  | UZIN MK 92 S<br>B 2, ~ 600-800 g/m²                                  |
| Decoupling insulation  | not necessary  | not necessary  | UZIN Multimoll Top 4/<br>UZIN Soft Sonic at right angles/<br>diagonal to the parquet | UZIN Multimoll fleece<br>at right angles/<br>diagonal to the parquet |
| Parquet adhesive   | UZIN-MK 250 / UZIN MK 200 UZIN-MK 92 S / UZIN MK 250 Zahnung B11 - 1.000-1.200 g / m² Zahnung B11 - 1.000-1.200 g / m² |  |  |  |

Process in accordance with the manufacturer's instructions in the technical datasheets

| Parquet flooring                           | Mosaic parquet<br>8 mm   | Lamparquet<br>10 mm  | Industrial parquet<br>10 / 23 mm | Strip parquet<br>22 mm      | Multi-layer parquet<br>2-/3-layer                    | Solid wood<br>block parquet                                  |  |
|--|--|--|----------------------------------|-----------------------------|--|--|--|
| Substrate                                  | Install Rigidur dry floor screed elements in accordance with processing instructions |  |                                  |                             |  |  |  |
| Preparation of the substrate               |  | Clean, grind off, vacuum, preparation in accordance with the DIN 18356 parquet work standard Observe the Federal Association of Screed and Floor Covering (BEB) guidelines "Assessing and preparing substrates, laying elastic and textile floor coverings, laminate, parquet and wood block parquet" (latest edition) |                                  |                             |  |  |  |
| <b>Priming</b><br>Priming before leveling  |  | Eco Prim T Plus<br>(Diluted with water at a ratio of 1:2)  |                                  |                             |  |  |  |
| Priming before direct installation         |  |  | Eco Prim P                       | U 1K Turbo                  |  |  |  |
| <b>Leveling</b><br>Filler where necessary* |  |  |                                  | an Xtra<br>ex Fast          |  |  |  |
| <b>Decoupling</b><br>Decoupling membrane   | Where necessary:<br>Mapetex matting<br>Unireno                                       | Mapetex matting<br>Unireno   | Mapetex matting<br>Unireno       | Mapetex matting<br>Unireno  | Not necessary  | Subject to<br>consultation with<br>application<br>technology |  |
| Adhesive                                   |  | Ultrabond Eco S968 1K Ultrabond Eco P909 2K Fast   |                                  |                             |  |  |  |
| Tooth profile                              | TKB B2   | TKB B2   | TKB B2                           | TKB B2                      |  |  |  |
| Consumption                                | Approx.<br>450 g/m²  | Approx.<br>450 g/m²  | Approx.<br>450 g/m²              | Approx.<br>450 g/m²         |  |  |  |
| <b>Bonding</b><br>Adhesive                 |  |  | Eco S968 1K<br>o P909 2K Fast    |                             | Ultrabond Eco<br>S948 1K<br>Ultrabond Eco<br>S940 1K | Subject to<br>consultation with<br>application<br>technology |  |
| Tooth profile                              | TKB B3   | TKB B3   | TKB B3 / B11                     | TKB B11                     | TKB B3 / B11   |  |  |
| Consumption                                | Approx.<br>800-900 g/m²  | Approx.<br>800-900 g/m²  | Approx.<br>800-1.100 g/m²        | Approx.<br>1.000-1.100 g/m² | Approx.<br>800-1.100 g/m²                            |  |  |
| Protection<br>Surface protection           | Varnish: Ultracoat Easy Plus / Ultracoat HT 2K Oil: Ultracoat Oil Wax                |  |                                  |                             |  |  |  |

<sup>\*</sup> Where evenness does not meet the DIN 18202 standard

The technical guidelines for the products and currently valid standards and directives must be observed.

# 9 Heating systems

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### 9.1 Under-floor heating systems



Under-floor heating systems create a pleasant and comfortable warmth and open up design scope by significantly increasing creative design options in room planning. Rigidur Flooring Elements enable the installation of under-floor heating systems not

only in new buildings but also when renovating existing buildings. Non-laminated Rigidur Flooring Elements are particularly well-suited here. The heating systems must be explicitly approved for use in combination with dry floor screeds by the manufacturer.

| Rigidur Flooring Elements for under-floor heating systems |                          |                                |  |  |  |  |
|---|--------------------------|--------------------------------|--|--|--|--|
| Rigidur Flooring<br>Element                               | Height of structure [mm] | Thermal conductivity [W/(m*K)] |  |  |  |  |
| EE 20   | 20                       | 0.35                           |  |  |  |  |
| EE 25   | 25                       | 0.35                           |  |  |  |  |

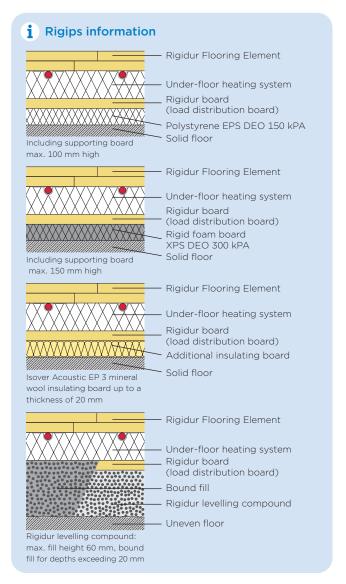
### i Rigips information

- Rigips has tested several combinations of Rigidur Flooring Elements with systems offered by under-floor heating system manufacturers. The systems offered by the following companies are recommended in combination with Rigidur Flooring Elements:
- Athe Therm Heizungstechnik GmbH
- herotec GmbH
- IVT GmbH & Co.KG
- mfh systems GmbH (formerly Jupiter Heizsysteme GmbH)
- PYD\*-Thermosysteme mi Heiztechnik GmbH
- REHAU Trockensysteme
- Roth Werke GmbH
- Uponor GmbH (System Siccus)
- Please confirm the suitability of under-floor heating systems from other manufacturers before installation.

Combinations of the tested under-floor heating systems and Rigidur Flooring Elements are suitable for use on stable substrates (with no further insulating layers or fill) up to a maximum area load of max. 2 kN/m≈ and an individual load of max. 2 kN, unless otherwise stated by the under-floor heating system manufacturer. The "Ideal Oeko" systems from mfh systems GmbH and "Roth Clima Comfort Panelsystem" from Roth Werke GmbH even permit individual loads of 3 kN on firm substrates.

### Further insulating layers below the under-floor heating system

The options for any structurally necessary insulating layer on a stable substrate below the rigid foam layer containing the pipes (supporting board) are listed below. All options apply for both Rigidur Flooring Elements. This combination is suitable for use up to an area load of  $2 \, \text{kN/m}^2$  and a point load of  $1 \, \text{kN}$  (residential area).





### Notes

- The flow temperature of the under-floor heating system should be limited to max. 50 °C.
- The manufacturer's instructions for installing the underfloor heating system must also be observed.



### Rigips recommendation

The under-floor heating system should be separated from the Rigidur Flooring Elements by a 0.2 mm thick layer of PE film to ensure acoustic decoupling of the materials.

### 9.2 Electric heating systems

Electric floor heating systems can be used on all Rigidur Flooring Element variants. The heating mats, e.g. the "DSVF" and "DTIF" systems offered by Devi, Germany, should be installed on the Flooring Elements using the thin-bed method. The levelling filler or flex mortar must be approved for use with gypsum-bound dry floor screeds and electric floor heating systems by the manufacturer. The manufacturer's priming instructions must also be observed. Only systems which include floor sensors for temperature control may be used.

The temperature control system must ensure that the temperatures inside the floor structure do not exceed 45 °C. All materials mentioned in section 8 "Floor coverings" are suitable unless any further restrictions are imposed by the under-floor heating system manufacturer.

### **Building physics** 10

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### 10.1 Use of Rigidur® Flooring Elements for fire protection

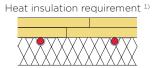
### Rigidur® Flooring Elements

### Fire resistance class in conjunction with

Solid floors

Trapezoidal profile floors

Wooden beam floors



|   | <u> </u> |      |
|---|----------|------|
| Rigidur® Flooring Elements 20               | F 30     | F 30 |
| plus Rigidur H ≥ 10 mm                      | F 60     | F 60 |
| or plus loose fill ≥ 30 mm                  | F 90     | F 90 |
| or plus bound fill ≥ 30 mm                  | F 90     | F 90 |
| Rigidur® Flooring Elements 25               | F 60     | F 60 |
| plus Rigidur H ≥ 10 mm                      | F 90     | F 90 |
| or plus loose fill ≥ 30 mm                  | F 90     | F 90 |
| or plus bound fill ≥ 30 mm                  | F 90     | F 90 |
| Rigidur® Flooring Elements 40/50 PS         | F 30     |      |
| plus Rigidur H ≥ 10 mm                      | F 60     |      |
| or plus loose fill ≥ 30 mm                  | F 90     |      |
| or plus bound fill ≥ 30 mm                  | F 90     |      |
| Rigidur® Flooring Elements 30/35 HF         | F 90     |      |
| plus Rigidur H ≥ 10 mm                      | F 120    |      |
| or plus loose fill ≥ 30 mm                  | F 120    |      |
| or plus bound fill ≥ 30 mm                  | F 120    |      |
| Rigidur® Flooring Elements ≥ 30/35/45/65 MW | F 90     |      |
| plus Rigidur H ≥ 10 mm                      | F 120    |      |
| or plus loose fill ≥ 30 mm                  | F 120    |      |
| or plus bound fill ≥ 30 mm                  | F 120    |      |

**Solid ceiling:** Minimum thickness as per structural analysis and at least 80 mm **Trapezoidal profile ceiling:** Dimensions as per structural analysis, additional layer of Rigidur H below the screed, d  $\geq$  10 mm or Rigips RF fireproof board  $\geq$  12.5 mm necessary

**Wooden beam ceiling:** Wooden beam ceiling without/with inserts and formwork comprising wooden tongue-and-groove panels, d  $\geq$  16 mm,  $\rho \geq$  600 kg/m³ or tongue-and-groove boards/planks, d  $\geq$  21 mm

 $<sup>^{1)}</sup>$  Optional underlay or intermediate layer comprising pressure-resistant insulating materials, thickness  $\leq$  30 mm, at least building material classification B2 as per DIN 4102-1 (e.g. polystyrene, rigid foam, mineral wool) under any further structure (Rigidur, loose fill, bound fill) and the suspended ceiling. Solid, wooden beam and steel trapezoidal sheet ceilings may be used as suspended ceilings

Rigidur FE 40/50 PS

To ensure that components offer a minimum or increased level of noise protection appropriate to their use, corresponding requirements have been defined in standards and regulations. The central standard in this context is DIN 4109. Part 1 (DIN 4109-1:2018-01) regulates the minimum airborne and footstep sound insulation values that must be observed. Appendix 2 to DIN 4109:1989 contains suggestions for defining increased noise protection. The following table provides an extract of the relevant values for ceilings.

10.2 Airborne and footstep sound insulation requirements for preventing the transmission of sound from an external residential or working area

| Minimum r                    | equire-                        | Increased require-           |                                |  |
|------------------------------|--------------------------------|------------------------------|--------------------------------|--|
| ments as p                   | per                            | ments as per                 |                                |  |
| DIN 4109-1:2018-01           |                                | DIN 4109-5:2020-08           |                                |  |
| req. R' <sub>W</sub><br>[dB] | req. L' <sub>n,w</sub><br>[dB] | req. R' <sub>W</sub><br>[dB] | req. L' <sub>n,w</sub><br>[dB] |  |

| Multi-storey building | gs with apa | rtments an | d workspac | es   |
|-----------------------|-------------|------------|------------|------|
| Partition ceilings    | ≥ 54        | ≤ 50       | ≥ 57       | ≤ 45 |
| between               |             |            |            |      |
| apartments            |             |            |            |      |

| Accommodation bu  | ≥ 54 ≤ 50 ≥ 57 ≤ 45 emparable teaching buildings |              |      |      |  |  |  |  |
|-------------------|--|--------------|------|------|--|--|--|--|
| Ceilings          | ≥ 54   | ≤ 50         | ≥ 57 | ≤ 45 |  |  |  |  |
| Schools and compa | rable teach                                      | ing building | gs   |      |  |  |  |  |
| Ceilings between  | ≥ 55   | ≤ 53         | -    |      |  |  |  |  |

| 10.3 Noise protection | using Rigidur® Floori | ng Elements                               |
|-----------------------|-----------------------|---|
|                       | Footstep sound ins    | rotection<br>ulation improvement<br>in dB |
|                       | Solid ceiling         | Solid ceiling + 60 mm bound fill          |
| Rigidur FE 20/25      | 16                    |   |
| Rigidur FE 30/35 MW   | 22                    | 26  |
| Rigidur FE 45 MW      | 23                    | 29  |
| Rigidur FE 65 MW      | 26                    | 32  |
| Rigidur FE 30 HF      | 19                    |   |

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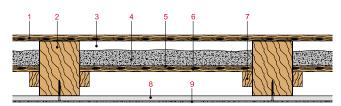
| 10.4 Heat insulation us | ing Rigidur <sup>®</sup> Flooring Elements                        |
|-------------------------|---|
|                         | <b>Heat insulation</b> Thermal resistance R in m <sup>2</sup> K/W |
| Rigidur FE 20           | 0.06  |
| Rigidur FE 25           | 0.07  |
| Rigidur FE 30 MW        | 0.31  |
| Rigidur FE 35 MW        | 0.32  |
| Rigidur FE 45 MW        | 0.64  |
| Rigidur FE 65 MW        | 1.21  |
| Rigidur FE 30 HF        | 0.30  |
| Rigidur FE 35 HF        | 0.31  |
| Rigidur FE 40 PS        | 0.56  |
| Rigidur FE 50 PS        | 0.81  |

classrooms or similar rooms

| Old-style ceilings 1)  1) Basic old-style ceiling structure:  | Panelling for suspended ceiling |               | Rigidur® FE<br>20/25 |                                      |                  | Rigidur® FE<br>30 HF/35 HF |                                   |               |                  | Rigidur® FE<br>30 MW/35 MW |                                   |               |                  | Rigidur® FE<br>45 MW |                     |                         |                  | Rigidur® FE<br>65 MW |                          |                |                  |                   |                     |
|---|---------------------------------|---------------|----------------------|--------------------------------------|------------------|----------------------------|-----------------------------------|---------------|------------------|----------------------------|-----------------------------------|---------------|------------------|----------------------|---------------------|-------------------------|------------------|----------------------|--------------------------|----------------|------------------|-------------------|---------------------|
| Rigidur Flooring Element * 24 mm planks, planed, screwed 160/220 beams, every 848 mm Weighted inserts m' = 80 kg/m³ Rigips hangers * Rigips CD profiles 60/27 | in mm                           | Elements (FE) | 2 x 1                | LO or<br>L2.5<br>dur H               |                  | 2 x 1                      | 10 or<br>12.5  <br>) mm<br>od fib | Rigid<br>soft |                  | 2 x<br>+ 10                | 10 or<br>12.5 F<br>) mm<br>ol lam | Rigid<br>mine | eral             | + 20                 | ) mm                | Rigid<br>mine<br>inatio | eral             | + 40<br>woo          | 12.5 l<br>) mm<br>ol lam | mine<br>inatio | eral<br>on       |                   |                     |
| igips panelling *  Depending on variant: see table  Cootstep sound L <sub>n,w</sub> in dB  Airborne sound R <sub>w</sub> in dB                                |                                 |               |                      | Old-style ceiling without Flooring E | 60 mm loose fill | 100 mm loose fill          | ≥ 100 mm bound fill               | without       | 60 mm loose fill | 100 mm loose fill          | ≥ 100 mm bound fill               | without       | 60 mm loose fill | 100 mm loose fill    | ≥ 100 mm bound fill | without                 | 60 mm loose fill | 100 mm loose fill    | ≥ 100 mm bound fill      | without        | 60 mm loose fill | 100 mm loose fill | ≥ 100 mm bound fill |
|   | ≥ 1 x 12.5 Rigips Fire          | 65            | 54                   | 52                                   | 55               | 56                         | 55                                | 54            | 53               | 55                         | 52                                | 50            | 48               | 54                   | 50                  | 49                      | 46               | 53                   | 47                       | 48             | 45               |                   |                     |
|   | protection Plasterboard         | 43            | 64                   | 65                                   | 69               | 59                         | 64                                | 65            | 67               | 62                         | 67                                | 68            | 71               | 63                   | 68                  | 69                      | 73               | 64                   | 71                       | 71             | 74               |                   |                     |
|   | ≥2 x 12.5 Rigips Fire           | 62            | 51                   | 49                                   | 52               | 53                         | 52                                | 51            | 50               | 52                         | 48                                | 47            | 44               | 51                   | 47                  | 46                      | 43               | 50                   | 46                       | 45             | 42               |                   |                     |
| Sound-insulated<br>Rigips U direct hangers  | protection Plasterboard         | 45            | 65                   | 67                                   | 71               | 61                         | 65                                | 67            | 69               | 64                         | 70                                | 71            | 74               | 65                   | 71                  | 72                      | 75               | 66                   | 72                       | 73             | 76               |                   |                     |
|   | ≥1 x 12.5 Rigips Fire           | 56            | 47                   | 44                                   | 51               | 52                         | 51                                | 50            | 49               | 51                         | 46                                | 41            | 43               | 50                   | 45                  | 40                      | 42               | 49                   | 42                       | 39             | 41               |                   |                     |
|   | protection Plasterboard         | 53            | 73                   | 74                                   | 74               | 64                         | 67                                | 68            | 70               | 65                         | 74                                | 76            | 76               | 66                   | 75                  | 76                      | 76               | 67                   | 76                       | 77             | 77               |                   |                     |
|   | ≥ 2 x 12.5 Rigips Fire          | 53            | 44                   | 41                                   | 48               | 49                         | 48                                | 47            | 46               | 48                         | 43                                | 38            | 38               | 48                   | 43                  | 38                      | 38               | 46                   | 41                       | 38             | 38               |                   |                     |
|   | protection Plasterboard         | 54            | 74                   | 74                                   | 74               | 66                         | 69                                | 70            | 72               | 67                         | 76                                | 78            | 78               | 68                   | 77                  | 78                      | 78               | 69                   | 78                       | 78             | 78               |                   |                     |
| Rigips nonius hangers<br>+ 40 mm Isover Akustic TF  |                                 |               |                      |                                      |                  |                            |                                   |               |                  |                            |                                   |               |                  |                      |                     |                         |                  |                      |                          |                |                  |                   |                     |

### Old-style slab with coarse plaster (reed mats with loam rendering) and without Flooring Elements:

 $L_{N,W}$  = 69 dB and  $R_{W}$  = 47 dB without Rigidur Flooring Elements

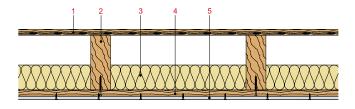


- 1 24 mm planed plank
- 2 160/220 ceiling beams, Distance between beams e = 848 mm
- 3 Cavity
- 4 Weighted insert m' = 80 kg/m<sup>2</sup>
- 5 24 mm rough-sawn insertion boards
- 6 Trickle protection
- 7 18 mm rough-sawn ceiling boarding
- 8 20 mm reed mats with
- 9 loam rendering, m' = 15 kg/m<sup>2</sup>

| New-style ceilings 1)  1) Basic new-style ceiling structure:  | Panelling for suspended ceiling |              | Rigidur® FE<br>20/25 |                                |                  | Rigidur® FE<br>30 HF / 35 HF |                                   |               |                  | Rigidur* FE<br>30 MW / 35 MW |                                   |                |                  | Rigidur® FE<br>45 MW |                     |   |                  | Rigidur® FE<br>65 MW |                          |   |                  |                   |                     |
|---|---------------------------------|--------------|----------------------|--------------------------------|------------------|------------------------------|-----------------------------------|---------------|------------------|------------------------------|-----------------------------------|----------------|------------------|----------------------|---------------------|---|------------------|----------------------|--------------------------|---|------------------|-------------------|---------------------|
| Rigidur Flooring Element *; Chipboard 22 mm, screwed ceiling beams 80/220, Distance between e = 625 mm Cavity with 100 mm mineral wool ISOVER Akustic TP 1, p = | in mm                           | E            |                      | 10 or<br>1.5<br>dur H          |                  | 2 x :<br>2 x :<br>+ 10       | 10 or<br>12.5 I<br>0 mm<br>od fib | Rigid<br>soft | ur H             | 2 x 1<br>2 x 1<br>+ 10       | 10 or<br>12.5 f<br>) mm<br>ol lam | Rigidi<br>mine | ur H<br>eral     | 2 x 1<br>+ 20        | 12.5 F<br>mm        | Rigidi<br>mine<br>inatio                | eral             | 2 x :                | 12.5 F<br>) mm<br>ol lam | mine                                    | eral             |                   |                     |
| 14.8 kg/m³; Rigips hangers *;<br>Rigips CD profiles 60/27;<br>Rigips panelling *  |                                 | Flooring Ele |                      |                                |                  |                              |                                   |               |                  |                              |                                   |                |                  |                      |                     | *************************************** |                  |                      |                          | *************************************** |                  |                   |                     |
| * Depending on variant: see table   |                                 |              |                      | New-style ceiling without Floo | 60 mm loose fill | 100 mm loose fill            | ≥ 100 mm bound fill               | without       | 60 mm loose fill | 100 mm loose fill            | ≥ 100 mm bound fill               | without        | 60 mm loose fill | 100 mm loose fill    | ≥ 100 mm bound fill | without                                 | 60 mm loose fill | 100 mm loose fill    | ≥ 100 mm bound fill      | without                                 | 60 mm loose fill | 100 mm loose fill | ≥ 100 mm bound fill |
|   | ≥1 x 12.5 Rigips Fire           | 60           | 50                   | 48                             | 51               | 51                           | 48                                | 45            | 47               | 53                           | 46                                | 44             | 41               | 53                   | 44                  | 42                                      | 41               | 51                   | 43                       | 41                                      | 41               |                   |                     |
|   | protection Plasterboard         | 57           | 70                   | 71                             | 72               | 65                           | 72                                | 74            | 74               | 62                           | 73                                | 74             | 76               | 65                   | 74                  | 76                                      | 77               | 69                   | 75                       | 77                                      | 78               |                   |                     |
|   | ≥2 x 12.5 Rigips Fire           | 56           | 46                   | 44                             | 47               | 49                           | 44                                | 43            | 43               | 49                           | 42                                | 41             | 38               | 49                   | 40                  | 39                                      | 37               | 47                   | 39                       | 37                                      | 36               |                   |                     |
| Sound-insulated<br>Rigips U direct hangers  | protection Plasterboard         | 60           | 73                   | 74                             | 75               | 66                           | 75                                | 76            | 77               | 65                           | 76                                | 78             | 78               | 68                   | 77                  | 78                                      | 79               | 72                   | 78                       | 79                                      | 80               |                   |                     |
|   | ≥1 x 12.5 Rigips Fire           | 62           | 52                   | 50                             | 53               | 56                           | 52                                | 51            | 50               | 56                           | 49                                | 48             | 46               | 55                   | 48                  | 46                                      | 44               | 53                   | 47                       | 45                                      | 44               |                   |                     |
|   | protection Plasterboard         | 57           | 69                   | 70                             | 71               | 64                           | 71                                | 72            | 73               | 62                           | 72                                | 73             | 74               | 64                   | 73                  | 74                                      | 75               | 68                   | 74                       | 76                                      | 77               |                   |                     |
|   | ≥2 x 12.5 Rigips Fire           | 58           | 48                   | 46                             | 49               | 52                           | 49                                | 47            | 46               | 52                           | 43                                | 41             | 40               | 51                   | 42                  | 40                                      | 39               | 49                   | 41                       | 39                                      | 38               |                   |                     |
|   | protection Plasterboard         | 60           | 72                   | 73                             | 74               | 67                           | 74                                | 75            | 76               | 65                           | 75                                | 78             | 79               | 67                   | 76                  | 78                                      | 80               | 71                   | 77                       | 80                                      | 81               |                   |                     |
| Rigips nonius hangers   |                                 |              |                      |                                |                  |                              |                                   |               |                  |                              |                                   |                |                  |                      |                     |   |                  |                      |                          |   |                  |                   |                     |

### New-style slab with gypsum board:

 $L_{\rm N,W}$  = 73 dB and  $R_{\rm W}$  = 43 dB without Flooring Elements



- 1 Chipboard 22 mm, screwed
- 2 80/220 ceiling beams, Distance between beams e = 625 mm
- ${\bf 3}$  Cavity with 100 mm mineral wool ISOVER Akustic TP 1,  $\rho$  = 14.8 kg/m $^3$
- 4 24 mm battens, Distance between e = 625 mm
- 5 12.5 mm gypsum board, screwed and with joint filling, m' =  $10.2 \text{ kg/m}^2$



### 1st edition, July 2021

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