



Drywall Systems

**F12-E01\_TB.de**

Technical Brochure

07/2025



## **Knauf Pre-Fab Floor Screed – Corrective Actions**

F126.de – Pre-fab floor screed on a separating layer / equalization

F127.de – Pre-fab floor screed on an insulation layer

F128B.de – Pre-fab floor screed as heating floor screed type B



- Construction with Joco TOP 2000® ÖKOmineral

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## Rework of the construction recommendations for Knauf pre-fab floor screed

Changes in the verification procedure for fire resistance classes, which affect the entire industry, have forced us to revise some of our fire protection documents, such as the [technical brochure Knauf Pre-Fab Floor Screed F12.de](#). We will examine the reasons for these changes in the following:

The building regulation demands on the construction types result from the individual Federal state building regulations as well as the supplementary administrative regulations and directives. Proof of fulfilment of these requirements can be provided by standards introduced by the building authorities (regulated types of construction), e.g. DIN 4102-4 or individual verifications (non-regulated types of construction) by means of general type approvals (aBG), general building authority test certificates (abP) or project-related type approvals (vBG).

The Model Administrative Regulation - Technical Building Rules (MVV TB) 2025/01, Annex 4, Table 4.2.4, states that no classifications F60-B or F90-B are assigned to the area of the building authority requirement "highly fire-retardant" or "fire-proof". This circumstance is not essentially new, but is now handled in such a way that no new certificates are issued for these fire resistance classes and existing certificates are no longer extended.

This also applies to tested constructions from Knauf that have been tested for ceilings with combustible load-bearing frame, such as wooden beam ceilings, for a period of  $\geq 60$  minutes and are classified, for example, as F60-B or F90-B in accordance with DIN 4102-2. According to the current status, exceptions are only conceivable in the case of project-related construction type approvals (vBG), where deviating requirements are established as part of a fire protection concept.

### What does this mean for planning and application

Due to the changes listed above, we are adapting our design recommendations and the verification procedure for fire protection. Until the [technical brochure Knauf Pre-Fab Floor Screed F12.de](#) has been completely reworked and amended, the modified constructions and proofs can be found in this document.

### General notes on fire resistance

The values in the following tables on [pages 6 to 7](#) apply for single-sided exposure to fire from the top side of the ceiling. The specified supporting layer thickness is the required minimum thickness for fire resistance. Larger screed thickness's that are structurally necessary must be considered. The maximum permissible load per unit area in case of fire is 5.0 kN/m<sup>2</sup> [plus](#).

#### Note

Before application of the Knauf Pre-Fab Floor Screed, the load-bearing capability and the deformation of the floor slab must be verified (see also [technical brochure Knauf Pre-Fab Floor Screed F12.de](#) page 45).

The sequence of the layers required for fire protection listed in the tables on [pages 6 to 7](#) is mandatory. Fire resistance permissible intermediate layers, with the exception of sheet metal in the tables on [pages 6 to 7](#) can also be additionally arranged between the necessary layers..

- Non-combustible building materials A1/ A2 are e.g.: Mineral fillers, Vidiwall), dry bulk leveller PA, mineral wool footfall sound insulation boards and S 400 Sprint.
- ≤ 5 mm separating layers are, e.g.: Knauf Schrenzlage, Knauf Integral Auflagerdämmstreifen support insulation strips, Malervlies fleece layer, Wellpappe corrugated cardboard, PE foil.

#### Construction

- Brio should be aligned and applied with a minimum 200 mm joint offset, joints and screw heads / staple backs must be filled with Uniflott.
- Bonding of the rebates with Brio Joint Adhesive or fastening with Knauf gypsum fibre floor screws (spacing ≤ 300 mm).

#### Edge design

- Edge insulation strips: Building material class A, melting point ≥ 1000 °C, density ≥ 90 kg/m<sup>3</sup> (e.g. Knauf edge insulation strips made of mineral wool).

#### Layers above the base substrate

- Above Brio constructions with a fire resistance classification, either a thin-layer underfloor heating system (e.g. Uponor Minitec) with N 440 or alternatively and additional Brio board layer for accepting special cut heating pipe grooves can be installed.
- Commonly used floor coverings can be applied on the Brio pre-fab floor screed constructions.

#### Note


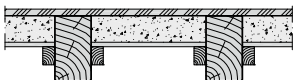


Extension of the fire resistance Proof of Usability see [page 9](#).

## Raw ceiling types

### Variant 1 Wood joist ceilings



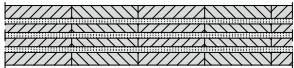
#### Requirements for wood joist ceilings

| Building type   | Description  |
|---|--|
|  | <b>Wood joist ceiling without sound boarding</b><br><b>Sheathing</b> <ul style="list-style-type: none"> <li>Wooden composite boards <math>\geq 16</math> mm, <math>\rho \geq 600</math> kg/m<sup>3</sup> with tongue and groove connection <b>or</b></li> <li>Wooden floorboards <math>\geq 21</math> mm with tongue and groove</li> </ul> |
|  | <b>Wood joist ceiling with sound boarding</b><br><b>Joists</b><br>Width $\geq 40$ mm, spacing $\leq 900$ mm<br>(strength class C24 acc. to DIN EN 338, sorting class S10 acc. to DIN 4074-1)   |

The other provisions of the technical building regulations applicable to the ceiling construction and introduced under building regulations must be observed.

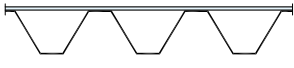
### Variant 2 Solid ceilings

#### Requirements for solid ceilings

| Building type   | Description   |
|---|---|
|    | <b>Solid ceiling</b><br>Normal-weight concrete, compressive strength category C 20/25 to C 50/60<br>Minimum thickness: F30 or F60 of 80 mm, F90 of 100 mm<br>Lower thickness's of the basic ceiling is possible when the load-bearing capacity is certified. <a href="#">plus</a>   |
|   | <b>Steel girder ceiling</b><br>Structural rating of the steel girder<br>Covering: Concrete or similar<br>Minimum thickness of covering: 80 mm for F30 or F60<br>100 mm for F90<br>Lower thickness's of the basic ceiling is possible when the load-bearing capacity is certified. <a href="#">plus</a>  |
|  | <b>Solid wood ceilings</b> <a href="#">plus</a><br>Solid wood elements made of glued or adhesively bonded cross-laminated timber, stacked timber elements or<br>Glulam elements must be verified for load-bearing capacity (depending on the construction "R 30" to "R 90") for the service condition and additionally for the fire load case (here hot rating according to DIN EN 1995-1-2 with DIN EN 1995-1-2/NA). |





### Variant 3 Steel trapezoid profile ceilings

#### Requirements for trapezoid sheet metal covers

| Building type   | Description   |
|---|---|
|  | <b>Steel trapezoid profile ceiling</b><br>Rating of the steel trapezoid profile acc. to the structural engineering, with additional, tightly jointed layer between the ceiling and floor construction: <ul style="list-style-type: none"> <li>Gypsum board GKF <math>\geq 12.5</math> mm <b>or</b></li> <li>Gypsum fibre board <math>\geq 10</math> mm <b>or</b></li> <li>Wooden composite boards <math>\geq 16</math> mm, <math>\rho \geq 600</math> kg/m<sup>3</sup> with tongue and groove connection <b>or</b></li> <li>Wooden floorboards <math>\geq 21</math> mm with tongue and groove <b>or</b></li> <li>Cementitious boards <math>\geq 12.5</math> mm</li> </ul> |

### [plus](#) Variant 4 Other standard ceilings

#### Demands on the other standard ceilings





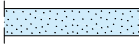

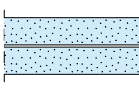

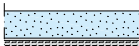
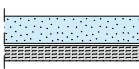
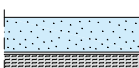

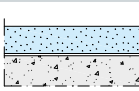
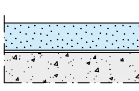
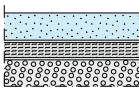
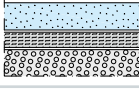
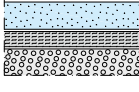
| Building type   | Description  |
|---|--|
|  | <b>Lightweight steel construction ceilings</b><br>Rating of the constructions acc. to the structural engineering, with additional, tightly jointed layer between the ceiling and floor construction: |
|  | <b>Cubo Room-in-room systems Ceilings</b><br>Wooden composite boards $\geq 22$ mm, $\rho \geq 600$ kg/m <sup>3</sup> with tongue and groove connection   |
|  | <b>Trapezoid sheet metal ceilings</b>  |
|  | <b>Steel beam ceilings</b>   |

Note

[plus](#)

Extension of the fire resistance Proof of Usability see [page 9](#).

## Fire protection constructions with Knauf Pre-Fab floor screed

| Floor construction  | Supporting layer<br>Required mini thickness<br>for fire resistance | Permissible intermediate layers<br>(see also <a href="#">page 4</a> )  | Floor slab types (see also <a href="#">page 5</a> )                                 |   |   |   |
|---|--|--|---|---|---|---|
|   |  |  | 1 <sup>1)</sup>   | 2   | 3   | 4   |
|   | Configuration from top to bottom                                   |  |  |  |  |  |
| F126.de / F127.de / F128B.de Knauf Pre-fab floor screed                             |  |  | Fire resistance class   |   |   |   |
|    | Brio 18  | Non-combustible building materials A1/A2 and/or ≤ 2 mm textile fleece/≤ 4 mm corrugated cardboard  | F30   | F30   | F30   | –   |
|    | Brio 18 on<br>≤ 2 mm textile fleece / ≤ 4 mm corrugated cardboard  | Non-combustible building materials A1/A2   | F30<br>F60  | –   | –   | –   |
|    | 2x Brio 18   | Non-combustible building materials A1/A2 and/or<br>≤ 2 mm textile fleece/≤ 4 mm corrugated cardboard and/or<br>≤ 100 mm Nivopert®/Bitupert® + Fasopert®-A8 | F30 plus<br>F60 plus<br>F90 plus  | F30 plus<br>F60 plus<br>F60 plus  | F30 plus<br>F60 plus<br>F60 plus  | –   |
|    | Brio 18 MW   | Non-combustible building materials A1/A2   | F30<br>F60  | F30   | F30   | –   |
|    | Brio 18 WF   | Non-combustible building materials A1/A2   | F30 plus<br>F60 plus  | F30 plus<br>F60 plus  | –   | F30 plus<br>F60 plus  |
|  | Brio 18 on<br>≥ 10 mm Knauf WF                                     | Non-combustible building materials A1/A2   | F30 plus<br>F60 plus  | F30 plus<br>F60 plus  | –   | F30 plus<br>F60 plus  |
|  | Brio 23 WF   | Non-combustible building materials A1/A2   | F30 plus<br>F60 plus<br>F90 <sup>2)</sup> plus                                      | F30 plus<br>F60 plus<br>F90 plus  | –   | F30 plus<br>F60 plus<br>F90 plus  |
|  | Brio 23 on<br>≥ 10 mm Knauf WF                                     | Non-combustible building materials A1/A2   | F30 plus<br>F60 plus<br>F90 <sup>2)</sup> plus                                      | F30 plus<br>F60 plus<br>F90 plus  | –   | F30 plus<br>F60 plus<br>F90 plus  |
|  | Brio 18 on<br>≥ 20 mm PA bulk leveller                             | Non-combustible building materials A1/A2   | F30<br>F60  | F30<br>F60  | F30<br>F60  | –   |
|  | Brio 18 on<br>≥ 40 mm PA bulk leveller                             | Non-combustible building materials A1/A2   | F30<br>F60<br>F90   | F30<br>F60<br>F90   | F30<br>F60<br>F90   | –   |
|  | Brio 18 WF On<br>≥ 20 mm EPO-Leicht light levelling mortar         | Non-combustible building materials A1/A2   | F30   | F30   | F30   | –   |
|  | Brio 18 WF on<br>≥ 40 mm EPO-Leicht light levelling mortar         | Non-combustible building materials A1/A2   | F30<br>F60  | F30<br>F60  | F30<br>F60  | –   |
|  | Brio 18 WF on<br>≥ 60 mm EPO-Leicht light levelling mortar         | Non-combustible building materials A1/A2   | F30<br>F60<br>F90   | F30<br>F60<br>F90   | F30<br>F60<br>F90   | –   |

1) The other provisions of the technical building regulations applicable to the ceiling construction and introduced under building regulations must be observed.





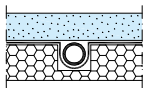
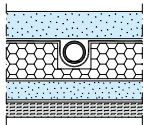







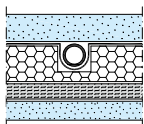







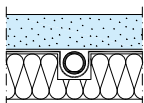




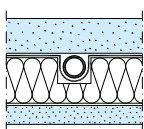







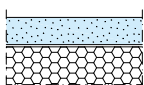



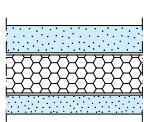







2) For rating to fire resistance class F90, on the lower side of the ceiling construction with fire exposure from above, additional covering is required consisting of at least wooden battens (width x thickness ≥ 50 mm x 30 mm, axial spacing ≤ 400 mm) and Knauf Fire-Resistant Board GKF t ≥ 12.5 mm.

## Note



Extension of the fire resistance Proof of Usability see [page 9](#).

Fire protection constructions with Knauf Pre-Fab floor screed (continuation)

| Floor construction  | Supporting layer<br>Required minimum thickness<br>for fire resistance<br><br>Configuration from top to bottom | Permissible intermediate layers<br>(see also <a href="#">page 4</a> )  | Floor slab types (see also <a href="#">page 5</a> )                                       |   |   |   |   |   |
|---|---|--|---|---|---|---|---|---|
|   |   |  |        |        |        |  |   |   |
| F126.de / F127.de / F128B.de Knauf Pre-fab floor screed                             |   |  | Fire resistance class   |   |   |   |   |   |
|    | Brio 18<br>on<br>25 mm Uponor Siccus  | Non-combustible building materials A1/A2   | F30   | F30   | F30   | –   |   |   |
|    | Brio 18<br>on<br>25 mm Uponor Siccus<br>on<br>Vidiwall 1Mann 12.5<br>on<br>≥ 10 mm Knauf WF                   | Non-combustible building materials A1/A2   | F30    | F30    | F30    | –   |   |   |
|   |   |  | F60    | F60    | F60    |   |   |   |
|   |   |  | F90    |   |   |   |   |   |
|    | Brio 18<br>on<br>25 mm Uponor Siccus<br>on<br>≥ 10 mm Knauf WF<br>on<br>Vidiwall 1Mann 12.5                   | Non-combustible building materials A1/A2   | F30    | F30    | F30    | –   |   |   |
|   |   |  | F60    | F60    | F60    |   |   |   |
|   |   |  | F90    |   |   |   |   |   |
|   | Brio 23<br>on<br>Joco TOP 2000® ÖKOmineral <sup>(2)</sup>   | S 400 Sprint   | F30   | F30  | F30  | –   |   |   |
|   |   |  | F60  |   |   |   |   |   |
|  | Brio 23<br>on<br>Joco TOP 2000® ÖKOmineral <sup>(2)</sup><br>on<br>Vidiwall 1Mann 12.5                        | S 400 Sprint   | F30  | F30  | F30  | –   |   |   |
|   |   |  | F60  |   |   |   | F60  | F60  |
|   |   |  | F90  |   |   |   |   |   |
|  | Brio 18<br>on<br>≤ 60 mm EPS/XPS  | Non-combustible building materials A1/A2<br>or instead of EPS/XPS<br>≤ 100 mm Nivoperl®/Bituperl® + Fasoperl®-A8 | F30  | F30  | F30  | –   |   |   |
|  | Brio 18<br>on<br>≤ 60 mm EPS/XPS<br>on<br>Vidiwall 1Mann 12.5   | Non-combustible building materials A1/A2<br>or instead of EPS/XPS<br>≤ 100 mm Nivoperl®/Bituperl® + Fasoperl®-A8 | F30  | F30  | F30  | –   |   |   |
|   |   |  | F60  |   |   |   | F60  | F60  |
|   |   |  | F90  |   |   |   |   |   |

1) The other provisions of the technical building regulations applicable to the ceiling construction and introduced under building regulations must be observed.

2) Permissible loads, max. 1 kN point load and 2 kN/m<sup>2</sup> area load

Permissible floor covering category **A** acc. to [technicalTechnical Brochure Knauf Pre-fab Floor Screed F12.de](#) page 12.

Note

**plus**

Extension of the fire resistance Proof of Usability see [page 9](#).

### Notes on the technical brochure

Knauf technical brochures are the information documents on special topics as well as on the specialist competence from Knauf. The contained information and specifications, constructions, details and stated products are based, unless otherwise stated, on the Proofs of Usability (e.g. National Technical Test Certificate (abP) valid at the date they are published as well as on the applicable standards. Additionally, design and structural requirements and those relating to building physics (fire resistance and sound insulation) are considered.

The contained construction details are examples and can be used in a similar way for various cladding variants of the respective system. At the same time, the demands made on fire resistance and/or sound insulation as well as any necessary additional measures and/or limitations must be observed.

### References to other documents

#### System data sheets

- [D15.de Knauf Wood Joist Ceiling Systems](#)
- [Knauf Thin-layer Screed Systems FE22.de](#)

#### Technical brochures

- [Knauf Pre-fab Floor Screed F12.de](#)
- [Knauf Pre-Fab Screed Brio F12LD.de](#)
- [Knauf Floor Systems F20.de](#)

#### Folders

- [Fire resistance with Knauf BS1.de \(German only\)](#)
- [Sound insulation and room acoustics with Knauf \(only sections in English\)](#)

#### Product data sheets

- Observe the product data sheets of the individual Knauf system components.

#### Legend symbols

- 1** Legend number that will be explained when used

### Intended Use of Knauf systems

Please observe the following:

#### Caution

Knauf systems may only be used for the application cases as stated in the Knauf documentation. In case third-party products or components are used, they must be recommended or approved by Knauf. Flawless application of products / systems assumes proper transport, storage, assembly, installation and maintenance.



## Certificates of Usability

| Knauf system | Fire protection          |
|--------------|--------------------------|
| F126.de      | abP P-2101/493/16-MPA BS |
| F127.de      |                          |
| F128B.de     |                          |

The specifications marked with **plus** offer additional application options, which are not directly included in the Certificate of Usability. On the basis of our technical assessments, we assume that these marked design solutions can be assessed as a non-significant divergence. We can make the documentation on which this assessment is based, such as surveyors' reports or technical assessments, available to you together with the Certificate of Usability on request. We recommend that a non-significant divergence be coordinated and authorised in advance in consultation between the persons responsible for fire resistance and/or the relevant authorities.

The stated constructional and structural properties, and characteristic building physics of Knauf systems can solely be ensured with the exclusive use of Knauf system components, or other products explicitly recommended by Knauf. The validity and up-to-datedness of the stated proofs have to be considered.



## Extension of the fire resistance Proof of Usability

**Prior consultation with respect to fire resistance notes recommended.**

| Knauf system | System-related deviations  | System-wide divergences   |
|--------------|--|---|
| F126.de      | –  | <ul style="list-style-type: none"> <li>■ In case of enhanced area load</li> <li>■ In case of a divergent base layer</li> <li>■ In case of a divergent construction underneath the base layer</li> <li>■ In case of a divergent permissible intermediate layers</li> <li>■ In case of application on a divergent floor slab</li> </ul> |
| F127.de      | –  |   |
| F128B.de     | <ul style="list-style-type: none"> <li>■ When an alternative heating system is used</li> </ul> |   |



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