



## Technical Data Sheet

# CARO-FK-FLEX

## Flexibilized tile adhesive

Art.-No 2 00613

<b>CE</b>	
SCHOMBURG GmbH & Co. KG Aquafinstraße 2 – 8 D-32760 Detmold 05 2 00613	
EN 12004 <b>CARO-FK-FLEX</b> Cement-based adhesive with increased performance for the installation of tiles in interior and exterior areas	
C2	
Reaction to Fire:	Class A1/A1 <sub>fl</sub>
<b>Bond strength, as</b>	
tensile adhesion strength after dry storage:	≥ 1 N/mm <sup>2</sup>
<b>Durability, as</b>	
tensile adhesion strength after water immersion:	≥ 1 N/mm <sup>2</sup>
tensile adhesion strength after warm storage:	≥ 1 N/mm <sup>2</sup>
tensile adhesion strength after freeze/thaw cycles:	≥ 1 N/mm <sup>2</sup>



- Tested to DIN EN 12004, C2 TE.
- For interior and exterior use.
- Easy application.

### Areas of application:

CARO-FK-FLEX is used as a thin-bed adhesive for the installation of vitrified tiles, ceramic tiles with low water absorption ≤ 0.5 % (porcelain), earthenware tiles, clinker tiles and mosaics. CARO-FK-FLEX is suitable for the assured installation on all substrates in accordance with DIN 18157, part 1, e.g. concrete, aerated concrete, render, plaster, cement-based and calcium sulphate based screeds/heated screeds, masonry work, moisture resistant plasterboard etc. It is additionally suitable as an adhesive for lightweight building boards, e.g. produced from reinforcement covered extruded polystyrene. Furthermore CARO-FK-FLEX is for use when installing tiles on the dispersion based SCHOMBURG bonded waterproof membrane SANIFLEX, in wet duty exposure classes A and A0. For the installation of large format tiles we recommend highly deformable or deformable adhesives e.g. UNIFIX- 2K, UNIFIX 2K/6, MONOFLEX-XL or LIGHTFLEX.

### Technical Data:

Basis:	sand/cement, additives (polymer- modified)
Colour:	cement grey
Filler composition:	fine graded sand
Bulk density:	1.4 kg/dm <sup>3</sup>
Substrate-/	
Application temp.:	+5 °C to +25 °C
Pot life *):	approx. 2 hrs
Open time *):	approx. 30 mins.
Grout after *):	approx. 24 hrs
Traffic after *):	approx. 24 hrs
Fully loaded after *):	approx. 7 day
Cleaning:	Immediately after use with water.
Testing:	DIN EN 12004, MPA Dresden, Test certificate 2005-4-1603/1
Reaction to Fire:	A1/A1 <sub>fl</sub>
Consumption:	min. 1.13 kg/m <sup>2</sup> /mm layer thickness approx. 2.4 kg/m <sup>2</sup> with a 6 mm notched trowel approx. 3.2 kg/m <sup>2</sup> with a 8 mm notched trowel approx. 4.0 kg/m <sup>2</sup> with a 10 mm notched trowel
Packaging:	25-kg bag
Storage:	When stored dry, 12 months in original unopened packaging. Use opened packaging promptly.

\* ) The values relate to +23 °C and 50 % relative humidity; higher temperatures shorten and lower temperatures lengthen the stated times.

### Surface preparation:

The substrate must be dry, load-bearing, sufficiently flat and free from continuous cracks and separating substances such as oil, paint, laitance and loose particles. It must have a largely closed surface with a surface condition and strength appropriate to its type. When laying tiles the substrate preparation and

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application must follow DIN 18157, part 1.  
Prime porous substrates with ASO-Unigrund.  
Calcium sulphate screeds must be abraded, vacuumed and as with all calcium sulphate based substrates, primed with ASO-Unigrund / ASO-Unigrund-S (mix ratio 1 : 1 with water). If large format tiles are to be laid on calcium sulphate screeds, we recommend priming with ASODUR-V360W due to its greater barrier function. Heated screeds must be heated up prior to laying finishes in accordance with recognised technological regulations. To determine whether the substrate is ready for tiling carry out a moisture measurement with a carbide hygrometer (CM device). The CM moisture measurements may not exceed

- cement screeds  $\leq 2.0\%$
- anhydrite screeds without underfloor heating  $\leq 0.5\%$
- anhydrite screeds with underfloor heating  $\leq 0.3\%$

The CM measurements are to be carried out in accordance with current working instructions from FBH-AD from the technical information "coordination of cut out areas for heated floor construction".

## Product preparation:

Mix CARO-FK-FLEX with clean water in a clean mixing bucket and with an appropriate mixing device (approx. 300 -700 min<sup>-1</sup>) until a homogenous mass is achieved.

Mixing ratio:

Approx. 6.75 - 7.5 l water : 25 kg CARO-FK-FLEX

After a maturing time of 3 minutes mix through again.

Do not mix more adhesive than can be used within the pot life. Spread the mixed adhesive onto the substrate and comb through with a suitable notched trowel dependent on tile format. Lay finishing materials within the adhesive open time (finger test).

**For installing large format tiles or tiles where there are increased loads or large temperature fluctuations, we recommend modifying CARO-FK-FLEX with UNIFLEX-B. The deformability and the tensile adhesion strength in**

accordance with DIN EN 12004 are considerably increased. Dependent on the modification, deformability class S2 is achieved, which is especially recommended for tiles larger than 60 × 60 cm. This considerably compensates for shear stresses, which can lead to debonding in unfavourable exterior conditions. To improve product workability, mix UNIFLEX-B with water and then add to the CARO-FK-FLEX and mix until homogenous.

Mixing ratio, highly deformable (conforms to class C2 S2, deformation > 5 mm): 4.17 kg UNIFLEX-B: approx. 4.0 l water : 25 kg CARO-FK-FLEX.

## Important Advice:

- When laying tiles in heavy duty exterior areas (balconies and terraces) install in conjunction with the highly elastic waterproofing system AQUAFIN-2K/M and UNIFIX-S3 or UNIFIX-2K.
- Prime calcium sulphate based substrates with ASO-Unigrund-GE or ASO-Unigrund-K (mix ratio 1:3 with water). In order to avoid ettringite formation on calcium sulphate based substrates UNIFIX-AEK is suited for adhering onto these substrates, with up to residual moisture content of 1% on heated construction or 1.5% on unheated construction.
- Do not add water to adhesive that has already begun to set in order to restore workability. There is a risk of inadequate strength development.
- When installing large format tiles greater than 50 x 50 cm, in order to improve the adhesion, a scratch coat should be applied to the rear of the tile or they should be fixed in the buttering-floating method.
- When installing natural and synthetic stone tiles pay particular attention to the specific product properties of the material to be fixed (tendency to discolour, risk of curling etc) and follow the manufacturer's installation recommendations. We recommend that a trial area is carried out.

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- To avoid curling effects due to water absorption when installing agglomerate/synthetic stone tiles we recommend the use of ASODUR-EK98 or ASODUR-Design.
- Direct contact between cement-based adhesives and magnesium-based screeds leads to the destruction of the screed through a chemical reaction, which is known as "magnesium driving". Negative moisture pressure from the substrate must be prevented with appropriate measures. Mechanically abrade the magnesite substrate and prime with the epoxy ASODUR-V360W plus maximum addition of 5 % water (approx. 250 g/m<sup>2</sup>). Leave for between 12 and 24 hours at +20 °C, and then apply a second coat of ASODUR-V360W (approx. 300 – 350 g/m<sup>2</sup>). Broadcast the wet second coat with quartz sand of particle size 0.5 – 1.0 mm to excess. After waiting time for a further 12 – 16 hours carry out the floor finish.
- In continually wet areas (swimming pools, containers, etc.) we recommend the use of the thin bed adhesive UNIFIX-2K, UNIFIX-2K/6 system on top of suitable the SCHOMBURG waterproofing compound for the particular installation.
- CARO-FK-FLEX is a hydraulically setting adhesive and should be protected from the influences of water and frost until fully cured which may take a few days under unfavourable weather conditions.
- Protect areas not to be treated from the effects of CARO-FK-FLEX.
- Heed the relevant current regulations. E.g.  
DIN 18157, DIN 18352, DIN 18560  
DIN 18202, EN 13813, DIN 1055  
The BEB information sheets, distributed by the Bundesverband Estrich und Belag e.V.  
The technical information "coordination of cut out points in heated floor constructions".  
The ZDB information sheets, distributed by the professional association of the German tile industry:

- [\*1] "Bonded waterproof membranes"
- [\*2] "Finishes on calcium sulphate screeds"
- [\*3] "Movement joints in wall and floor tile finishes"
- [\*5] "Ceramic tiles, natural stone and cement-bound composite slabs on cement-based floor constructions with insulation"
- [\*6] "Ceramic tiles, natural stone and cement-bound composite slabs on heated cement-based floor constructions"
- [\*7] "Finishes in exterior areas"
- [\*8] "Finishes on poured asphalt"
- [\*9] "Tolerances in level"
- [\*10] "Tolerances"
- [\*11] "Cleaning, protecting, maintenance"
- [\*12] "Swimming pool construction"

Please observe current valid EU safety data sheet.

**GISCODE: ZP1**

