



Code of Practice

# 1

## Flowing calcium sulphate screeds in areas of high humidity

Instructions and guidelines for planning and application of flowing calcium sulphate screeds

Code of Practice from the  
Industriegruppe Estrichstoffe im  
Bundesverband der Gipsindustrie e.V.,  
Darmstadt, Germany and the Industrieverband  
WerkMörtel e.V., Duisburg, Germany

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# Flowing calcium sulphate screeds in areas of high humidity

Flowing calcium sulphate screeds (hereinafter referred to as flowing screeds) have proven themselves in indoor applications for decades thanks to their wide range of technical advantages.

Flowing screeds are also suitable for rooms with normal levels of humidity such as domestic kitchens and bathrooms. Flowing screeds are also suitable for application in cellars.

If water is applied to the floor, flowing screed has to be protected against moisture just like a cementitious screed by the application of a suitable sealant. This is especially necessary along the edges to prevent the insulation from being saturated with water and to maintain the good quality of the screed.

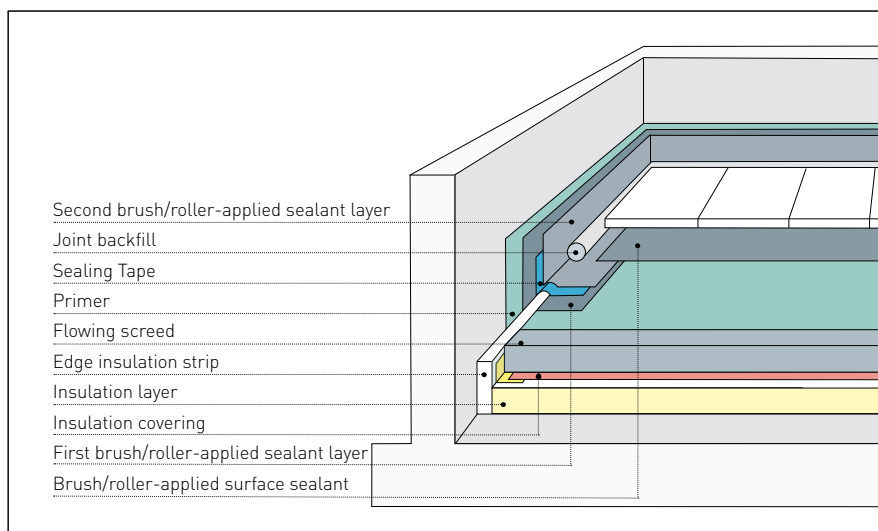
If floor drainage is present, flowing screeds may only be applied when the drainage is intended for emergency drainage purposes (refer to the technical information of the Federal association of screed and floor coverings - BEB<sup>[8]</sup>).

Flowing screeds are not suitable for all areas subject to moisture, where slopes and floor drains intended for constant usage are planned, as for example, in commercial kitchens, laundries, washrooms and rooms intended for the installation of swimming pools or saunas.

If sealing is required, a composite sealant must be applied in accordance with one of the following methods, unless stipulated otherwise in the manufacturers' instructions [also refer to the guidelines issued by the ZDB (German Construction Confederation) regarding the interior and exterior application of composite sealing with coverings and linings made of ceramic tiles and boards<sup>[6]</sup> and the BEB (Federal association of screed and floor covering) guidelines on sealant materials in conjunction with floor coverings<sup>[7]</sup>].

## a) Brush/roller-applied sealants:

- The primer is applied to the screed surfaces and joint edges.
- After the primer has dried, sealant is applied to the joint areas as a brush/roller coating.
- The connection to the wall is sealed with sealing tape, which is applied and embedded on the screed and on the wall when the brush/roller sealant coating is applied.
- The sealing tape in the joints is subsequently covered by application of a coating of brush/roller applied sealant.
- Finally, the surface sealant is applied, e.g. with a roller in two to three coats so that at least 2 kg is applied per m<sup>2</sup>.



Brush/roller-applied sealant

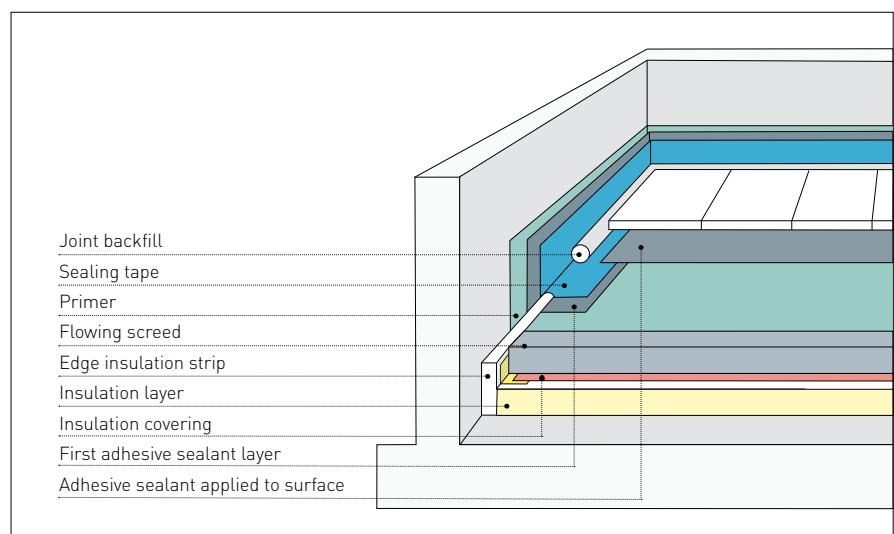
## b) Adhesive sealant

- The primer is applied to the screed surface and the joint edges.
- After the primer has dried, an elasticized adhesive is applied to the joint areas.
- The connection to the wall is sealed with sealing tape, which is applied and embedded on the screed and on the wall when the adhesive is applied.
- Subsequently, the elasticized adhesive is applied in an approx. 3 mm thick layer to the screed.

Sealants applied below the screed must be coordinated with the sealing on the screed as well as the covering so that the vapour permeability increases from bottom to top. For this purpose, the Code of Practice of the BEB regarding sealing below the screed should be consulted (also refer to the BEB information sheets on sealing compliant to DIN 18195<sup>[5]</sup>).

### Additional notes:

Buildings and building elements have to be protected against moisture penetration in accordance with the building codes of the federal German states. Linings made of tiles and boards are not impermeable to water because of the grouting and jointing, whereby the sealing applied to all screeds is essential when the surface is covered with water.



Adhesive sealant

The sealing measures to be applied depend generally on the expected stresses. In DIN 18195-5 parts 6 and 7,<sup>[3]</sup> a differentiation is made between stressed seals in dependence on the occurrence of area traffic, temperature and water in moderately stressed and highly stressed seals: Seals are moderately stressed when

- the live load is quasi-static acc. to DIN 1055-3<sup>[4]</sup> and the sealing is not under trafficked areas (e.g. underground parking),
- the temperature fluctuation on the seal does not exceed 40 K,
- the exposure to water is low and not constant.

Seals are deemed to be highly stressed if one or more of these stresses exceed the specified limits. Sanitary facilities in residential buildings are correspondingly deemed to be moderately stressed. Separation of the edge joints as a result of curling does not occur with flowing screeds, however, sealing should not be omitted with flowing screeds since the elastic joints are subject to shrinkage over time and thus a weak point in the sealing can form. Joints where elastic sealant is applied should be considered as joints requiring maintenance.



# Literature

## Internet research

- [1] DIN 18560 – Floor screeds in building construction, Parts 1 to 7
- [2] ATV DIN 18353 – Laying of floor screed
- [3] DIN 18195 Water-proofing of buildings - Part 5: Water-proofing against non-pressing water on floors and in wet areas, design and execution
- [4] DIN 1055 Actions on structures, Part 3: Self-weight and imposed load in building
- [5] Sealing compliant to DIN 18195 – Parts 4 and 5; BEB guidelines; issued 2002  
Water-proofing of buildings to DIN 18195 – Parts 8, 9 and 10; Supplement to guidelines for parts 4 and 5
- [6] Hinweise für die Ausführung von Verbundabdichtungen mit Bekleidungen und Belägen aus Fliesen und Platten im Innen- und Außenbereich [*Instructions for the realization of indoor and outdoor composite sealings with linings and coverings made of ceramic tiles and boards*]; ZDB Code of Practice published 2005
- [7] Abdichtungsstoffe im Verbund mit Bodenbelägen [*Sealant materials in combination with floor coverings*]; BEB Code of Practice published 2007
- [8] Ausführung von Böden mit nicht planmäßig genutzten Abläufen (Notabläufen) [*Realization of floors with drains not used systematically (Emergency drainage)*]; Technical information from by the BEB published 2006
- [9] Drying of flowing calcium sulphate screeds – Code of Practice No. 2; 2011 (Published by IGE and IWM)
- [10] Flowing calcium sulphate screeds on underfloor heating – Code of Practice No. 3; 2011 (Published by IGE and IWM)
- [11] Assessment and treatment of the surfaces of flowing calcium sulphate screeds – Code of Practice No. 4; 2011 (Published by IGE and IWM)
- [12] Joints in flowing calcium sulphate screeds – Code of Practice No. 5, 2011 (Published by IGE and IWM)
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Düsseldorfer Str. 50  
D-47051 Duisburg  
Tel. 0049 (0)203-99239-0  
Fax 0049 (0)203-99239-98  
[www.iwm.de](http://www.iwm.de)



**Industriegruppe Estrichstoffe (IGE)**

Kochstraße 6-7  
D-10969 Berlin  
Tel. 0049 (0)30-311 69 822-0  
Fax 0049 (0)30-311 69 822-9  
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