

Fast-track products for when time is short



The increasing rationalization of construction programmes, which is aimed at minimizing unproductive time on site and ensuring that scheduled opening dates are met, imposes ever tighter deadlines on today's applicators.

Where **waiting times** are dictated by the physical processes undergone by the applied materials, it is vital – particularly with fast-track or tightly scheduled projects – to make full use of systems that allow efficient and reliable execution, with minimum delay to the progress of the works.

Such schemes may, for instance, require overnight refurbishment with unobstructed access to the public on the following morning, the completion of entire flooring systems (including screed) within two to four days or the availability of areas for the following trades after only a few hours.

Sopro Bauchemie GmbH's in-depth know-how and expertise in the field of concrete and cement technology are the outcome of intensive research. Capitalizing on its accumulated knowledge, the company has developed a range of products that excel by their high early strength and short waiting times before flooring installation and use.

Rapid-set screed systems

The lengthy drying times required for traditional screeds are frequently at odds with tight construction programmes and deadlines.

Depending on their coat thickness, standard cementitious screeds need between four and ten weeks to achieve the prescribed 2% CM residual moisture content.

The drying process may be accelerated through the use of specially designed binder mixes suitable for the production of cement screeds.

Sopro Rapidur® B1/Sopro Rapidur® B5 rapid-set screed binders and Sopro Rapidur® FE 678 self-levelling screed (ready-to-use dry mix) can be used to produce screeds that allow early flooring installation while otherwise exhibiting all the properties of and delivering the same performance as standard cement screeds.

A ceramic covering may be installed 12 hours (Sopro Rapidur® B1), 24 hours (Sopro Rapidur® FE 678) or 3 days (Sopro Rapidur® B5) after screed laying.

Large-scale application



Sopro Rapidur® B1 rapid-set screed binder

Ready for tiling after approx. 12 hours



Sopro Rapidur® B5 rapid-set screed binder

Ready for tiling after approx. 3 days



Sopro Rapidur® FE 678 self-levelling screed

Ready for tiling after approx. 24 hours

Small-scale application



Sopro Rapidur® M1 rapid-set screed mortar

Ready for tiling after approx. 4 hours



Sopro Rapidur® M5 rapid-set screed mortar

Ready for tiling after approx. 24 hours

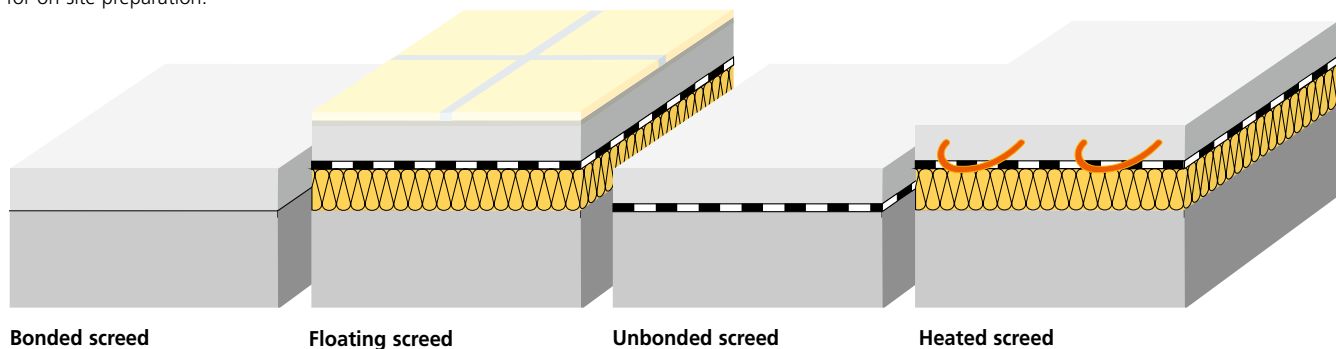


Sopro Rapidur® FE 678 self-levelling screed

Ready for tiling after approx. 24 hours



Easy-to-use Sopro Rapidur® B5 binder with straightforward proportioning for on-site preparation.



* Mixing ratio 1 : 4 (25 kg Rapidur® B1 or Rapidur® B5 : 100 kg 0–8 mm screed sand to DIN EN 12620), water/cement ratio 0.4.

Rapid-set screed systems

A wide variety of cements and admixtures are used in rapid-set screed systems. A broad distinction is drawn between two types of system:

1. Extra-rapid-set binders
(e.g. Sopro Rapidur® B1)
= Ready for tiling after **12 hours**
2. Rapid-set binders
(e.g. Sopro Rapidur® B5)
= Ready for tiling after **3 days**

Standard screed mortars are prepared by the addition of a specified quantity of mixing water to trigger the setting process. The finished mix has a smooth, workable, earth-moist consistency. Use of a plasticizing admixture allows the mixing water requirement to be reduced in advance.

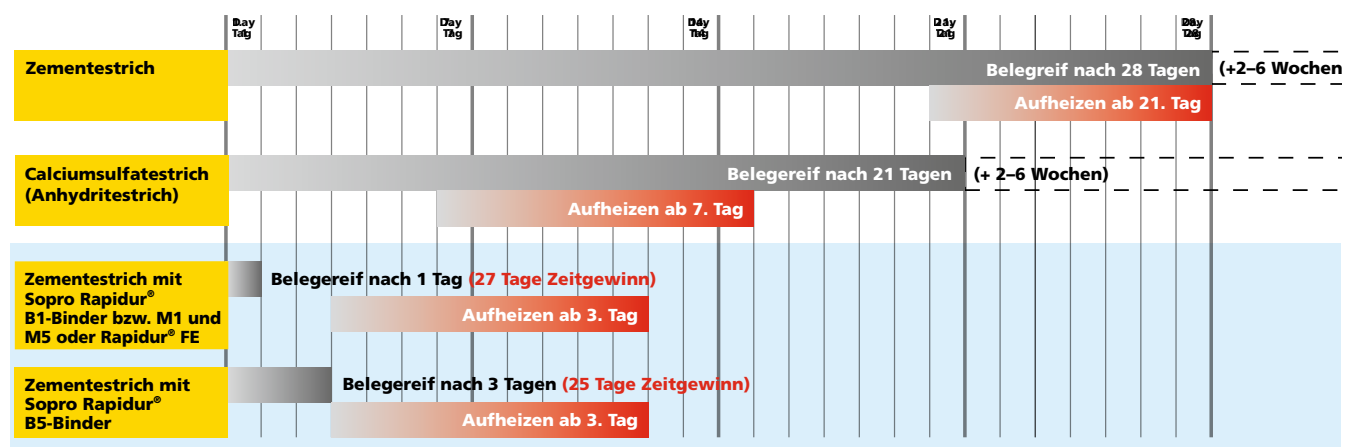
Yet, even after addition of the plasticizer, the water quantity in the fresh screed mortar still exceeds the amount effectively needed for the chemical setting (hydration) process, i.e. surplus water is still present. The result: long drying times for standard, traditional cement screeds.

Rapid-set screed binders are chemically formulated in such a way as to bind the surplus water in the system by means of crystallization (ettringite crystals), thereby making the cement screed ready for tiling within only a few hours.



In addition to various additives, **rapid-set screed binders** contain a blend of ultra-finely ground cements with a total surface area many times that of standard cements. This speeds up the binder reaction and resulting set, while also increasing the amount of water needed for hydration of the cement. Surplus water is either bound by the additives or evaporates within the first three to six days after screed laying.

Comparison with times required for normal-setting screeds:



Integral waterproofing, tile laying and grouting systems

Waterproofing, tile laying and grouting under time pressure, subject to requirement for early walkability and resumption of operations

Top on the client's list of priorities on fast-track refurbishment schemes – alongside high-class workmanship – is the limitation of operational disruption or closure of the facility (e.g. shop, catering kitchen, restaurant etc.) to as short a period as possible.

The aim is, of course, to minimize downtimes and associated loss of turnover.

Coverings are frequently refurbished at weekends or overnight – subject to the requirement that flooring be loadable only a few hours after completion.

Waterproofing:



Sopro TDS 823

Flexible, rapid-set, two-component, cementitious sealing slurry used to produce rapid-crack-bridging waterproof coatings. Two-component system ensures weather-independent drying. Maximum flexibility thanks to high-performance polymer dispersion. Very low consumption rate due to high dry coat thickness.

- Rapid-set (approx. 2 hours per coat)
- Withstands 3 bar water pressure after only 6 hours
- Crack-bridging after only 6 hours
- Particularly recommended during cold season
- Working life: 30–40 minutes
- For walls and floors, indoors and outdoors
- Water-vapour-permeable, high coverage
- For brush, roller, trowel and spray application
- Low-chromate to Regulation (EC) No 1907/2006, Annex XVII

Tile laying:



Sopro VF HF® 420

Extra-rapid-set, early-high-strength, flexible, one-component, cementitious floating-bed tile adhesive.

- For floors, indoors and outdoors
- Working life: 30–45 minutes
- Walkable/groutable: after approx. 2 hours
- Fully loadable: after approx. 5 hours
- Low-chromate to Regulation (EC) No 1907/2006, Annex XVII

Grouting:



Sopro TFb

High-strength, rapid-set, trass-bearing, cementitious tile grout for extra-heavy-duty applications. High mechanical strength and abrasion resistance through use of Sopro Mikrodur® microcement.

- For walls and floors
- For indoor and outdoor use
- Resistant to frost and de-icing salts
- Highly resistant to steam jet cleaning
- For 3–30 mm joint widths
- Walkable: after approx. 1.5 hours
- Fully loadable: after approx. 6 hours
- Low-chromate to Regulation (EC) No 1907/2006, Annex XVII

Integral waterproofing, tile laying and grouting systems

System I
Fast-track system

Product recommendations

Screed laying:



Sopro Rapidur® B1

Sopro Rapidur® M1

Sopro Rapidur® B1, Sopro Rapidur® M1
ready for tiling after 12 or 4 hours
respectively

Waterproofing:



Sopro TDS 823

Sopro TDS 823
drying time: approx. 2 hours (per coat)

**Note: After 3 days permanently
resistant to hydrostatic pressure
(swimming pool construction)**

Laying/bonding:



Sopro VF HF® 420

Sopro VF HF® 420 walkable
after approx. 2 hours

Grouting:

Sopro TFb
(heavy-duty areas)Sopro DF 20®
(normal-duty areas)

Sopro TFb
fully loadable after approx. 6 hours

Sopro DF 20®
fully loadable after approx. 12 hours

= 1–2 days

* Mixing ratio 1 : 4 (25 kg Rapidur® B1 : 100 kg 0–8 mm screed sand to DIN EN 12620), water/cement ratio 0.4.

Integral waterproofing, tile laying and grouting systems

System II
Fast-track system

Product recommendations

Screed laying:



Sopro Rapidur® FE 678
ready for tiling after
approx. 24 hours

Sopro Rapidur® FE 678

Waterproofing:



Sopro TDS 823

Sopro TDS 823 drying time: approx. 2 hours
(per coat)

**Note: After 3 days
permanently resistant
to hydrostatic pressure
(swimming pool construction)**

Laying/bonding:



Sopro VF HF® 420

Sopro VF HF® 420
walkable after approx. 2 hours

Grouting:



Sopro TFb
(heavy-duty areas)



Sopro DF 20®
(normal-duty areas)

Sopro TFb
fully loadable after approx. 6 hours

Sopro DF 20® fully loadable after approx.
12 hours

= 2–3 days

Integral waterproofing, tile laying and grouting systems

System III
Fast-track system

Product recommendations

Screed laying:



Sopro Rapidur® B5,
Sopro Rapidur® M5
ready for tiling
after 3 days or 24
hours respectively

Waterproofing:



Sopro TDS 823

Sopro TDS 823
approx. 2 hours
per coat

Laying/bonding:



Sopro VF HF® 420,
Sopro VF 419,
Sopro's No.1
rapid-set
walkable after
approx. 2–3 hours

Grouting:



Sopro TFb
(heavy-duty areas)

Sopro DF 10®
(normal-duty areas)

Sopro DF 20®
(normal-duty areas)

Sopro TFb fully
loadable after
approx. 6 hours

Sopro DF 10® fully
loadable after
approx. 12 hours

Sopro DF 20®
fully loadable after
approx. 12 hours

= 6–7 days

* Mixing ratio 1 : 4 (25 kg Rapidur® B5 : 100 kg 0–8 mm screed sand to DIN EN 12620), water/cement ratio 0.4.