



Sopro Rapidur® FE 678

Self-levelling screed



Ready-to-use dry mix with special ternary binder system and additives for production of low-shrinkage (dimensionally stable), self-levelling, rapid-set cement screeds based on DIN 18560, allowing early flooring installation. No extra sand needs to be added on site. Excellent workability and hardened mortar properties thanks to Sopro Mikrodur® technology.

Excellent flow properties achieved by use of a superplasticizing admixture. Achieves grade CT-C25-F5-A12 after 28 days. Low-chromate to Regulation (EC) No 1907/2006, Annex XVII.

- Self-levelling
- Plane, level surface, ideal for large-format units
- Ready for tiling after only 24 hours
- For fast-track or tightly scheduled screed laying
- Ideal for renovation and refurbishment
- Suitable for floor heating systems
- Extra-low shrinkage
- Pumpable, efficient application also on large construction sites
- EMICODE system of GEV (German Association for Control of Emissions in Products for Flooring Installation): EC1^{PLUS} R ("very-low-emission-plus") rating
- For indoor use

Use

For production of self-levelling, rapid-set cement screeds based on DIN 18560, allowing early flooring installation. For heated screeds, bonded screeds and unbonded screeds (on separating or insulation layer). For mastic asphalt screed substrates, installation on separating layer is required. Suitable for a wide range of slimline heating systems. Also suitable as directly usable finished floor surface, e.g. in cellar spaces, grindable. For indoor use only.

Coat thickness for bonded screeds: 20–70 mm

Coat thickness on separating layer: 35–70 mm

Coat thickness on insulation layer: 35¹⁾–70 mm

Mixing ratio

Approx. 3.0 ltr water : 25 kg Sopro Rapidur® FE 678; when used on slimline heating systems, amount of water added may be increased to approx. 3.1 ltr. Take care to ensure exact proportioning of water.

Flow table value

18.5–19.5 cm (Vicat ring to DIN 1164; size: internal diameter 65 mm at top and 75 mm at bottom, height 40 mm; on suitable, dry, clean glass plate)

Application temperature

From +5 °C to +25 °C (substrate, air, material)

Working life

60–90 minutes

Walkable

After approx. 3 hours

Ready to receive floor covering

Depending on screed thickness, ready for tiling at earliest after 24 hours

Strength class

CT-C25-F5-A12 to DIN EN 13813

Coverage

19–20 kg/m² per cm coat thickness; 1,900–2,000 kg/m³
25 kg bag of Sopro Rapidur® FE 678 mixed with 3.0 ltr water yields approx. 13 ltr fresh mortar

Shelf life

Approx. 6 months, subject to storage on pallet in dry conditions in original unopened containers

Packaging

25 kg bag

¹⁾ As special construction described in IWM e.V. (German Association of Factory-Made Mortar Manufacturers) data sheet "Self-levelling cement screeds", for vertical live loads ≤ 2 kN/m². For smaller coat thicknesses or higher live loads, please contact our Technical Service team.

Properties

Ready-to-use dry mix with special binders and additives for production of self-levelling cement screeds offering excellent workability and allowing early flooring installation. Self-levelling with excellent flow properties achieved by use of a superplasticizing admixture. Rapid strength development. May be placed using suitable mixing and pumping equipment. Extra-low shrinkage. Incorporating controlled raw materials and subject to strict quality controls. Grading: 0–4 mm.

Substrate preparation

Substrate should be clean, solid, strong, dimensionally stable and, for laying bonded screeds, free from any adhesion-impairing substances. Incorporate Sopro ERS 961 perimeter insulation strip for screeds at junctions with vertical elements to prevent restraint and escape of liquid screed. Separating layer must be installed (with bonded joints) so as to prevent run-off of self-levelling screed, e.g. into insulation. In the event of possible moisture action from adjoining elements, e.g. concrete substrates, an effective waterproof membrane (to DIN 18 195) is required.

Where Sopro Rapidur® FE 678 is used to lay bonded screeds, substrates should be mechanically roughened (e.g. by shot blasting) and cleaned in advance, with any adhesion-impairing substances removed, and should be pretreated with a suitable primer (e.g. Sopro GD 749 primer, Sopro HE 449 bonding emulsion or Sopro HPS 673 bonding primer).

Please observe relevant technical product information. All relevant standards, guidelines and recommendations apply; workmanship should comply with good practice.

Priming

Sopro HE 449 bonding emulsion: For wet-on-wet application after short flash-off time of 10–15 minutes (max. 30 minutes). No liquid Sopro HE 449 should remain on surface. Any dried films should be removed. Suitable for mineral and absorbent as well as smooth and non-absorbent substrates.

Sopro GD 749 primer: For all mineral, high- or variable-suction substrates.

Sopro HPS 673 bonding primer: For all smooth, non-absorbent substrates.

Sizing/bay sizes

For unheated screeds, max. 60 m² and max. 8 m side length; for heated screeds, max. 40 m² and max. 6.5 m side length. Square or compact length-to-width ratios (1 : 1/1 : 2) are recommended.

For standard hot-water floor heating systems, a minimum pipe cover of 35 mm is required (as specified by IWM e.V. (German Association of Factory-Made Mortar Manufacturers) data sheet "Self-levelling cement screeds").

Notes on use with standard floor heating systems

Suitable for heated screeds with max. +55°C flow temperature.

Prior to laying tiles or other floor coverings, screed should be heated up and allowed to cool in accordance with basic procedures required for traditional cement screeds.

Heating phase should commence at earliest 24 hours after screed laying. During first heating cycle, a +25°C flow temperature should be maintained for three days. System should then be set to maximum flow temperature, to be maintained for a further four days, before being lowered to laying temperature.

Application

Fill adequately sized mixing container with approx. 3 ltr water, add Sopro Rapidur® FE 678 and thoroughly mix by machine with stirrer to homogeneous, workable, lump-free consistency. For larger quantities, use forced-action or continuous mixer and place with pumping equipment. Pour Sopro Rapidur® FE 678 onto separating layer or dried priming coat, spread to achieve exact levels and work over with screeding rod. During application and for 24 hours after, avoid exposure to draughts, strong heat and sunshine. Ensure that no material is used whose minimum shelf life (see batch label) has been exceeded, even where fresh material is simultaneously incorporated in screed surface or used to extend old product. No other cements or screed admixtures should be added. Only lay screed sections that may be completed within working life of 60–90 minutes. Required screed thickness should be determined in function of loads and flooring type in accordance with DIN 18560.

For machine application, all standard screed mixing and pumping equipment suitable for laying self-levelling screeds may be used. Whenever works are interrupted, thoroughly clean mixers, pumps and hoses without delay.

Tiling and other flooring works

Screeds made from Sopro Rapidur® FE 678 of coat thickness up to 45 mm are ready to receive ceramic coverings or natural and cast stone units at earliest 24 hours after laying using Sopro thin-bed adhesives Sopro's No.1, Sopro VF XL 413, Sopro FKM XL 444, Sopro MEG 665, Sopro MEG 666 or Sopro MG 669. Where Sopro Rapidur® FE 678 is laid in coat thicknesses \geq 45 mm, allowance should be made for at least one further day of drying (24 hours) per cm coat thickness.

Particularly impervious floor coverings, e.g. linoleum, PVC etc., should be laid at earliest after achievement of moisture content \leq 1.8% CM.

Wood floor finishes, e.g. parquet, should be governed by guidelines set out in relevant BEB (German Federal Association of Screed and Floor Covering) data sheet 8.1 "Assessment and preparation of substrates. Laying of elastic and textile floor coverings, laminate, parquet and wood blocks. Heated and unheated floor constructions".

General screed requirements prior to flooring installation: exact compliance is required with specified mixing water quantity and application temperature. Of equal importance are ambient temperature and humidity.

Sopro VarioFlex® floor tile adhesives or S1-grade Sopro adhesives should then be used for subsequent laying of tile, mosaic, natural stone and cast stone coverings. To achieve early walkability of floor covering, use of Sopro VF HF 420 VarioFlex® high-strength flexible tile adhesive or Sopro FKM 600 Silver multi-purpose flexible tile adhesive is particularly recommended.

Screeds that are not to receive tile or other covering may, after 5–7 days, be coated with Sopro EPG 522 epoxy primer (300–500 g/m²) and SoproDur® HF-L 513 high-strength epoxy protective coat to provide a surface finish. Alternatively, the uncoated Sopro Rapidur® FE 678 may be ground and subsequently treated with suitable surface coatings.

Disposal Considerations

13.1. Waste treatment methods. Recover if possible. In so doing, comply with the local and national regulations currently in force. 91/156/EEC, 91/689/EEC, 94/62/EC and subsequent amendments. Disposal of hardened product (EC waste code) : 17 01 01. Disposal of not hardened product (EC waste code) : 17 01 01. The suggested European waste code is just based on the composition of the product. According to the specific process or application field a different waste code may be necessary.



Sopro Rapidur® FE 678 screed, ground and treated to produce a directly usable surface finish.

Note

Higher water dosages than specified, unfavourable ambient temperatures and/or moisture, and still-deforming substrates may adversely affect shrinkage behaviour of screed, with cracking and dish-ing/curling as result. For that reason, product is only suitable for use by tradesmen with relevant skills and expertise.

Specified times

Apply for normal temperature range of +23°C and 50% relative humidity; higher temperatures shorten and lower temperatures lengthen these times.

Licence

EMICODE system of GEV (German Association for Control of Emissions in Products for Flooring Installation): EC1^{PLUS} R ("very-low-emission-plus") rating

Safety precautions

Labelling in accordance with Regulation (EC) No 1272/2008 (CLP)

GHS07

Signal word: Warning

Contains Portland cement. Exhibits strong alkaline reaction upon contact with moisture/water; protection required for skin and eyes. All standard precautions for the handling of construction materials/chemicals must be taken.

Hazard statements: H319 Causes serious eye irritation.

Precautionary statements: P102 Keep out of reach of children. P261 Avoid breathing dust. P280 Wear protective gloves/protective clothing/eye protection/face protection. P302+P352 IF ON SKIN: Wash with plenty of water and soap. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 Immediately call a POISON CENTER or doctor. P332+P313 If skin irritation occurs: Get medical advice/attention.

GISCODE (German hazardous substances classification): ZP 1 - Low-chromate to Regulation (EC) No 1907/2006, Annex XVII

CE marking

	<p>Sopro Bauchemie GmbH Biebricher Straße 74 – 65203 Wiesbaden (Germany) www.sopro.com</p>
	<p>10 CPR-DE3/0678.2.eng EN 13813:2002 CT-C25-F5-A12 Sopro Rapidur® FE 678 Cementitious screed material for internal use</p>
Reaction to fire	Class A1 _n
Release of corrosive substances	CT
Water permeability	NPD
Water vapour permeability	NPD
Compressive strength	C25
Flexural strength	F5
Wear resistance	A12
Sound insulation	NPD
Sound absorption	NPD
Thermal resistance	NPD
Chemical resistance	NPD
Release of dangerous substances	see SDS

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