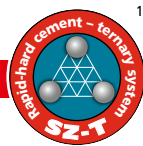




Sopro FF 451

Rapid-set tile adhesive



Rapid-set, cementitious tile adhesive, meeting C2 FTE requirements to DIN EN 12004, for installation of ceramic tiles.
Low-chromate to Regulation (EC) No 1907/2006, Annex XVII.

- Meets C2 FTE requirements to DIN EN 12004
- Also suitable for bonding insulation board
- EMICODE system of GEV (German Association for the Control of Emissions in Products for Flooring Installation, Adhesives and Building Materials): EC1^{PLUS} ("very-low-emission-plus") rating
- DGNB (German Sustainable Building Council): Top quality level 4, Line 8²⁾
- For indoor and outdoor use

Use

With earthenware, stoneware and fully vitrified stoneware tiles, mosaic, discoloration-resistant natural stone units, ceramic split tiles and split tile fittings, clinker floor tiles and equivalent materials. For construction of ledges/shelves, lightweight internal walls, aerated concrete block facings to sanitary appliances (e.g. bathtubs) and the like. For full-surface installation of foam, cork, peat, wood-fibre etc. insulation board. For process water tanks, swimming pools, operating theatres, escape routes.

Suitable substrates

Concrete, (interior) aerated concrete; cement and lime/cement render; renders made from masonry cement; plane, flush-jointed masonry (no composite masonry); paperless gypsum, gypsum plasterboard and gypsum fibreboard drywall panels; cement screeds; calcium sulphate screeds; board subfloors.

Mixing ratio

6.5–7.0 ltr water : 25 kg Sopro FF 451

Coat thickness

Max. 5 mm in compacted adhesive bed

Maturing time

3–5 minutes

Working life

Approx. 30 minutes

Open time

Approx. 30 minutes

Walkable/groutable

After approx. 3 hours or after setting of adhesive; take measures to spread loads over floor

Loadable

After approx. 1 day; in commercial facilities after approx. 2 days, in areas subject to high wet exposure after approx. 3 days, for underwater applications after approx. 10 days, in conjunction with wall and floor heating after approx. 14 days

Application temperature

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

Coverage

Approx. 1.3 kg/m² per mm coat thickness

Shelf life

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

Packaging

25 kg bag

¹⁾ See TKB (German Technical Committee for Construction Adhesives) data sheet 14 "Rapid-hardening cementitious screeds and cementitious screeds with screed admixtures" issued on 11 August 2015 by Industrierverband Klebstoffe e.V. (German Adhesives Industry Association).

²⁾ Based on DGNB (German Sustainable Building Council) criterion "ENV1.2 Local Environmental Impact" (2015 version).

Properties

Excellent contact adhesion, high sag resistance and high water retentivity; resistant to water and freeze-thaw cycles

Substrate preparation

Substrate should be clean, solid, strong, dimensionally stable and free from any adhesion-impairing sub-stances. Fill any existing cracks in screed with structurally bonding Sopro GH 564 casting resin. Level out any gross irregularities using Sopro RAM 3 454 renovation and levelling mortar or Sopro RS 462 repair filler; for internal (dry) floors, use Sopro FS 15 550 floor-levelling compound or Sopro FAS 551 fibre-reinforced self-levelling filler. Screeds incorporating Sopro Rapidur® B1 binder are ready for tiling after only approx. 12 hours. Calcium sulphate screeds must exhibit a moisture content $\leq 0.5\%$ CM and be adequately ground, vacuum-cleaned and primed. Cement screeds must be 28 days old and dry. Prior to installation, screeds incorporating heating elements should be heated up and allowed to cool in accordance with relevant procedures and standards. Mastic asphalt screeds should be blinded with sand. All relevant standards, guidelines and recommendations apply; workmanship must comply with good practice.

Priming

Sopro GD 749 primer: Paperless gypsum wall panels, gypsum plasterboard/joints and filler, gypsum fibreboard; calcium sulphate (anhydrite and self-levelling anhydrite) screeds to receive tiles of size not exceeding 0.2 m², board subfloors, gypsum plaster, high- or variable-suction (interior) aerated concrete, cement and lime/cement render, renders made from masonry cement, flush-jointed masonry, concrete; rigid foam board; all strong and uniformly absorbent mineral substrates.

Sopro HPS 673 bonding primer: All smooth and closed-pore substrates, e.g. existing tile, terrazzo, natural and cast stone coverings; lacquer/varnish coatings; adhesive residue from PVC flooring or carpeting.

Sopro MGR 637 multi-purpose primer/Sopro EPG 522 epoxy primer: Calcium sulphate (anhydrite and self-levelling anhydrite) screeds to receive tiles of size exceeding 0.2 m²

Application

Mix 25 kg (1 bag) Sopro FF 451 with 6.5–7.0 ltr water to homogeneous consistency.

Apply contact layer, pressing down heavily, then apply combed bed with suitable notched trowel (tool angle 45°–60°). Do not prepare an area of more than approx. 1.5 m². Press tiles firmly into bed, position and align before adhesive skins over. Rake out joints prior to hardening and wash down covering. Do not retemper stiffened mortar by addition of water or fresh material to restore workability.

Pretreatment with Sopro MGR 637 multi-purpose primer or Sopro EPG 522 epoxy primer is required when laying large-format tiles with edge length exceeding 60 cm or of size exceeding 0.2 m² on calcium sulphate-based substrates.

Specified times

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

Tools/tool cleaning

Mixing attachment, notched trowel with suitable serration: 3–4 mm for tesserae, 4–6 mm for wall and floor tiles, 6 – 10 mm for heavy ceramics; wash tools with water immediately after use.

Test certificate

Technische Universität München: C2 FTE to DIN EN 12004
MPA Dresden (Materials Test Institute Dresden): Reaction to fire class A1/A1_f.

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: Caution

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

Disposal

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.

CE marking

 1211 0767	 Sopro Bauchemie GmbH Biebricher Straße 74 – 65203 Wiesbaden (Germany) www.sopro.com
	04 CPR-DE3/0451.1.eng EN 12004:2007 + A1:2012 Sopro FF 451 Fast setting, improved, cementitious adhesive for tiling internal and external floors and walls
Reaction to fire	Class A1/A1 _f
Bond strength as:	
Early tensile adhesion strength	≥ 0,5 N/mm ²
Initial tensile adhesion strength	≥ 1,0 N/mm ²
Durability for:	
Tensile adhesion strength after water immersion	≥ 1,0 N/mm ²
Tensile adhesion strength after heat ageing	≥ 1,0 N/mm ²
Tensile adhesion strength after freeze/thaw cycles	≥ 1,0 N/mm ²
Release of dangerous substances	see SDS

bringing european innovation

smet

FOR MORE INFORMATION CONTACT: **Smet Building Products Ltd**

93A Belfast Road | Newry | BT34 1QH | Northern Ireland

T: +44 (0) 28 3026 6833 | F: +44 (0) 28 3026 7619

E: info@smetbuildingproducts.com

www.smetbuildingproducts.com or www.smet.ie



The information, and, in particular, the recommendations relating to the application and end-use of SMET distributed products, are given in good faith based on SMET's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with the manufacturer's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. The manufacturer reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.