Sopro VF HF 420

VarioFlex® high-strength flexible tile adhesive

Extra-rapid-set, early-high-strength, flexible, cementitious floating-bed tile adhesive allowing early loading, for efficient tilelaying and particularly suitable for dishing-prone resin-bonded tiles[2] using thin-bed method. Low-chromate to Regulation (EC) No 1907/2006, Annex XVII.

- **Extra-rapid-set**
- **Early high strength, achieving tensile adhesion strengths ≥ 1.0 N/mm² after only 3 hours**
- **Rapid crystalline water binding**
- **High reliability through full rear-face wetting and contact adhesion**
- **Ideal for fast-track or tightly scheduled schemes, e.g. weekend supermarket refurbishments**
- **Floating-bed floor laying, indoors and outdoors**
- **Through addition of 30 % Sopro QS 511 coarse silica sand, Sopro VF HF 420 is also suitable for 5–20 mm coat thicknesses**
- **Reduced-dust**
- **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 8[3]**

Use	For dishing-prone resin-bonded tiles[2], cast stone and terrazzo tiles, earthenware, stoneware and fully vitrified stoneware tiles, mosaic, terracotta, discoloration-resistant natural stone units in marble, granite etc. Also suitable as bonding and contact layer in conjunction with thick-bed method, e.g. for rapid-set mortars incorporating Sopro Rapidur® B1 turbo binder. In commercial and industrial facilities, hospitals, public buildings, airports, railway stations etc.
Suitable substrates	Min. 3-month-old concrete; calcium sulphate screeds; mastic asphalt screeds (indoors); board subfloors; cement screeds; heated floor constructions (cement and calcium sulphate screeds); strong existing ceramic, natural stone, terrazzo or cast stone coverings; timber substrates (in conjunction with Sopro FDP 558 tile insulation board); waterproof membranes
Mixing ratio	5.5–6.0 ltr water : 25 kg Sopro VF HF 420
Coat thickness	Max. 5 mm in compacted adhesive bed
Maturing time	3–5 minutes
Working life	30–45 minutes; stiffened mortar should not be retempered by addition of water or fresh mortar to restore workability.
Open time	Approx. 30 minutes
Walkable/groutable	After approx. 2 hours or after setting of adhesive; take measures to spread loads over floor.
Loadable	After approx. 5 hours; 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 floor heating after approx. 14 days
Application temperature	Between +5 °C and max. +25 °C
Coverage	Approx. 1.4 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 Industrieverband Klebstoffe e.V. (German Adhesives Industry Association).

[2] Please consult Sopro's applications support team prior to laying resin-bonded tiles.

[3] Based on DGNB (German Sustainable Building Council) criterion “ENV1.2 Local Environmental Impact” (2015 version).

EN 21.06.19 · DE 30.04.19 · Subject to change without notice

Properties

Rapid crystalline water binding and very early strengths achieved by Sopro VF HF 420 make it ideal for rapid, dishing-free laying of resin-bonded[2)], natural stone and cast stone units. As a floating-bed adhesive, Sopro VF HF 420 ensures full rear-face wetting of tiles, exceptionally high frost resistance for covering system and uniform load transmission to substrate.
For trouble-free laying of large-format fully vitrified stoneware tiles up to 1.0 m² in size on calcium sulphate screeds pretreated with undiluted Sopro GD 749 primer. For larger formats, calcium sulphate screeds should be pretreated with Sopro MGR 637 multi-purpose primer or Sopro EPG 522 epoxy primer. Sopro VF HF 420 offers good workability and achieves a high coverage.
Ideal for rapid tilelaying on tightly scheduled projects.

Substrate preparation

Substrate must be clean, solid, strong, dimensionally stable and free from any adhesion-impairing substances. Fill any existing cracks in screed with structurally bonding Sopro GH 564 casting resin. Level out any gross irregularities in floor using Sopro FS 15 550 floor-levelling compound, Sopro FAS 551 fibre-reinforced self-levelling filler or Sopro VF HF 420 extended with 30 % Sopro QS 511 coarse silica sand. Screeds incorporating Sopro Rapidur® B1 turbo rapid-set binder are ready for tiling after only 12 hours. Calcium sulphate screeds should exhibit a moisture content ≤ 0.5 % CM and be adequately ground, vacuum-cleaned and primed. Timber substrates should be covered with Sopro FDP 558 tile insu-lation board prior to tilelaying. Cement screeds should be 28 days old and exhibit a moisture content < 2.0 % CM. Prior to flooring installation, screeds incorporating heating elements should be heated up and allowed to cool in accordance with relevant procedures and standards: required moisture content for cement screeds ≤ 2.0 % CM, for calcium sulphate screeds ≤ 0.3 % CM.
All relevant standards, guidelines and recommendations apply; workmanship must comply with good practice.

Primer

Sopro GD 749 primer: Board subfloors; high- or variable-suction substrates; substrates with friable surfaces; calcium sulphate screeds for tile formats up to 1.0 m²

Sopro HPS 673 bonding primer: Timber substrates; adhesive residue from PVC flooring or carpeting; mastic asphalt screeds without sand blinding; existing tile, terrazzo, natural stone and cast stone coverings

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 1.0 m²

Application

Fill clean container with 5.5–6.0 ltr water, add 25 kg Sopro VF HF 420 and mix mechanically using mixing attachment to lump-free consistency. After 3–5 minutes maturing time, remix thoroughly. Apply contact layer with finishing trowel, then apply combed bed with suitable notched trowel (tool angle 45°–60°). Apply only as much adhesive as can be covered by tiles during open time (approx. 30 minutes). Press tiles firmly into adhesive bed, position and align. Rake out joints prior to hardening and wash down covering.
Buttering/floating method should be adopted for large-format tiles (≥ 50 × 50 cm).
Through addition of 30 % Sopro QS 511 coarse silica sand, Sopro VF HF 420 is also suitable for 5–20 mm coat thicknesses.

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 (tooth size up to 12 mm); wash tools with water immediately after use.

Disposal

Waste treatment methods
Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. 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.

Test certificates, test reports and licences

Technische Universität München:
– C2 EF to DIN EN 12004
– Tensile adhesion strength of 1 N/mm² at +23 °C after only 3 hours, at +10 °C after only 6 hours, at +5 °C after only 10 hours

National test certificate (abP) based on system test under PG-AIV-F (Criteria for Award of National Test Certificates for Liquid-Applied Waterproof Membranes Used in Conjunction with Tile Coverings) for use with Sopro DSF 523, Sopro DSF 623, Sopro TDS 823, Sopro PU-FD 571, Sopro EPG 522, Sopro FDF 525/527, Sopro ZR 618, Sopro GD 749 and other Sopro components.

Test report: Sopro VF HF 420 in conjunction with Sopro DSF 523 one-component flexible sealing slurry, Sopro DSF 623 one-component flexible rapid-set sealing slurry, Sopro TDS 823 two-component turbo sealing slurry and Sopro GD 749 primer meets requirements to DIN EN 14891, including those for tensile adhesion strength after storage in chlorinated water

Test report: Sopro VF HF 420 in conjunction with Sopro PU-FD 571 surface sealant for floors and Sopro EPG 522 epoxy primer meets requirements to DIN EN 14 891, including those for tensile adhesion strength after storage in chlorinated water

GEV-EMICODE EC1^{PLUS} ("very-low-emission-plus") rating

Safety precautions

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

GHS05
Signal word: Danger

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: H318 Causes serious eye damage.

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

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CE marking

CE
1211

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CPR-DE3/0420.1.eng
EN 12004:2007 + A1:2012
Sopro VF HF 420

Fast setting, improved, cementitious adhesive for tiling internal and external floors

Reaction to fire	Class E
Bond strength as:	
Early tensile adhesion strength	≥ 0.5 N/mm²
Initial tensile adhesion strength	≥ 1.0 N/mm²
Durability for:	
Tensile adhesion strength after water immersion	≥ 1.0 N/mm²
Tensile adhesion strength after heat ageing	≥ 1.0 N/mm²
Tensile adhesion strength after freeze/thaw cycles	≥ 1.0 N/mm²
Release of dangerous substances	see SDS