

Sopro's No. 1

S1 flexible adhesive

No.1 400



Highly deformable, cementitious, highly polymer-modified, S1-grade flexible tile adhesive, meeting C2 TE S1 requirements to DIN EN 12004, for wall and floor installation of ceramic tiles, discoloration-resistant natural stone units and terracotta; also for underwater applications, e.g. in swimming pools and process water containers. Suitable for use in conjunction with wall and floor heating, waterproof membranes and for stoneware, fully vitrified stoneware and earthenware. Very high coverage and excellent workability. Also for tile-on-tile applications. With 4-in-1 formulation for thin-, floating- and medium-bed application, and for filling smaller areas with max. 20 mm coat thickness.

- For walls and floors, indoors and outdoors
- C2: tensile adhesion strength $\geq 1.0 \text{ N/mm}^2$
- T: thixotropic – high sag resistance due to fibre reinforcement
- E: extended open time > 30 minutes
- S1: deformability $\geq 2.5 \text{ mm}$
- 4-in-1 formulation: thin-bed, floating-bed and medium-bed laying; filler coats of up to 20 mm thickness
- Excellent workability thanks to lightweight aggregate
- Suitable for large-format units
- Approved as system component for shipbuilding applications
- System component of Sopro eScann® system
- Low-chromate to Regulation (EC) No 1907/2006, Annex XVII
- DGNB: Top quality level 4, Line 8, based on DGNB (German Sustainable Building Council) criterion "ENV1.2 Local Environmental Impact" (2015 version).
- For healthy living: Recommended by Sentinel Haus Institut

Coverage: Approx. 1.0 kg/m^2 per mm coat thickness



Packaging		Packages	Pallet weight
Bag	5 kg	200	1000 kg
Bag	15 kg	60	900 kg
Bag	25 kg	40	1000 kg
Big bag	500 kg	1	500 kg
Big bag	1000 kg	1	1000 kg

Use	Suitable material: Earthenware, stoneware and fully vitrified stoneware tiles, mosaic, discoloration-resistant natural stone units, cast stone units, brick slips. Use: In residential, commercial and industrial facilities, bathrooms, catering kitchens, damp and wet spaces, swimming pools, on facades, balconies and patios. Suitable for filling and levelling smaller areas with max. 20 mm coat thickness (for drylining/dry construction and mastic asphalt screeds, max. 5 mm coat thickness).
Substrate preparation	Substrate shall be clean, solid, strong, dimensionally stable and free from any adhesion-impairing substances. Cracks in screed: shall be filled with structurally bonding resin, e.g. Sopro SH 649 shaken resin. Irregularities: shall be levelled out, e.g. using Sopro RAM 3 454 renovation and levelling mortar, Sopro RS 462 repair filler, Sopro FS 15 550 plus floor-levelling compound, Sopro VS 582 self-levelling filler or Sopro SF 545 S-Flow universal floor-levelling compound. Cement screeds: shall be 28 days old and dry; otherwise use rapid-set products, e.g. Sopro Rapidur® B1, Sopro Rapidur® B3 and Sopro Rapidur® B5 rapid-set screed binders. Floating cement screeds or unbonded cement screeds on separating layer shall exhibit residual moisture ≤ 2.0% CM. Bonded cement screeds may be tiled as soon as they are walkable. When laying natural stone, risk of discoloration due to moisture penetration must be taken into account. Calcium sulphate screeds: (anhydrite and self-levelling anhydrite) screeds shall be adequately ground, vacuum-cleaned and primed, and shall exhibit moisture content ≤ 0.5% CM for unheated and ≤ 0.3% CM for heated constructions. Cement and calcium sulphate screeds incorporating heating elements shall be heated up to ensure adequate drying out prior to flooring installation. Gypsum plasterwork shall be dry, single-coat and shall not be felt-floated or smoothed. All relevant standards, guidelines and recommendations shall apply; workmanship shall comply with good practice.
Primer	For high- and variable-suction substrates: Sopro GD 749 primer and Sopro SG 602 primer-sealer For non-absorbent substrates: Sopro HPS 673 bonding primer For calcium sulphate screeds: Sopro MGR 637 multi-purpose primer (for all sizes), Sopro GD 749 primer (sizes up to 0.2 m²), Sopro SG 602 primer-sealer (sizes up to 1.0 m²) For stabilizing friable mineral substrates and as adhesion promoter on smooth substrates: Sopro EPG 1522 epoxy primer For further information, please consult relevant technical data sheets.
Application	Fill clean mixing container with specified water quantity, add Sopro's No.1 and mix thoroughly to required workable, 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 (30 minutes). Press tiles firmly into adhesive bed, position and align. Rake out joints prior to hardening and wash down covering. Material can be applied locally in coat thicknesses up to 20 mm (for drylining/dry construction, max. 5 mm coat thickness) to even out irregularities in substrate or provide any necessary falls. Addition of Sopro MEG 1567 megaFlex dispersion serves to enhance deformability and improve adhesion between substrate, tile adhesive and tile product. Moreover, by adding an adequate quantity of Sopro MEG 1567, Sopro's No.1 can achieve S2 grade to DIN EN 12004. Please observe details of required quantities specified in Sopro MEG 1567 technical data sheet.

Please observe the current version of the product information, the currently valid declaration of performance under the EU Construction Products Regulation, and the latest version of the relevant safety data sheet to EC Regulation No 1907/2006, also available from the Internet at www.sopro.com! This document serves as a product description and sets out general details, based on empirical and test data, that take no account of specific cases of application. No liability may be construed and no claims shall be accepted in respect of these details. Should you require assistance, please contact our Technical Counselling Service.

Water requirement

Per package	5 kg	15 kg	25 kg	500 kg	1000 kg
Thin bed	1.8 l - 2 l	5.4 l - 6 l	9 l - 10 l	180 l - 200 l	360 l - 400 l
Medium bed	1.8 l - 1.9 l	5.4 l - 5.7 l	9 l - 9.5 l	180 l - 190 l	360 l - 380 l
Floating bed	2.2 l - 2.3 l	6.6 l - 6.9 l	11 l - 11.5 l	220 l - 230 l	440 l - 460 l
Surface filler	1.8 l - 1.9 l	5.4 l - 5.7 l	9 l - 9.5 l	180 l - 190 l	360 l - 380 l

Application temperature

Between +5 °C and max. +30 °C; use of a rapid-set Sopro thin-bed adhesive is recommended for external areas during cold season

Big bag

The following guidance specifically relates to the use of silos and connected mixing systems for rational application. Sopro big bags shall be stored in original, dry containers and properly protected against moisture and strong sunshine. Install compatible mixer in accordance with manufacturer's specifications. Silo recommendation: Capacity of 1,200 ltr or greater, e.g. product manufactured by m-tec. Mixer recommendation: MAI® 2MIX-LYRA-PICCOLO continuous mixer (requiring 16A power connection. Water connection with GK coupling). If necessary, please consult manufacturer or Sopro's Technical Service team. Further details are presented on our website under "Big bag application guidance".

Consumption rate

Approx. 1.0 kg/m² per mm coat thickness.

Coverage chart

Serration(mm)	4	6	8	10	12	20
Coverage kg/m ²	1.0	1.5	2.0	2.5	3.0	3.7

All stated consumption/coverage rates depend on angle of application with notched trowel and on substrate type and levelness.

20 mm serration corresponds to M1 serration to TKB (German Technical Committee for Construction Adhesives) guidance paper (U-shaped serration).

Loadable

After approx. 3 days; in commercial facilities after approx. 14 days, in areas subject to high wet exposure after approx. 7 days, for underwater applications after approx. 21 days, in conjunction with wall and floor heating after approx. 14 days

Maturing time

3 - 5 minutes

Modification

Sopro's No.1 flexible tile adhesive (order no. 400) can be modified by Sopro MEG 1567 megaFlex dispersion. Addition of min. 25% dispersion allows achievement of S2 rating to DIN EN 12004.

Open time

Approx. 30 minutes

Recommendation for grouting

The following are recommended for grouting ceramic tiles with absorbent tile bodies (earthenware) for stated joint widths: from 1 to 5 mm Sopro Saphir® 5 water-repellent tile grout from 1 to 10 mm Sopro DF 10 flexible designer tile grout The following are recommended for grouting tiles with low-suction or non-absorbent tile bodies (stoneware and fully vitrified stoneware) for stated joint widths: from 1 to 10 mm Sopro DF 10 flexible designer tile grout from 2 to 20 mm Sopro FL plus flexible tile grout The following are recommended for grouting natural and cast stone coverings for stated joint widths: from 1 to 10 mm Sopro DF 10 flexible designer tile grout from 2 to 20 mm Sopro FL plus flexible tile grout The following are recommended for grouting coverings subject to high mechanical loads (workshops, commercial facilities) for stated joint widths: from 1 to 10 mm Sopro TF+ high-strength tile grout

from 3 to 30 mm Sopro TFb high-strength tile grout The following are recommended as chemical-resistant tile grouts for stated joint widths: from 1 to 10 mm Sopro DFX designer epoxy tile grout from 1.5 to 12 mm Sopro FEP epoxy tile grout

Shelf life	Approx. 12 months (in dry conditions, in original, unopened containers)
Specified times	Apply for normal temperature range of +23 °C and 50 % relative humidity; higher temperatures shorten and lower temperatures lengthen these times.
Suitable substrates	Min. 3-month-old concrete, lightweight concrete, cement screeds, calcium sulphate (anhydrite and self-levelling anhydrite) screeds, mastic asphalt screeds (indoors), board subfloors, heated floor constructions (cement and calcium sulphate screeds), strong existing ceramic, natural stone, terrazzo or cast stone coverings, paperless gypsum panels, gypsum plasterboard and gypsum fibreboard, flush-jointed masonry (no composite masonry), renders made from masonry cement, cement render, lime/cement render, gypsum plaster and rigid foam board. As a basic requirement, all substrates shall be solid, strong and dimensionally stable. Specifications of DIN 18157 shall be observed. Waterproof membranes using Sopro FDF 525/527 flexible sealing compound, Sopro TDS 823 two-component turbo sealing slurry, Sopro DSF 523 one-component flexible sealing slurry, Sopro DSF 423 two-component flexible sealing slurry, Sopro DSF 623 flexible RS sealing slurry, Sopro PU-FD 1570/1571 surface sealant for walls/floors, Sopro ZR 618 Turbo MAXX reactive waterproof membrane, Sopro DSF SL 1525, Sopro Boards, Sopro EM-X 1189 separating mat eXtra, Sopro AEB 640/Sopro AEB plus 639 waterproofing and separating membrane.
Tool cleaning	Wash tools with water immediately after use
Tools	Mixing attachment, notched trowel with suitable serration (tooth size up to 12 mm).
Underwater and permanently underwater area	Suitable
Walkable / groutable	After approx. 12 hours or after setting of adhesive; take measures to spread loads over floor.
Wall and floor heating	Suitable
Working life	3-4 hours; stiffened mortar shall not be retempered by addition of water or fresh mortar to restore workability.
Test certificates	Available upon request
BG Verkehr	Approval for shipbuilding in Sopro System 2.10 (decorative veneers), MED approval no. 118517-00, USCG approval no. 164.117/EC0736/118512-00. Wet-applied quantity Sopro's No.1 (order no. 400): max. 3,479 g/m ² . Other components in Sopro System 2.10: EPG 1522, QS 507, PU-FD 1570, KM 027, QS 511, fully vitrified stoneware tile (approx. 7 mm) and TF+. Joints ≤ 4 mm. Total thickness approx. 14 mm. Approval for shipbuilding in Sopro System 3.15 (floor coverings), MED approval no. 124175-00, USCG approval no. 164.117/EC0736/124175-00. Wet-applied quantity Sopro's No.1 (order no. 400): max. 4,027 g/m ² . Other components in Sopro System 3.15: EPG 1522, QS 507, PU-FD 1570, KM 027, QS 511, fully vitrified stoneware tile (approx. 7 mm) and TF+. Joints ≤ 4 mm. Total thickness approx. 14 mm.
Licence	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
Safety precautions	Labelling in accordance with Regulation (EC) No 1272/2008 (CLP). GHS05 GHS07 Signal word: Danger

H315 Causes skin irritation. H318 Causes serious eye damage. H335 May irritate the respiratory system
 P102 Keep out of reach of children. P103 Read carefully and follow all instructions.
 P261 Avoid breathing dust. P264 Wash hands thoroughly after handling.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P312 Call a POISON CENTER if you feel unwell. P501 Dispose of contents/container in accordance with regulations. P280 Wear protective gloves/protective clothing/eye protection/face protection/
 Contains: Portland cement, Cr (VI) < 2 ppm.
 German Water Hazard Class (WGK) 1 (slightly hazardous to water)
 Low-chromate to Regulation (EC) No 1907/2006, Annex XVII
 GISCODE ZP1

CE marking

	 Sopro Bauchemie GmbH Biebricher Straße 74 – 65203 Wiesbaden (Germany) www.sopro.com
	04 CPR-DE3/0400.1.eng EN 12004:2007 + A1:2012 Sopro's No.1 400 Improved cementitious adhesive for indoor and outdoor wall and floor tiling
Reaction to fire	Class A1/A1 _s
Bond strength as: 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

Disposal Considerations

The generation of waste should be avoided or minimized wherever possible. Recover if possible. A waste code (EWC) according to European List of Waste (LoW) cannot be specified, due to dependence on the usage. Contact and send to an authorized waste disposal service. Methods of disposal: Disposal of this product, solutions, packaging and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and nonrecyclable products via a licensed waste disposal contractor. Do not dispose of waste into sewers.
 Hazardous waste: Yes
 Disposal considerations: Do not allow to enter drains or watercourses.
 Dispose of product according to all federal, state and local applicable regulations. If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned.
 Dispose of containers contaminated by the product in accordance with local or national legal provisions. For further information, contact your local waste authority.
 Special precautions: This material and its container must be disposed of in a safe way. Care should be taken when handling untreated empty containers.
 Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Empty containers or liners may retain some product residues. Do not re-use empty containers.

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