

Sopro RAM 3 454 Renovation and Levelling Mortar

Sopro RAM 3 454 is a universal, grey, sag-resistant, rapid-set, fibre-reinforced, cementitious render and surface filler for smoothing, patching and rendering of wall and floor surfaces. For application to mineral substrates, e.g. concrete and masonry. Excellent workability and mouldability. Ideal for renovation and refurbishment. Ready for tiling after only 2 hours. Suitable as plinth render; for formation of angle fillets; to create falls; for use in damp and wet spaces and; in balconies, patios and steps/stairways. The mortar's rapid strength development allows early removal of uneven patches in filler coat using plasterer's lattice plane. Low-chromate to Regulation (EC) No 1907/2006, Annex XVII.

- For 3–60 mm coat thicknesses¹
- Excellent sag resistance and mouldability, even with greater coat thicknesses
- Allows early loading - ready to receive ceramic covering after only 2 hours
- Suitable for levelling coats laid to falls
- Excellent mouldability
- Aids rapid progress on site
- Particularly sag-resistant
- Suitable for application with plastering machine
- EMICODE system of GEV (German Association for Control of Emissions in Products for Flooring Installation): EC1 R ('very-low-emission') rating
- DGNB (German Sustainable Building Council): Top quality level 4, Line 8²
- For walls, floors and ceilings
- For indoor and outdoor use

Field Of Application

Sopro RAM 3 is suitable for rendering, patching, smoothing and levelling of wall, floor and ceiling surfaces in concrete (to DIN 1045) and in pumice, clay, calcium-silicate and composite masonry. For producing level, plumb and true substrates for subsequent installation of ceramic, natural and cast stone coverings. Particularly suitable for renovation and refurbishment works, offering excellent mouldability. Also suitable for formation of angle fillets, as plinth render and as levelling coat to provide falls where structural substrate has no gradient, in damp and wet spaces or on balconies and patios. Once set, Sopro RAM 3 454 is water-vapour-permeable and resistant to water and freeze-thaw cycles.

Composition

Portland cement-based premixed dry mortar of strength class CS IV to DIN EN 998-1, containing selected mineral aggregate and special polymers.

Substrate Preparation

The mineral substrate must be clean, solid, strong and free from any adhesion-impairing substances, e. g. oil, dust, wax, release agent, efflorescence and laitance. A strong bond is required between the individual layers of composite substrates. Old, friable and insufficiently strong plasterwork should be removed.

Priming

Sopro GD 749 primer: for all mineral, high-or variable-suction substrates, e.g. cement screeds, concrete and untreated concrete surfaces (min. 3 months old), aerated concrete and board subfloors. Sopro GD 749 should be applied in undiluted form.

Sopro HE 449 bonding emulsion: for wet-on-wet application after a short evaporation time of approx. 10 – 15 minutes (max. 30 minutes). No liquid Sopro HE 449 bonding emulsion should remain on the surface. Any dried films must be removed. Suitable substrates include: cement screeds, untreated concrete surfaces (min. 3 months old), existing ceramic, terrazzo, natural and cast stone coverings, existing firmly adhering screed coatings.

Application

Fill clean container with 4.5–5.0 ltr (0.9–1.0 ltr) water, add 25 kg (5 kg) Sopro RAM 3 454 and mix mechanically, to homogeneous, creamy, lump-free consistency. After 3-5 minutes maturing time, remix thoroughly. Mix only as much render as can be applied during working life (20 minutes!). Apply with trowel or spatula and smooth; rule off large areas with straightedge; mortar is easy to work with felt float. Any projecting fins can be quickly removed with plasterer's lattice plane after drying. Mortar may be applied to damp substrates, though this may lengthen curing time. Alternatively, Sopro RAM 3 454 can be applied using a suitable plastering machine. This is particularly useful for large wall areas. Substrate must be dry prior to commencement of tiling! Do not retemper stiffened mortar by addition of water or fresh material to restore workability. Protect coated surfaces from premature drying out; where necessary, re-wet surfaces. A minimum drying time of 24 hours should be observed where a waterproof membrane with Sopro PU-FD 570/571 surface sealant or Sopro FDF 525/527 flexible sealing compound is to be applied to Sopro RAM 3 454. Cementitious Sopro sealing slurries (Sopro DSF 523 one-component flexible sealing slurry, Sopro DSF 623 one-component flexible rapid-set sealing slurry, Sopro DSF 423 two-component flexible sealing slurry or Sopro TDS 823 two-component turbo sealing slurry) can be applied after only approx. 2 hours.

¹) 60 mm for single, full-surface application

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

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Storage

Approx. 12 months, subject to storage on pallets in dry conditions in original unopened containers.

Licence

EMICODE system of GEV (German Association for Control of Emissions in Products for Flooring Installation): EC1 R ('very-low-emission') rating.

Disposal Considerations

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.

Safety

Labelling in accordance with Regulation (EC) No 1272/2008 (CLP) GHS05, GHS07. Signal word: Danger. Hazard-determining components: 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. See Sopro Health and Safety Data Sheet for further detailed information.

Hazard Statements

H315 Causes skin irritation.

H318 Causes serious eye damage.

H335 May cause respiratory 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

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.

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Technical Information

Coat Thickness	3 – 60 mm in single operation
Mixing Ratio (water only)	4.5 – 5.0 l water : 25 kg Sopro RAM 3 454 0.9 – 1.0 l water : 5 kg Sopro RAM 3 454
Pot Life	Approx. 20 minutes
Coverage	Approx. 1.5 kg/m ² per mm coat thickness; as angle fillet/junction seal, approx. 0.4–0.5 kg/m
Maturing Time	3 - 5 minutes
Consumption Rate	25 kg Sopro RAM3 454 dry mortar yields approx. 14.5 ltr fresh mortar; accordingly, for 10 mm coat thickness, 25 kg dry mortar suffices for approx. 1.7 m ² rendered area
Ready for Tiling	After approx. 2 hours at +20 °C; after 24 hours at +5 °C
Composition	Portland cement-based premixed dry mortar of strength class CS IV to DIN EN 998-1, containing selected mineral aggregate and special polymers.
Material values	Highly polymer-modified cement mortar Reaction to fire: A1/A _{1f} Compressive strength: ≥ 20 N/mm ² Bulk density of hardened mortar: 1.75 kg/dm ³ Tensile adhesion strength: ≥ 1.5 N/mm ² and fracture pattern B Water absorption W: < 0.1
Application Temperature	From +5 °C to max. +35 °C (substrate, air, material)
Yield	25 kg Sopro RAM 3 dry mortar yields approx. 14.5 ltr fresh mortar; accordingly, for 10 mm coat thickness, 25 kg dry mortar suffices for approx. 1.7 m ² rendered area
Specified Times	Apply for normal temperature range of +23 °C and 50 % relative humidity; higher temperatures shorten and lower temperatures lengthen these times
Tools and Cleaning	Mixer, plastering machine, mixing attachment, cranked-handle trowel, float trowel, finishing trowel, spatula, straightedge, felt float, plasterer's lattice plane, coving trowel (for angle fillets); wash tools with water immediately after use
Packaging	25kg and 5kg bags

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	12 CPR-DE3/0454.2.eng EN 998-1:2010 Sopro RAM 3 454 General-purpose rendering mortar, strength class CS IV, for internal/external use
Reaction To Fire Water absorption Water vapour permeability Tensile adhesion Strength Thermal conductivity (λ10, dry) Durability (against freeze/thaw)	Class A1/A_{1f} W 2 μ ≤ 76 ≥ 1.5 N/mm² – fracture pattern:B 0.67 W/mK (table value) NPD
Release of dangerous substances	See MSDS

*NPD = No Performance Determined

