



Sopro RAM 3 454

Renovation and levelling mortar



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 and to create falls, for use in damp and wet spaces, and on 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
- For rapid progress on site
- Particularly sag-resistant
- Also easy to apply by 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

Use

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.

Coat thickness

3–60 mm in single operation

Mixing ratio

4.5–5.0 ltr water : 25 kg Sopro RAM 3 454
0.9–1.0 ltr water : 5 kg Sopro RAM 3 454

Maturing time

3–5 minutes

Consumption rate

25 kg Sopro RAM 3 454 dry mortar yields approx. 14.5 ltr fresh mortar; accordingly, for 10 mm coat thickness, 25 kg dry mortar suffices for approx. 1.7 m² rendered area

Working life

Approx. 20 minutes

¹⁾ 60 mm for single, full-surface application

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

Ready for tiling

After approx. 2 hours at +20 °C; after 24 hours at +5 °C

Application temperature

From +5 °C to max. +35 °C (substrate, air, material)

Coverage

Approx. 1.5 kg/m² per mm coat thickness; as angle fillet/junction seal, approx. 0.4–0.5 kg/m

Shelf life

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

Packaging

25 kg bag, 5 kg bag

Substrate preparation

Mineral substrate shall 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 individual layers of composite substrates. Old, friable and insufficiently strong plasterwork/rendering shall 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 primer shall be applied in undiluted form

Sopro HE 449 bonding emulsion: For wet-on-wet application after a short flash-off time of 10–15 minutes (max. 30 minutes). No liquid Sopro HE 449 shall remain on surface. Any dried films shall 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, at best 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 lends itself to application using a suitable plastering machine. This is particularly useful for large wall areas.

Substrate shall 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 shall 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.

Material values

Highly polymer-modified cement mortar

Reaction to fire:	A1/A1 _{fl}
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

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

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.

Licence

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

Safety precautions

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 shall be taken.

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.

Disposal Considerations

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.

CE marking

	 Sopro Sopro Bauchemie GmbH Biebricher Straße 74 – 65203 Wiesbaden (Germany) www.sopro.com
	12 CPR-DE3/0454.3.eng EN 998-1 Sopro RAM 3 (454)
General purpose rendering / plastering mortar (GP) CS IV for internal and external use in exterior walls, ceilings and columns outdoors (Table ZA.1.1) and in walls, ceilings, columns and partitions indoors (Table ZA.1.2)	
Reaction to fire	Class A1/A1 _g
Water absorption	W ₂
Water vapour diffusion coeff.	μ ≤ 76
Adhesion	≥ 1.5 N/mm ² – fracture pattern: B
Thermal conductivity (λ _{10, dry})	0.61 W/mK tabulated mean value; P = 50%
Durability (Table ZA.1.1)	NPD
Release of dangerous substances	see SDS

bringing european innovation

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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



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