



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
- Reaction to fire: Class A1/A1_{fl}
- For rapid progress on site
- Formation of angle fillet/junction seal: low capillary absorption to DIN EN 1062-1
- Also easy to apply by plastering machine
- EMICODE system of GEV (German Association for the Control of Emissions in Products for Flooring Installation, Adhesives and Building Materials): ECT¹PLUS ("very-low-emission-plus") 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. 15.5 ltr fresh mortar; accordingly, for 10 mm coat thickness, 25 kg dry mortar suffices for approx. 1.6 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. 1.6 kg/m ² 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	<p>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</p> <p>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.</p> <p>Sopro HPS 673 bonding primer: All smooth, non-absorbent substrates, e.g. existing ceramic, terrazzo, natural and cast stone coverings or firmly adhering adhesive residue.</p>
Application	<p>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.</p> <p>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.</p> <p>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.</p>
Material values	<p>Highly polymer-modified cement mortar</p> <p>Reaction to fire: A1/A1_{fl}</p> <p>Compressive strength: ≥ 20 N/mm²</p> <p>Bulk density of hardened mortar: 1.75 kg/dm³</p> <p>Tensile adhesion strength: ≥ 1.5 N/mm² and fracture pattern B</p> <p>Water absorption W: < 0.1</p>

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.

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^{PLUS} ("very-low-emission-plus") 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

Disposal considerations

13.1. Waste treatment methods

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.

CE marking

 0767	 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 _n
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

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