

**smet**

# Sopro DM 610

## Drainage mortar



Trass cement-bound premixed dry mortar as pervious bedding mortar to support segmental pavements. Used to lay natural stone and concrete tiles as well as natural stone and concrete paving units outdoors.

Low-chromate to Regulation (EC) No 1907/2006, Annex XVII.

- Very high water permeability
- Prevents frost damage
- With test report on water permeability
- For "wet-on-wet" laying in conjunction with bonding material in thick mortar bed; min. 2 cm coat thickness when directly applied to substrate
- For indoor and outdoor use

**Colour**

Light grey

**Mixing ratio**

1.3– 1.8 ltr water : 25 kg Sopro DM 610

**Application temperature**

From +5°C to max. +30°C (substrate, air, material); do not use where there is risk of frost during or immediately after application.

**Working life**

1–2 hours; stiffened mortar should not be retempered by addition of water or fresh mortar to restore workability.

**Coat thickness**

– Applied to slip membrane (e.g. Sopro DRM 653 drainage mat): min. 5 cm (min. 7–10 cm where subject to vehicular traffic)  
 – Applied directly to substrate (bonded construction): min. 2 cm (min. 4 cm where subject to vehicular traffic)  
 In case of higher traffic loads, adjust coat thicknesses accordingly.

**Strengths**

Compressive strength after 28 days approx. 25 N/mm<sup>2</sup>; flexural tensile strength after 28 days approx. 4 N/mm<sup>2</sup>

**Walkable**

After approx. 24 hours

**Loadable**

After approx. 7 days

**Water permeability**

– Water permeability perpendicular to plane (tested with 60 mm coat thickness): approx. 5.77 ltr/(m<sup>2</sup>×s); approx. 21 m<sup>3</sup>/(m<sup>2</sup>×h)

**Capillary water absorption**

– Capillary water absorption coefficient:  $C \leq 0.05 \text{ kg}/(\text{m}^2 \times \text{min}^{0.5})$   
 – Mean value of capillary water absorption coefficient:  $C_m \leq 0.1 \text{ kg}/(\text{m}^2 \times \text{min}^{0.5})$

**Coverage**

Approx. 16 kg/m<sup>2</sup> per cm coat thickness

**Shelf life**

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

**Packaging**

25 kg bag

### Properties

Trass cement-bound bedding mortar for indoor or outdoor laying of natural stone and concrete tiles, flags and pavers. Specially graded material, with up to 8 mm aggregate size, produces a highly pervious mortar bed. This provides reliable protection against water-induced damage, e.g. microstructural failure due to volume increase of freezing water. Sopro DM 610 exhibits very good workability and is suitable for normal loadings.

### Substrates

Suitable substrates include strong concrete slabs or cementitious load-spreading layers laid to 1.5 %–3.0 % falls outdoors as well as adequately compacted crushed stone/chippings roadbases that provide capillary break. For constructions on waterproofed substrates, adequate provision should be made for drainage of percolating water. Suitable falls should be provided to prevent accumulation of standing water on impervious bases. Sopro DMX 619 drainage mortar eXtra is recommended for use on balconies and patios.

### Application

Thoroughly mix mortar with clean, cold water (1.3–1.8 ltr water for 25 kg dry mortar) to achieve earth-moist (to slightly plastic) consistency using forced-action or drum-type mixer. No maturing time is required. Apply prepared mortar in usual way and strike off to leave minimum fall of 1.5 %. A minimum coat thickness of 2 cm is required for direct application to substrate (min. 4 cm where subject to vehicular traffic); a minimum coat thickness of 5 cm is required for application to slip membrane (min. 7–10 cm where subject to vehicular traffic). Prior to tapping tiles/flags/pavers into fresh drainage mortar, mix and apply Sopro HSF 748 flexible bonding slurry with trass, a Sopro thin-bed adhesive or Sopro MAS 418 marble slurry in soft consistency as adhesion promoter. To optimize drainage performance, joint areas should be kept free of this bonding slurry. Where possible, bays should be square with maximum size of 4×4 m (mortar bed and covering).

### Notes on laying

Installed natural stone and concrete tiles, flags and pavers should be suitable for particular application. Adequate joint width depends on edge length of units – the larger the size, the wider the joints.

A minimum joint width of 5 mm is recommended. Sopro TNF natural stone grout with trass, Sopro PF one-component (pervious) paving grout, Sopro BSF paving grout for concrete units (for concrete pavers) or Sopro PFM high-strength paving grout (for natural stone units) is recommended for finishing joints. Protect mortar from premature drying out. Do not add any other substances. Overcompaction or overwatering will impair drainage performance of mortar.

As a pervious base construction alone cannot provide the full drainage capacity needed for a covering, it should always be seen as an additional measure to a properly functioning surface water drainage system. Design should be such as to ensure rapid, unobstructed drainage of water through mortar. Suitable measures include specification of adequate falls.

### 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

Forced-action or drum-type mixer, mortar tub, cranked-handle and float trowel; wash tools with water immediately after use; when set, remove with ZEA 703 cement skin remover (to be used outdoors) or mechanically.

### 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.

Test certificate

Institut für textile Bau- und Umwelttechnik GmbH, Greven:

Water permeability perpendicular to plane (test conducted without pressure for 60 mm coat thickness): approx. 5.77 ltr/(m²×s)

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 should be taken.


Hazard statements: H315 Causes skin irritation. 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.

German Water Hazard Class (WGK): WGK1: slightly hazardous to water (self-assessment in accordance with VwVwS – German Administrative Regulations on the Classification of Substances Hazardous to Waters into Water Hazard Classes – of 17.05.1999)

GISCODE (German hazardous substances classification): ZP 1 - Low-chromate to Regulation (EC) No 1907/2006, Annex XVII

CE marking

CE	 <b>Sopro Bauchemie GmbH</b> Biebricher Straße 74 – 65203 Wiesbaden (Germany) www.sopro.com
	10 CPR-DE3/0610.1.eng EN 13813:2002 CT-C25-F4 Sopro DM 610 Cementitious screed material for internal and external use
Reaction to fire	Class A1 <sub>n</sub>
Release of corrosive substances	CT
Water permeability	NPD
Water vapour permeability	NPD
Compressive strength	C25
Flexural strength	F4
Wear resistance	NPD
Sound insulation	NPD
Sound absorption	NPD
Thermal resistance	NPD
Chemical resistance	NPD
Release of dangerous substances	see SDS

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