Sopro Solitär® F20

Pervious grout, 3–20 mm

1030 sand 36 · **1031** pavement grey 13 · **1032** anthracite 66 · **1033** grey 15

Ready-to-use, atmospheric oxygen-curing, synthetic resin-based, one-component tile and paving grout for light-duty natural stone, concrete and ceramic coverings/pavings, and, in particular, ceramic patio tiles of thickness ≥ 2 cm[1], on bound and unbound bed.

- **For slurry and broom application**
- **Pervious**
- **One-component and ready-to-use**
- **No weed growth**
- **For bound and unbound constructions**
- **Particularly suitable for ceramic patio tiles of thickness ≥ 2 cm[1]**
- **Also suitable for application under exposure to light rainfall/precipitation**
- **From 3 mm joint width**
- **For natural stone, concrete, ceramic and clay segmental pavements**
- **Suitable for use categories N1 and N2[2] under ZTV-Wegebau (German Special Technical Conditions and Guidelines for Pathways and Squares) and VBK 1–2[2] under DNV Pflaster (German Natural Stone Association Segmental Pavement Guidelines)**
- **Resistant to frost and de-icing salts**
- **For outdoor use**

Use	For grouting outdoor natural stone, concrete, ceramic and clay coverings/pavings and, in particular, ceramic patio tiles of thickness ≥ 2 cm[1], on bound (rigidly installed) and unbound bed. Also suitable for grouting untreated and highly modified cast stone units. Trial grouting is required for factory-treated/factory-finished cast stone units. In light-duty areas, e.g. patios, garden paths and hardstandings, and building entrance areas[2].
Mixing ratio	Ready-to-use
Working life	Approx. 45 minutes at +20 °C
Walkable	After approx. 24 hours at +20 °C (freshly grouted areas to be cordoned off)
Fully loadable	After approx. 7 days
Flexural tensile strength	Approx. 6 N/mm²
Compressive strength	Approx. 15 N/mm²
Water permeability	1.7×10^{-5} m/s (for 5 % proportion of joints, approx. 3 ltr/m²/h)
Joint width/depth	From 3 mm to max. 20 mm/min. 30 mm[3] From 15 mm/min. 2 x joint width Joint depth for paving refurbishment min. 2/3 of paving unit height
Application temperature	From +3 °C to +25°C (substrate, air, material)

[1] Size limitation: for units up max. 80 × 80 cm, on unbound bed min. 30 × 30 cm, in Sopro Solitär® system in conjunction with Sopro C2 S1-grade tile adhesive.

[2] Traffic loads to category N2/ZTV-Wegebau or VBK 2/DNV Pflaster possible for bound bedding construction. Traffic loads to category N1/ZTV-Wegebau or VBK 1/DNV Pflaster for unbound bedding construction and paving refurbishment.

[3] Ceramic patio tiles of thickness ≥ 2 cm from 20 mm joint depth, subject to compliance with design recommendations.

EN 07.09.20 · DE 06.04.20 · Subject to change without notice

Coverage

Estimated consumption rate for 30 mm joint depth:

	Sizes		Approx. consumption rate (kg/m²)			
	Width	Length	3 mm	5 mm	10 mm	15 mm
Mosaic pavers	40	40	7.2	11.4	20.4	27.9
	50	50	5.7	9.3	17.1	23.7
	40	60	6.0	9.6	17.4	24.3
Small setts/ blocks	100	120	2.7	4.5	8.7	12.3
	100	100	3.0	4.8	9.3	13.2
	80	100	3.3	5.4	10.2	14.7
	60	80	4.2	6.9	12.9	18.3
Large setts/ blocks	180	180	1.8	2.7	5.4	7.8
	140	160	2.1	3.3	6.3	9.3
	120	160	2.1	3.6	6.9	9.9
	100	200	2.1	3.6	7.2	10.2
Paving flags/ tiles	600	400	0.6	1.2	2.1	3.0
	400	400	0.9	1.2	2.4	3.6
	300	300	0.9	1.8	3.3	4.8
	400	800	0.6	0.9	2.1	2.7
	800	800	0.6	0.9	1.2	2.1

These tables present approximate values calculated on the basis of practical application. The values may vary upwards or downwards due to the natural form and varying surface roughnesses of the sett, block, flag and tile coverings. In case of doubt, lay sample area to determine consumption rate. Joint depth 30 mm, ceramic tiles from 20 mm joint depth, subject to compliance with design recommendations. No liability may be construed and no claims shall be accepted in respect of these details.

Shelf life

At least 18 months

Packaging

25 kg PE bag in bucket, vacuum-packed;
12.5 kg PE bag in bucket, vacuum-packed

Properties

Sopro Solitär® F20 is a ready-to-use, pervious, atmospheric oxygen-curing, synthetic resin-based, one-component tile and paving grout, for slurry and broom application, for light-duty natural stone, concrete and ceramic coverings/pavings, and, in particular, ceramic patio tiles of thickness ≥ 2 cm, on bound and unbound bed from 3 mm joint width.

General substrate preparation – base construction

Sufficiently pervious substrate (chippings or drainage mortar bed, base course or frost protection course) shall comply with good practice and be suitably designed to meet future loads.

For both bound and unbound bedding, thorough preparation of base (base course and frost protection course) is essential.

Water must not stand in joints for longer periods: adequately pervious base construction shall be provided to ensure proper drainage. Where base is inadequately pervious, moisture will accumulate and lead to damage or, in case of frost, destruction of joints.

Substrate requires frost-free foundation. Particularly for pavements laid on chippings bed, care shall be taken to ensure that bed is adequately compacted and that pavement is dimensionally stable and movement-free prior to grouting. Settlement and destruction of joints may result where base is insufficiently strong.

To prevent frost damage to patio areas, provision shall be made for adequate drainage and an adequately sized frost protection course. To prevent settlement, formation and overlying mineral base course shall be properly placed and compacted in layers. Depending on traffic/live loads, weather action and soil conditions, a (0/16 or 0/32) crushed stone course with a minimum thickness of 30 cm shall be incorporated.

Design recommendations for bound bedding

For installation of ceramic patio tiles, a pervious, min. 7 cm thick mortar bed shall be placed on mineral base course. Mortar bed shall comprise Sopro DMX 619 drainage mortar eXtra or Sopro DM 610 drainage mortar for patios in contact with ground.

Ceramic tiles and fully vitrified stoneware units: Lay tiles using buttering method through application of Sopro MEG 665 megaFlex S2, Sopro MEG 666 megaFlex S2 turbo or Sopro MEG 667 megaFlex TX highly flexible tile adhesive to rear tile face with notched trowel (notched adapter ≥ 10 mm). Lay units wet-on-wet on bedding mortar or to hardened pervious load-spreading slab.

Natural and cast stone tiles/flags: Depending on natural and cast stone properties, e.g. where natural stone is discoloration-sensitive[4)], in case of deformation risk etc., lay tiles using buttering method through application of Sopro VF 419 VarioFlex® Silver large-format flexible tile adhesive or Sopro FKM 600 Silver multi-purpose flexible tile adhesive or Sopro's No.1 flexible tile adhesive (order no. 400) (only for unsensitive natural stone) to rear tile face with notched trowel (notched adapter ≥ 10 mm). Lay units wet-on-wet on bedding mortar or to hardened pervious load-spreading slab.

Paving setts/blocks: Natural and cast stone setts/blocks can be tapped firmly into place in pervious bedding mortar. To achieve strong bond, apply Sopro HSF 748 flexible bonding slurry with trass to bottom face of paver and install wet-on-wet.

[4)] If necessary, please consult Sopro's Technical Service team.

Minimum falls of 1.5 % are required to avoid standing water on covering. This shall be constantly checked during installation. Place mortar bed with uniform thickness. Covering can be grouted at earliest after 24 hours. Grouting shall comply with guidelines set out in "Grout application" section below.

Sopro Solitär® system Design recommendations for unbound bedding

Paving shall be provided with adequately strong and solid perimeter edging. Place bedding course of washed quality chippings on compacted crushed stone base course. After placement of base course, a thin (~ 10–20 mm) layer of filtration-stable, 2/5 graded chippings is spread over whole area and thoroughly compacted using vibrating plate. The serves to fill voids in base course so as to minimize later settlement. Further chippings are then spread over the surface to achieve a total layer thickness of 30–50 mm and uniformly ruled off to provide required falls. Any slight irregularities in surface of chippings bed can be worked over, e.g. with finishing trowel.

Ceramic tiles and fully vitrified stoneware units: Tile size for unbound construction min. 30 × 30 cm and max. 80 cm edge length. Lay tiles using buttering method through application of Sopro MEG 665 megaFlex S2, Sopro MEG 666 megaFlex S2 turbo or Sopro MEG 667 megaFlex TX highly flexible tile adhesive, Sopro VF 419 VarioFlex® Silver large-format flexible tile adhesive, Sopro FKM 600 Silver multi-purpose flexible tile adhesive or Sopro's No.1 flexible tile adhesive (order no. 400) to rear tile face with notched trowel (notched adapter ≥ 10 mm).

Natural and cast stone tiles/flags: Depending on natural and cast stone properties, e.g. where natural stone is discoloration-sensitive[4], in case of deformation risk etc., lay tiles using buttering method (serration ≥ 10 mm) using Sopro VF 419 VarioFlex® Silver large-format flexible tile adhesive or Sopro FKM 600 Silver multi-purpose flexible tile adhesive. Sopro's No.1 flexible tile adhesive can be used as an alternative for unsensitive natural or cast stone units.

Paving setts/blocks: Natural and cast stone setts/blocks can be tapped firmly into place in a thoroughly compacted and ruled-off chippings bed.

Minimum falls of 1.5 % are required to avoid standing water on covering. This shall be constantly checked during installation. Covering can be grouted at earliest after 24 hours. Grouting shall comply with guidelines set out in "Grout application" section below. Do not load fully cured and grouted surface with heavy items, e.g. heavy concrete legs of umbrella stands, heavy planters or the like, as this may lead to chipping in joints.

Assembly sketch

Grout application

Clean joints thoroughly prior to grout application. Surface and joint profile shall be clean, solid, strong, dimensionally stable and free from any adhesion-impairing substances. Ensure that joints are properly sized (width/depth). Depending on temperature and covering, thoroughly pre-wet surface and joint faces up to time of grout application. Open vacuum bag and pour ready-to-use grout onto covering. Dampen material with water jet to achieve smooth, workable consistency and work into joints with rubber squeegee. Dampening of material for slurry application and subsequent compaction serves to achieve required strengths. Surface and material shall be kept damp during joint filling. Do not point water jet directly at joints. Surface shall be completely covered with grout so as to ensure uniform appearance after grouting. Then sweep covering clean of surplus material with soft (coconut) broom using circular strokes, at the same time compacting and smoothing joint surface. Mortar residue shall not be swept into any other joints that are still open. Where necessary, resweep after 30–60 minutes.

Cover freshly grouted surface with sheet for 24 hours to protect against moisture, dust and other dirt/contamination. Sheet shall not lie flat, but shall permit ventilation of grouted surface.

Grout is fully loadable after approx. 7 days.

Note: Adequate pre-wetting of surfaces to saturation and placement of Sopro Solitär® F20 with plenty of water are recommended to reduce glossing and grout residue left on surface of natural/cast stone tiles/flags and paving setts/blocks. In special cases, surface to be grouted can be pretreated with Sopro FH 867 paving grout cleaning aid (please observe guidelines in Sopro FH 867 technical data sheet and undertake trial application on sample area).

Depending on nature of stone/ceramic product, some grout residue may remain and intensify or modify colour of covering. Glossing and colour changes may occur in some cases. These surface changes will, however, disappear over time where pavement is freely weathered and exposed to mechanical abrasion! Trial application on sample surface is recommended! Application of material from a single batch is likewise recommended.

Regular cleaning of joints and removal of dirt/soiling are essential in order to ensure long-term water permeability of Sopro EPF paving grout!

[1] Size limitation: for units up to max. 80 × 80 cm; for unbound construction min. 30 × 30 cm.

[4] If necessary, please consult Sopro's Technical Service team.

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.

Sopro Solitär® system – Installation of 2 cm patio tiles on unbound bed

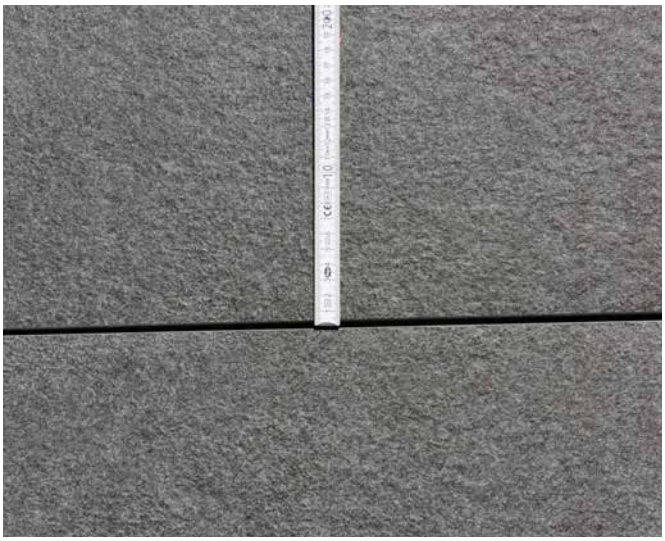
1 Provide construction with strong and solid perimeter edging (e.g. kerbing in Sopro Rapidur® M8 rapid-set screed mortar base). Crushed stone course, which guarantees frost protection, shall be min. 30 cm thick and compacted in layers to prevent settlement within perimeter edging. Crushed stone course shall be laid to adequate falls.

2 After placement of base course, a thin (~ 10–20 mm) layer of filtration-stable, 2/5 graded chippings is spread over whole area and compacted using vibrating plate so as to properly fill voids in base course.

3 Continually check height of base and provision of min. 1.5% falls.

4 Rule off with straightedge to achieve uniform, even surface with 30–50 mm bedding thickness and work over with finishing trowel to prepare for installation of covering.

5 Install ceramic patio tiles of thickness ≥ 2 cm using buttering method through application of C2 S1-grade tile adhesive, e.g. Sopro's No.1, to rear tile face with min. 10 mm notched trowel.



6 Ensure a minimum joint width of 3 mm.

Sopro Solitär® system

7 Position tiles and tap into place.

8 Thoroughly clean joints and remove all residue.

9 Install back-up strip in specified movement joints to prevent three-side adhesion.

10 Thoroughly pre-wet surface prior to grouting and keep in damp condition.

11 Pour Sopro Solitär® F20 onto covering.

12 Dampen material with water jet to achieve smooth, workable consistency…

13 ... and work into joints with rubber squeegee.

14 Keep surface permanently damp during grouting.

15 Remove surplus grout ...

16 ... and, where necessary, sweep away mortar residue.

17 Seal perimeter and movement joints.

18 Grouted surface is walkable after 24 hours.

Sopro Solitär® system

19 Covering finished with Sopro Solitär® F20 grout.

Perimeter and movement joints

Perimeter and movement joints shall be fitted with closed-cell, circular-section PE back-up strip and sealed with Sopro Sanitary Silicone or, for natural stone, Sopro Marble Silicone. Provision shall be made in covering for movement joints at min. 4 m intervals. Bays shall have compact length-to-width ratios not exceeding 1 : 2.

Cleaning/test guidance

As natural stone, cast stone and ceramic coverings may be prone to isolated discoloration and/or staining, laying of sample areas is recommended.
Joints may be cleaned with standard household cleaners as well as standard algae and green growth removers, provided these contain no chlorine.

Specified times

Apply for normal temperature range of +20 °C and 50 % rel. relative humidity.
Higher temperatures shorten and lower temperatures lengthen these times.

Tools/tool cleaning

Rubber squeegee, soft (coconut) broom, street broom, water jet; wash tools with water immediately after use.

Safety precautions

Contains polybutadiene

Caution

GHS07

Hazard statements: H317 May cause an allergic skin reaction.

Precautionary statements: P101 If medical advice is needed, have product container or label at hand. **P102** Keep out of reach of children. **P261** Avoid breathing dust/smoke/gas/mist/vapour/aerosol. **P272** Contaminated work clothing should not be allowed out of the workplace. **P280** Wear protective gloves/protective clothing/eye protection/face protection. **P302 +P352** IF ON SKIN: Wash with plenty of water. **P321** Specific treatment (see guidance on this label). **P333+P313** If skin irritation or rash occurs: Get medical advice/attention. **P362+P364** Take off contaminated clothing and wash it before reuse. **P501** Dispose of contents / container in accordance with regional / national / international regulations.

WGK1 (German Water Hazard Class 1)

Disposal

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. Clean waste packaging should be recycled when possible and authorized by the authority.
Hazardous waste: No
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.
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.

bringing european innovation

smet

FOR MORE INFORMATION CONTACT: Smet Building Products Ltd
93A Belfast Road | Newry | BT34 1QH | Northern Ireland
T: +44 (0)28 3026 6833 ROI: +353 (0) 1697 8586
E: info@smetbuildingproducts.com
smetbuildingproducts.com or smet.ie

NBS Source PARTNER AECB building knowledge ASBP IGBC Marketplace+

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.