

SMART® system

Strong | Mineral Airy | Rapid | True



As alternative to board subfloor systems

Speeds up progress on site

Non-combustible, thermally and sound-insulating

Sopro SMART® system

Sopro SMART® is a time-saving renovation screed system with low area loads. The key benefits of the system, which was purpose-developed for the refurbishment and renovation sector, are expressed by the name – with SMART® standing for Strong, Mineral, Airy, Rapid and True.

Its core element is the new Sopro LZ 987 SMART® lightweight aggregate, a non-combustible, mineral material made from expanded glass granulate. Sopro LZ 987 is mixed with Sopro Rapidur® B5 rapid-set screed binder to produce moisture-resistant, thermally and sound-insulating, lightweight levelling layers with low area loads and lasting dimensional stability. This is overcoated with a min. 10 mm thick self-levelling filler layer comprising Sopro VS 582, reinforced by Sopro PG-X 1188 armour scrim eXtra, that serves to spread loads and create a true, level surface.

Thanks to its rapid installation, the Sopro SMART® system offers an interesting alternative to conventional board subfloor solutions. Its true, level finish makes it ideal for the subsequent installation of large-format ceramic units.

Sopro SMART® system

Strong | Plane surface with no springiness

Mineral | Non-combustible, A1 fire rating to DIN 4102

Airy | Extra-low weight per unit area

Rapid | Allows early tiling, alternative to board subfloors

True | Levelling, with coat thickness ≥ 20 mm¹⁾

Sopro SMART®-System - Construction Heights And Weights Per Unit Area

Configuration	mm	kg/m ²
Standard configuration Sopro VS 582 and Sopro PG-X 1188	10	21,0
Sopro SMART® LZ with Sopro SMART® BM or SoproTherm® SE-Z (bonded)	20	7,0
Sopro SMART® system with Sopro SMART® BM or SoproTherm® SE-Z including Sopro VS 582 and Sopro PG-X 1188	30	28,0
	40	31,5
	50	35,0



¹⁾ In bonded construction

Application of Sopro SMART® system



1

Fix perimeter insulation strip.



2

Mark datum line and reference points in accordance with required installation levels: Sopro SMART® lightweight levelling layer (> 20 mm 1)), Sopro VS 582 self-levelling filler (> 10 mm), adhesive coat and ceramic thickness.



3

Mix 18 kg Sopro LZ 987 SMART® lightweight aggregate with approx. 12.5 kg Sopro Rapidur® B5 rapid-set screed binder and approx. 6.5–7.5 ltr water. Use of forced-action mixer is recommended for larger areas.



4

For larger areas, the use of a screed pump is recommended. First add Sopro SMART® LZ lightweight aggregate, then Sopro Rapidur® B5 or SoproTherm® SE-Z, and finally the required amount of water to the screed pump.



5

Place Sopro SMART® lightweight levelling layer in same way as conventional screed.



6

Additionally compact surface of placed material and remove any projections.



7

Sopro PG-X 1188 armour scrim eXtra may be installed after approx. 12 hours. Lay sheets with 5 cm lap.



Then place Sopro VS 582 self-levelling filler (min. 10 mm²) coat thickness when fully cured). Pour filler bucket-wise from low height, working in same direction as laps between sheets. Place material as accurately as possible to required levels or with only slight excess.



9

Surface is walkable and ready to receive ceramic covering after approx. 3 hours.

²To achieve strong bond and interlock between self-levelling filler and Sopro SMART® light levelling layer, filler penetrates slightly into top part of this layer. This extra material must be factored into consumption rate calculations.

Sopro SMART® LZ Lightweight Aggregate

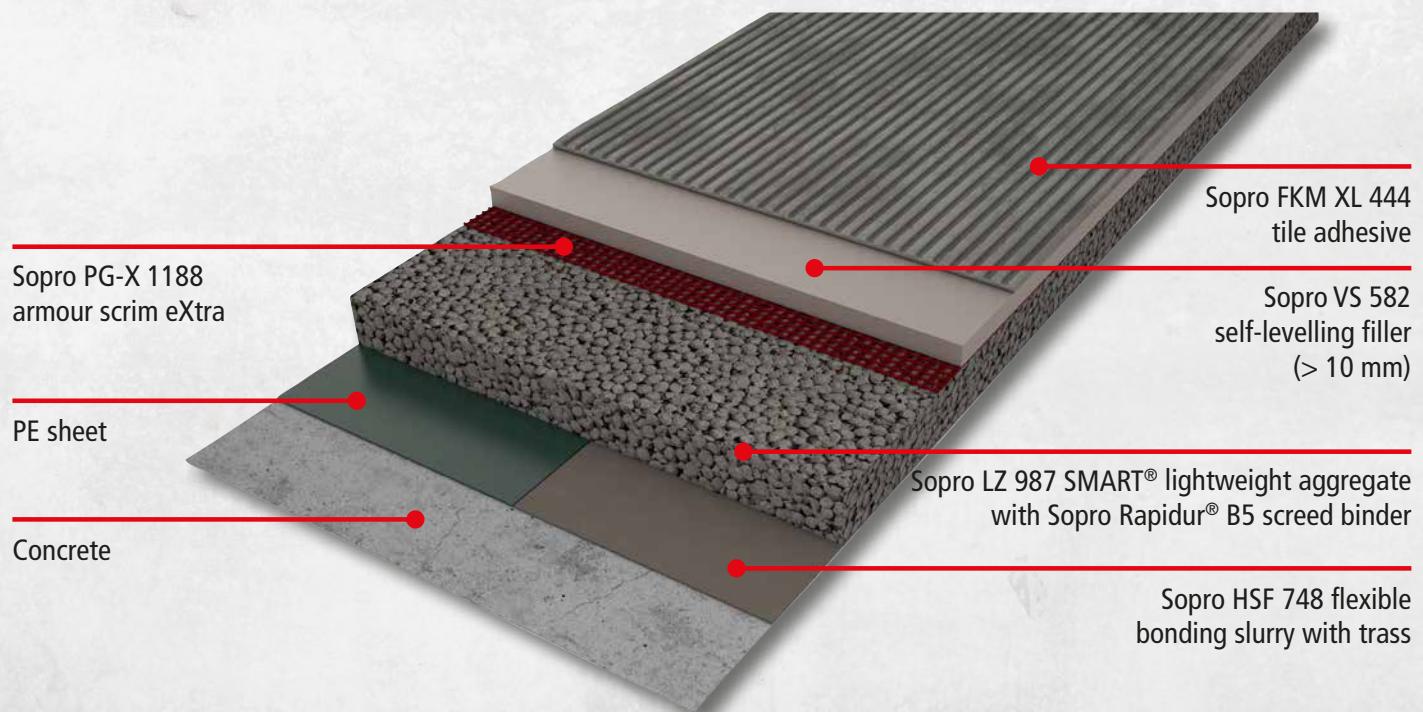
Min. coat thickness for bonded construction	≥ 20 mm
Min. coat thickness on separating or on insulation layer	≥ 35 mm
Min. coat thickness as pipe cover	≥ 20 mm
Compressive strength (in conjunction with Sopro SMART® BM or SoproTherm® SE-Z)	Ca. 1 N/mm ²
Thermal Conductivity	0,075 W/m-K
Impact Sound Reduction	Bis zu 10 dB ¹⁾
Aggregate Size	4 – 6 mm
Dry bulk density (in conjunction with Sopro SMART® BM or SoproTherm® SE-Z)	350 kg/m ³
building material class	A1 according to DIN 4102
Bay Size	100 m ²
Consumption	10 l Sopro SMART® LZ/m ² per cm layer thickness 1.6 kg Sopro SMART® LZ/m ² per cm layer thickness
Workable/Loadable	After about 12 hours

Sopro SMART® system (in combination with VarioFließSpachtel ≥ 10 mm layer thickness)

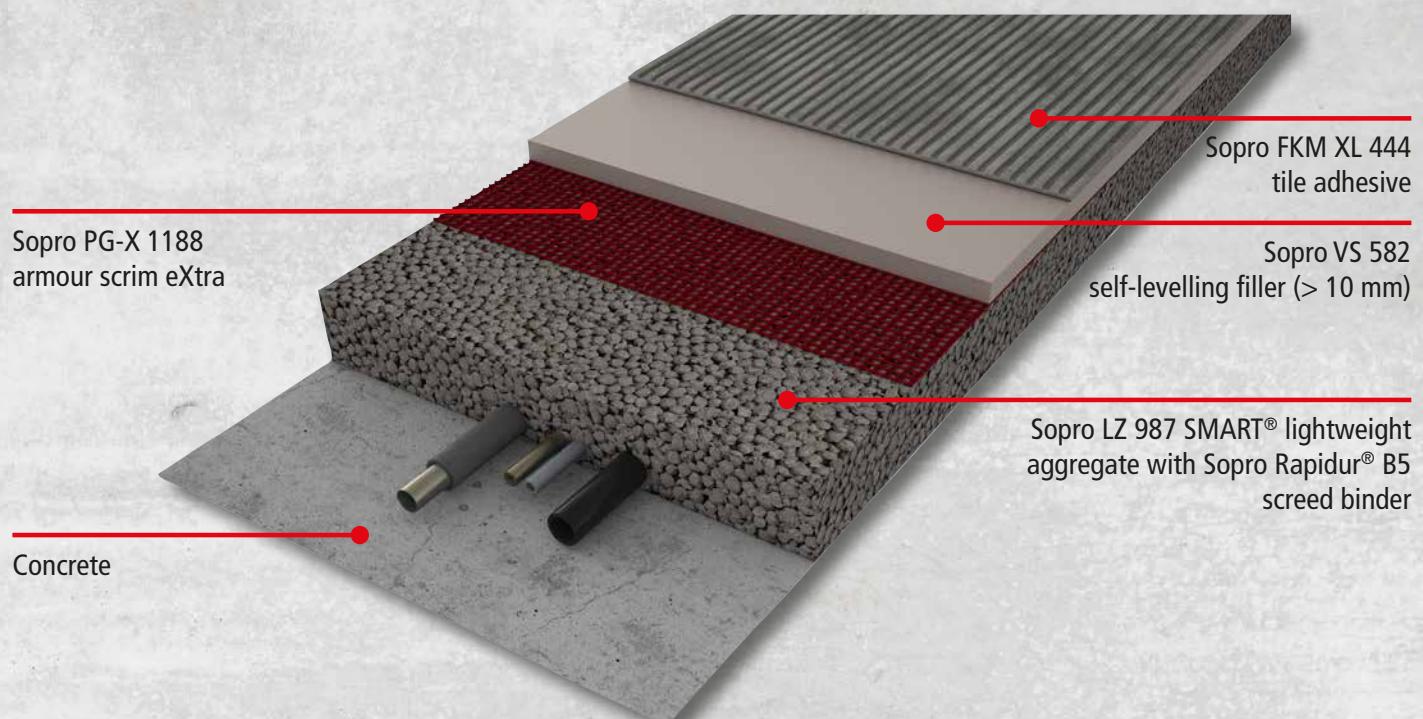
Live loads according to EN 1991	A1, A2 and A3
Max. surface load	2,0 kN/m ²
Max. point load	1,0 kN
Maximum tile size	No format restrictions (tile thickness min. > 6 mm)
Tilable/loadable	approx. 15 hours

¹⁾ Test stand value to DIN EN ISO 140-8 serving as a general guide. The performance of trialinstallations and measurements is therefore recommended, in each case, to establish the actual impact sound reduction index achievable on site.

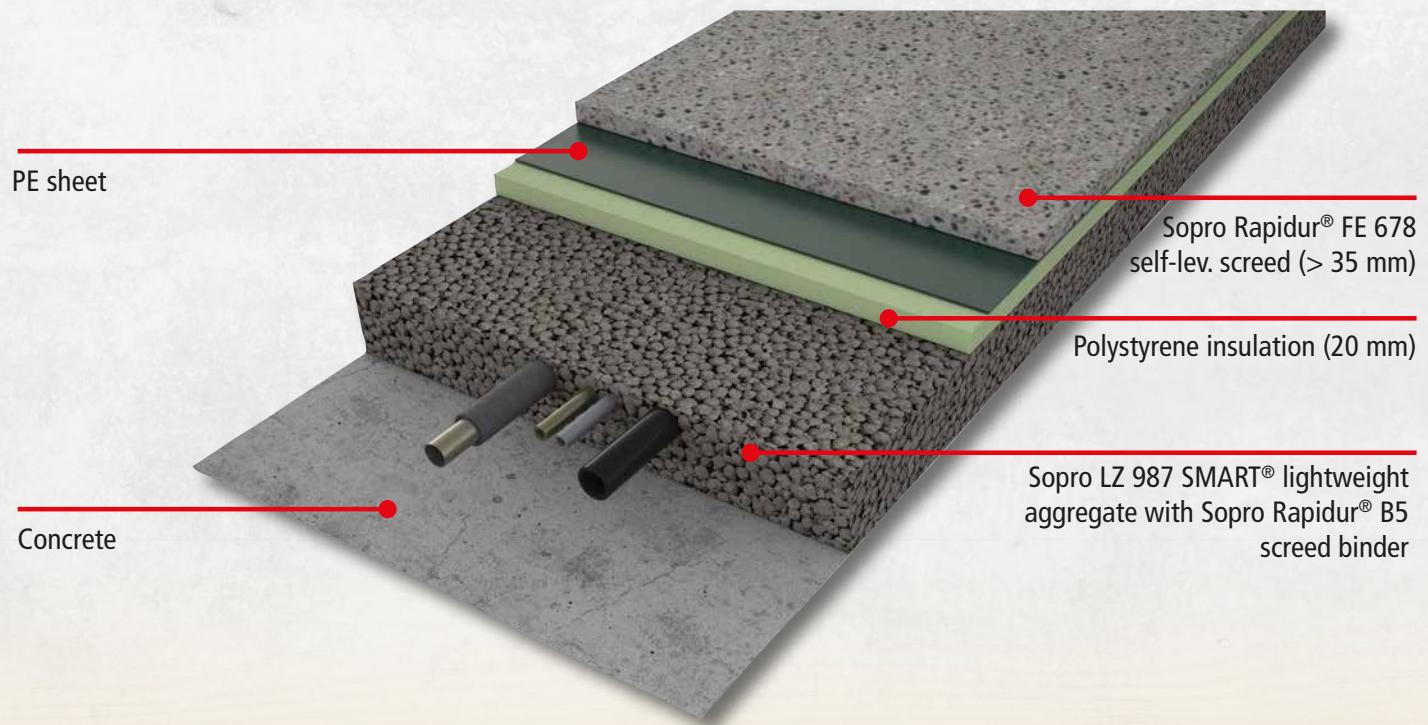
Sopro SMART® system on separating layer or for bonded construction



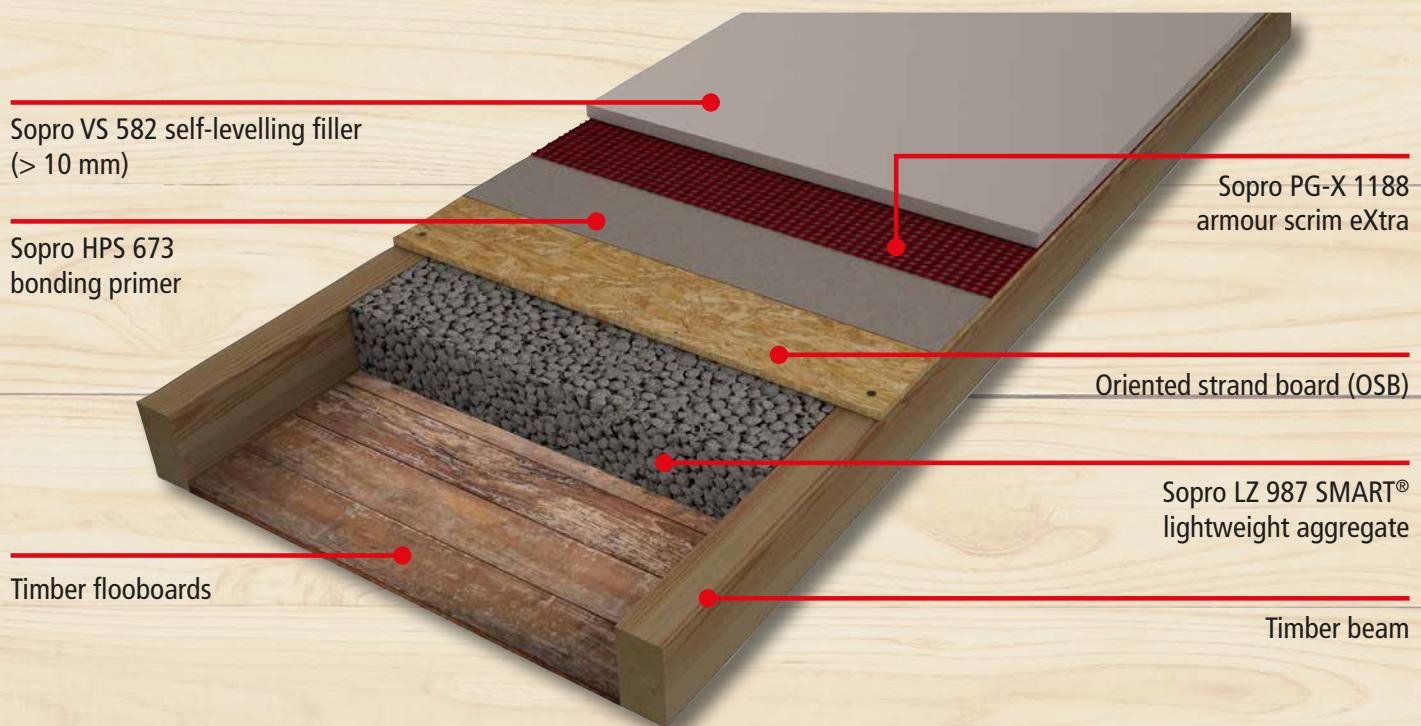
Sopro SMART® system for levelling with pipes



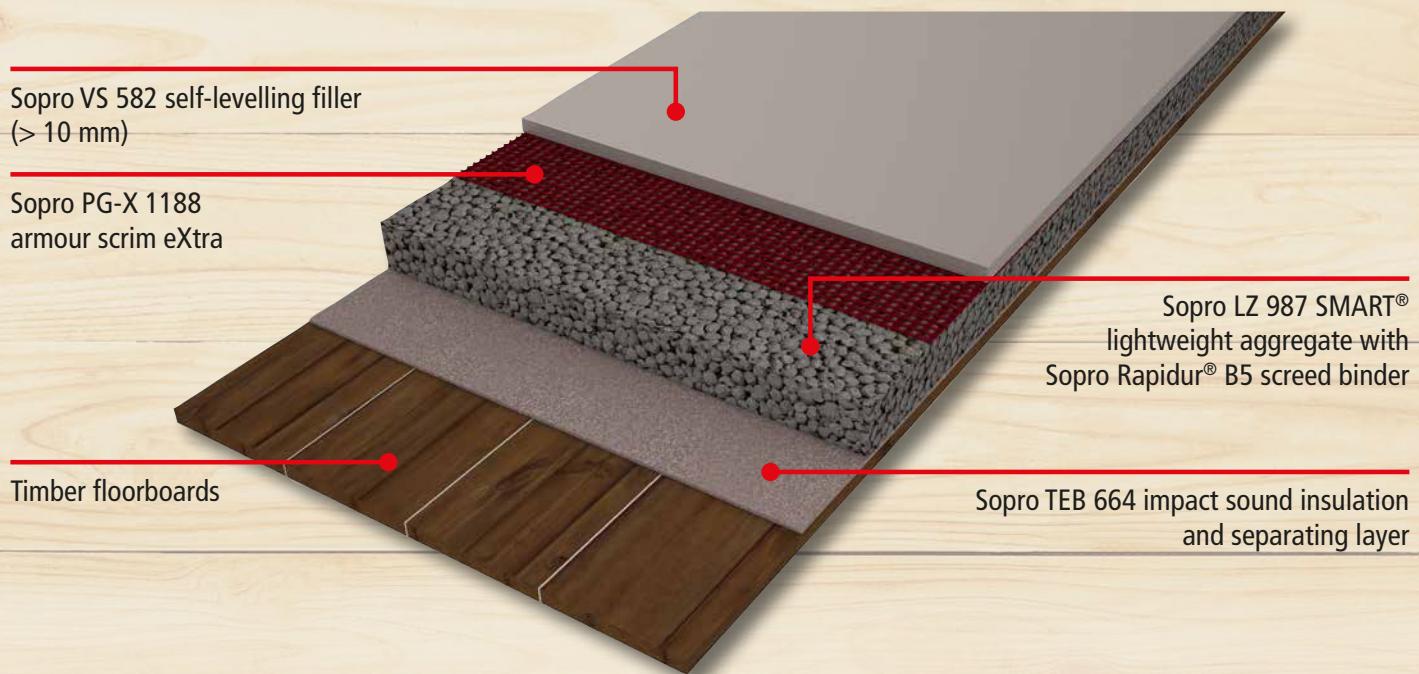
Sopro SMART® for lightweight levelling with pipes and floating screed



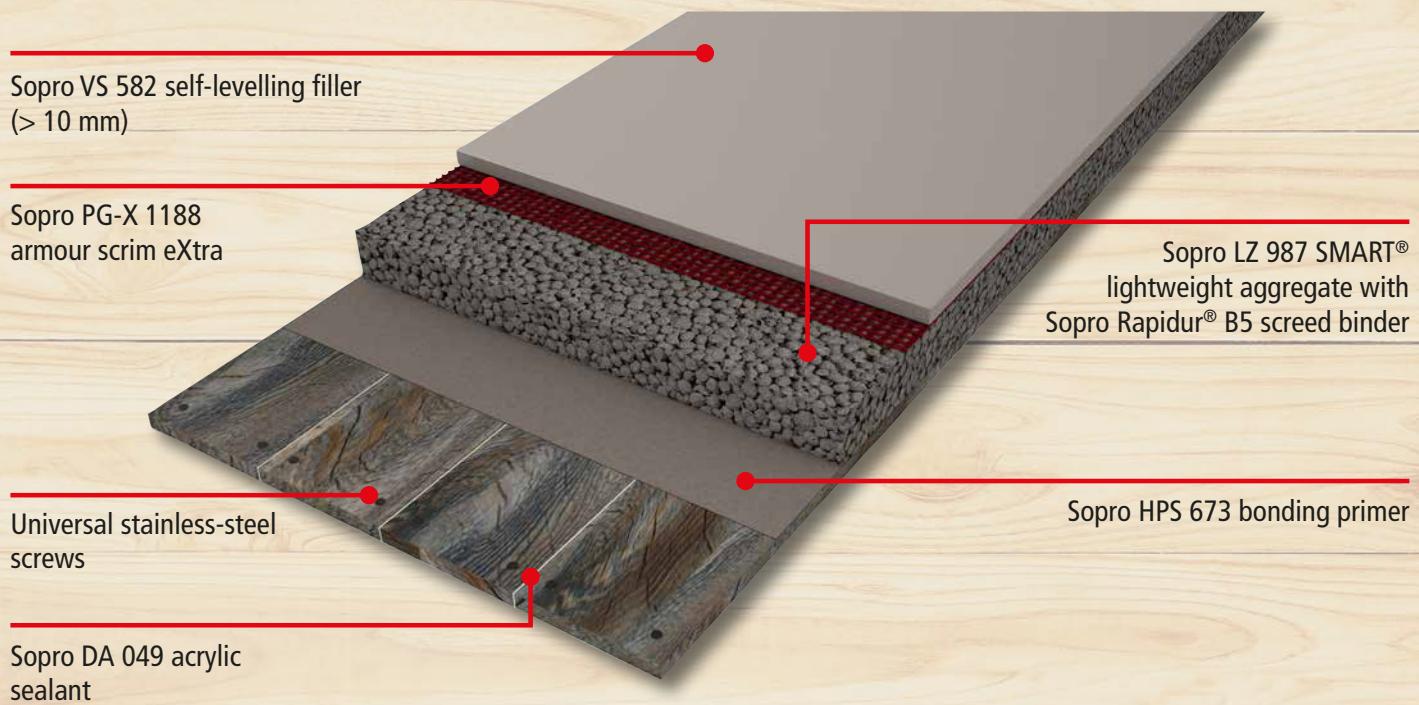
Sopro LZ 987 SMART® lightweight aggregate as loose fill for sound insulation



Sopro SMART® system with impact sound reduction



Sopro SMART® system on uneven timber flooring



Sopro SMART® system components

Sopro LZ 987 SMART® lightweight screed aggregate



- Mineral-based
- High compressive strength
- For low area loads
- Ideal for refurbishment/renovation contracts
- As alternative to board subfloor systems
- Non-combustible
- Moisture-resistant and permanently dimensionally stable
- Offering thermal and sound insulation
- For levelling between pipes
- Overcoatable: after approx. 12 hours in conjunction with Sopro Rapidur® B5 rapid-set screed binder
- Pumpable



SMART® BM binder



- For floors, indoors
- Component in Sopro SMART® system
- Efficient and cost-effective: 1 bag of Sopro SMART BM for 1 bag of Sopro LZ 987 lightweight aggregate
- Low-stress set
- Allowing early use
- Extra-quick-drying and rapid-setting
- Suitable for heated constructions
- Suitable for bonded, unbonded and floating constructions
- Pumpable
- Low-chromate to Regulation (EC) No 1907/2006, Annex XVII
- DGNB: Top quality level 4, Line 8, based on DGNB (German Sustainable Building Council) criterion ENV1.2 Local Environmental Impact (2018 version)



Sopro Rapidur® B5 rapid-set screed binder



- Ready for tiling: after approx. 3 days (depending on mixing ratio and site conditions)
- Ready to receive particularly impervious floor coverings, e.g. linoleum or PVC, and wood or parquet flooring after 3–5 days or after achievement of residual moisture content $\leq 2.0\% \text{ CM}$ (unheated) and $\leq 1.8\% \text{ CM}$ (heated)
- Long working life: 2–3 hours
- Walkable: after 7–8 hours
- Suitable for floor heating systems, pumpable
- For indoor and outdoor use
- Low-chromate to Regulation (EC) No 1907/2006, Annex XVII



SoproTherm® SE-Z



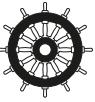
- For floors, indoors and outdoors
- Extra-low-shrinkage: shrinkage class SW1 to DIN 18560-1
- Designed for efficient, cost-effective 3-bag mix
- Low-stress set
- Ideal for heated screeds
- Also suitable for bonded, unbonded and floating screeds
- Pumpable
- May be applied in mixing ratio 1 : 5
- Component in Sopro SMART® system
- High resistance to moisture migration from substrate
- Heating system commissioning: after 3 days
- Allowing early use
- Extra-quick-drying and rapid-setting
- Walkable: after 7–8 hours
- Ready for tiling: after approx. 3 days (pay particular attention to residual moisture in case of highly impervious floor coverings, e.g. linoleum, PVC and wood coverings)
- Low-chromate to Regulation (EC) No 1907/2006, Annex XVII
- DGNB: Top quality level 4, Line 8, based on DGNB (German Sustainable Building Council) criterion ENV1.2 Local Environmental Impact (2018 version)



³⁾ Up to 70 mm in bonded construction.

Sopro SMART® system components

<h3>Perimeter insulation strip</h3> 	<ul style="list-style-type: none"> For indoor and outdoor use 50 mm high, 5 mm thick, 40 mm bonded nonwoven Self-adhesive, bonding strongly to clean substrates Straightforward, reliable application and angle formation Eliminates sound transmission paths and restraint stresses at floor joints and perimeter wall joints Particularly suitable for use in conjunction with Sopro self-levelling surface fillers DGNB: Top quality level 4, Line 40, based on DGNB (German Sustainable Building Council) criterion ENV1.2 Local Environmental Impact (2018 version) 
<h3>Armour scrim eXtra</h3> 	<ul style="list-style-type: none"> For walls and floors, indoors and outdoors Additional reinforcement for extra impact strength and displacement resistance For improved crack-bridging performance and stress relief Component in Sopro SMART® system Can be loose laid, will not stand up No floating-up Strong adhesion to other Sopro products Long-term alkali resistance High temperature resistance Mesh size: approx. 6.8 (warp) x 3 (weft) mm   
<h3>Sopro VS 582 self-levelling filler</h3> 	<ul style="list-style-type: none"> Coat thickness: 3–70 mm³ For floors, indoors and outdoors 2-in-1 formulation: suitable as self-levelling filler and for laying to falls Self-levelling Ready to receive ceramic covering: after 2–3 hours Quick-drying Highly flexible through fibre reinforcement Suitable for timber flooring Pumpable Suitable for floor heating systems Long working life: 30–40 minutes Low-chromate to Regulation (EC) No 1907/2006, Annex XVII        
<h3>SoproTherm® FE NEO</h3> 	<ul style="list-style-type: none"> For floors, indoors Self-levelling: rapid, straightforward application Smooth and level for subsequent flooring installation Carbon-reduced thanks to CSA technology Ready for tiling: after 24–48 hours (pay particular attention to residual moisture in case of highly impervious floor coverings, e.g. linoleum, PVC and wood coverings) Ideal for embedding many conventional and slimline heating systems Extra-quick-drying and rapid-setting Walkable: after approx. 4 hours Heating system commissioning: after 3 days Coat thickness for bonded screeds: 20–70 mm Coat thickness on separating or insulation layer: 35¹⁾–70 mm High resistance to moisture migration from substrate Pumpable, efficient application also on large construction sites Low-chromate to Regulation (EC) No 1907/2006, Annex XVII DGNB: Top quality level 4, Line 8, based on DGNB (German Sustainable Building Council) criterion ENV1.2 Local Environmental Impact (2018 version)        

<h3>Bonding primer S</h3> 	<ul style="list-style-type: none"> For walls and floors, indoors and outdoors Water- and solvent-free High coverage Drying time: 1 – 2 hours Suitable for use in conjunction with wall and floor heating Approved as system component for shipbuilding applications GISCODE (German hazardous substances classification): D1 DGNB: Top quality level 4, Line 8, based on DGNB (German Sustainable Building Council) criterion ENV1.2 Local Environmental Impact (2018 version) For healthy living: Recommended by Sentinel Haus Institut <div data-bbox="1230 325 1437 539">    </div>
<h3>Acrylic sealant</h3> 	<ul style="list-style-type: none"> For indoor and outdoor use Compatible with coatings Resistant to weathering and ageing Low-odour Good UV resistance For sealing cracks in plasterwork/render Colour: white 10 <div data-bbox="1230 617 1333 718">  </div>
<h3>Impact sound insulation and separating layer</h3> 	<ul style="list-style-type: none"> For floors, indoors Up to 17 dB impact sound reduction below ceramic tiles Separating layer system to ZDB (Federation of the German Construction Industry) and euroFEN guidance paper Provides stress relief on newly laid, shrinkage-prone concrete surfaces, crack-prone screeds or composite substrates Improves thermal insulation on poorly insulated and bonded screeds Alkali-resistant For live loads up to 3 kN/m² Exceptionally low construction height 3 mm <div data-bbox="1230 999 1437 1201">     </div>
<h3>FKM® XL Multi-purpose mega light flexible tile adhesive</h3> 	<ul style="list-style-type: none"> For walls and floors, indoors and outdoors Reactive drying between sealing tape and fittings Sag-resistant, extra-creamy workability Long working life (approx. 40 minutes) Quick-drying (2 – 3 hours per coat) Very low consumption rate, extra-low shrinkage Suitable for bonding Sopro AEB® waterproof sheet membranes Vapour-permeable Certified low-temperature flexibility down to -5 °C: Class CMO1P to DIN EN 14891 Suitable for bonding Sopro sealing tapes and fittings Low-chromate to Regulation (EC) No 1907/2006, Annex XVII DGNB: Top quality level 4, Line 9, based on DGNB (German Sustainable Building Council) criterion ENV1.2 Local Environmental Impact (2018 version) For healthy living: Recommended by Sentinel Haus Institut <div data-bbox="1230 1448 1437 2010">           </div>

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