

## SMART<sup>®</sup> 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  $\geq 20$  mm <sup>1)</sup>

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

Configuration	mm	kg/m <sup>2</sup>
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



<sup>1)</sup> 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 mm<sup>2</sup>) 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.

<sup>2)</sup> To 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

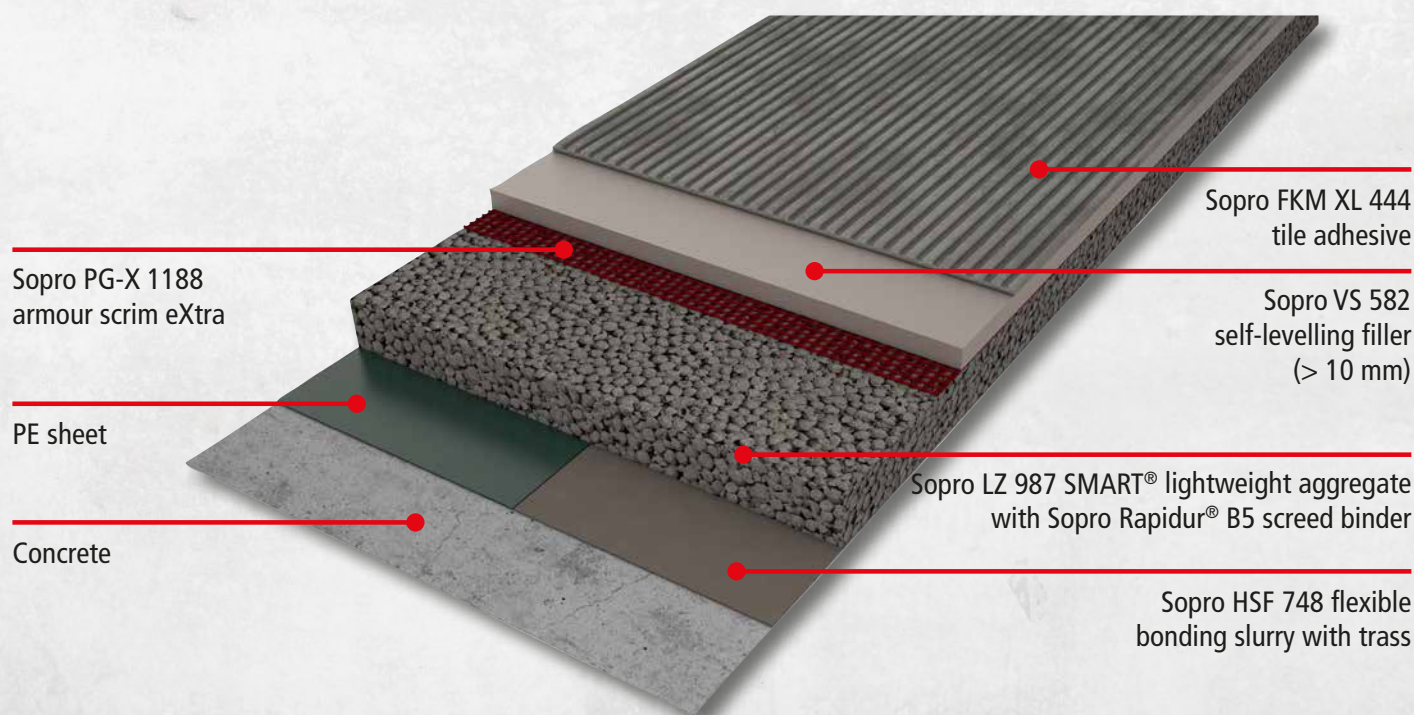
Min. coat thickness for bonded construction	≥ 20 mm
Min. coat thickness on separating or on insulation layer	≥ 35 mm
Min. coat thickness as pipe cover	≥ 20 mm
Compressive strength (in conjunction with Sopro SMART® BM or SoproTherm® SE-Z)	Ca. 1 N/mm <sup>2</sup>
Thermal Conductivity	0,075 W/m-K
Impact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

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

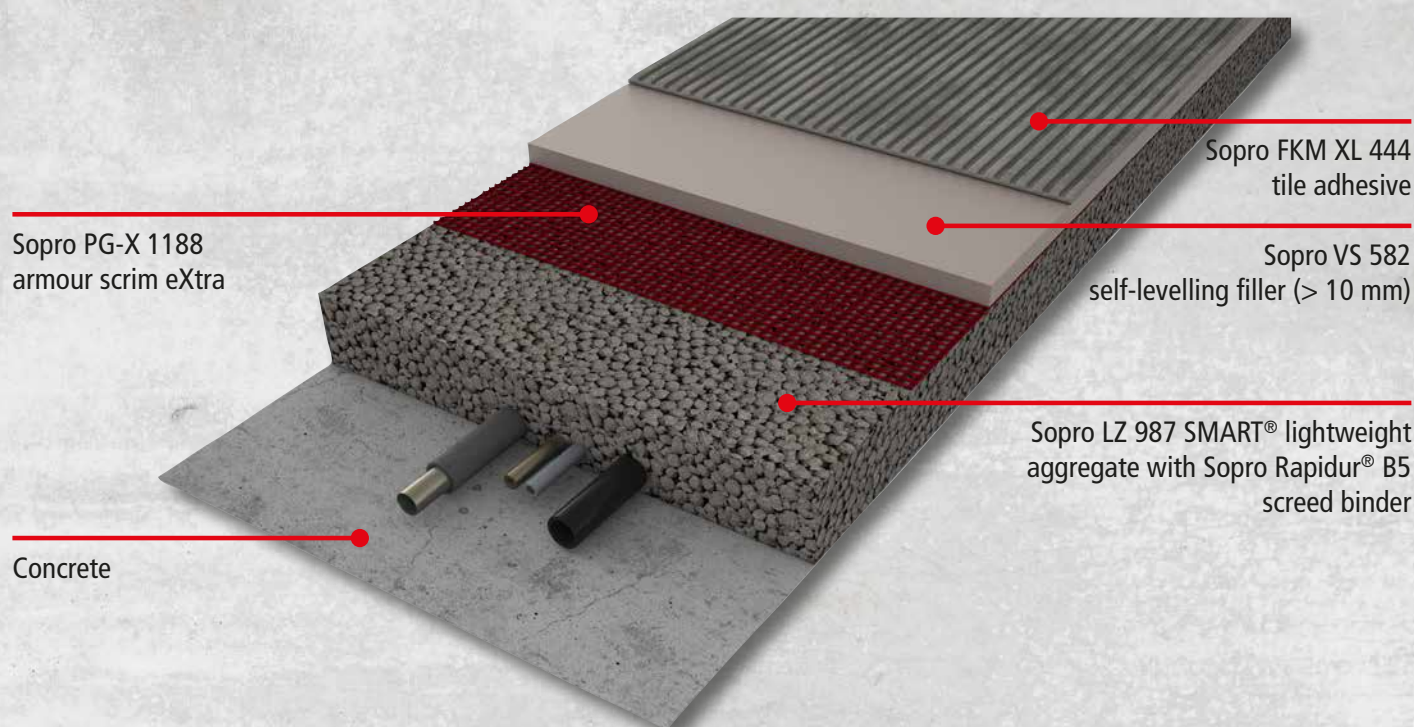
Live loads according to EN 1991	A1, A2 and A3
Max. surface load	2,0 kN/m <sup>2</sup>
Max. point load	1,0 kN
Maximum tile size	No format restrictions (tile thickness min. > 6 mm)
Tilable/loadable	approx. 15 hours

1) Test stand value to DIN EN ISO 140-8 serving as a general guide. The performance of trial installations 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

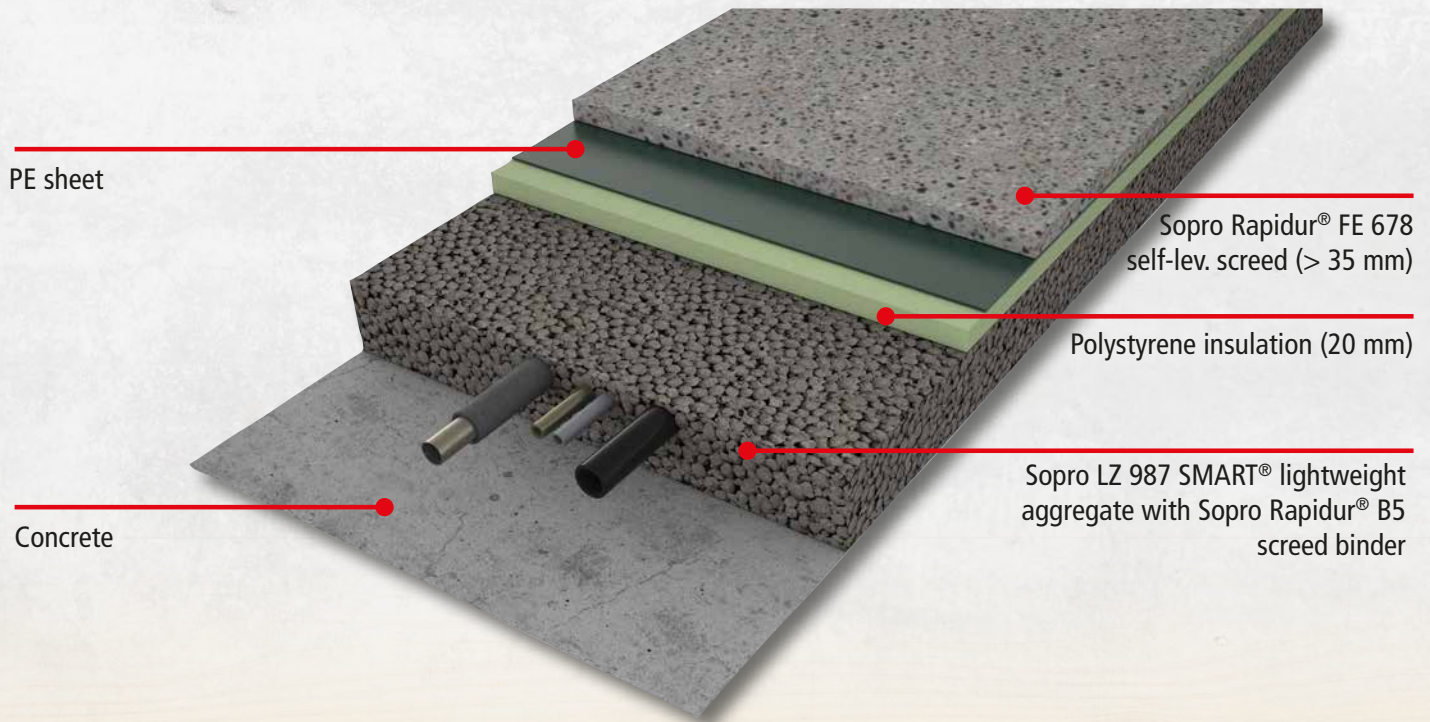


# Sopro SMART® system for levelling with pipes

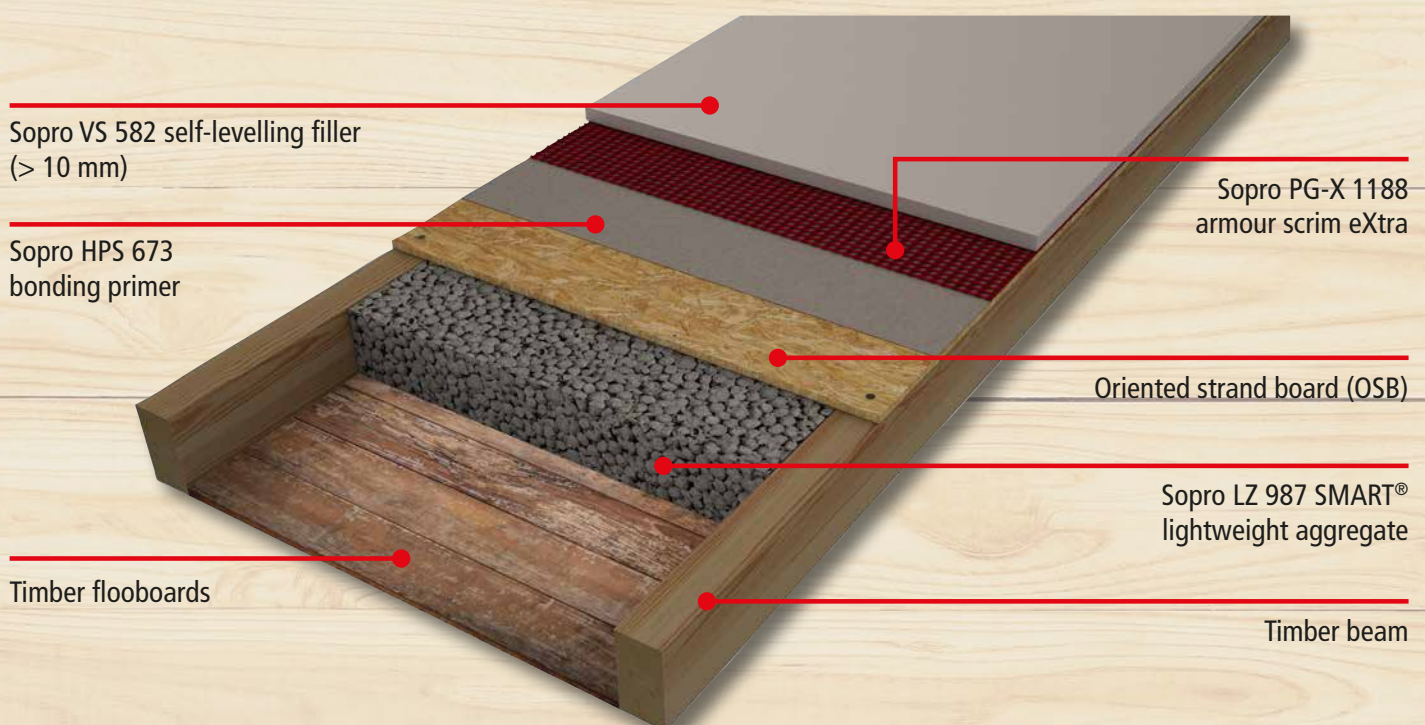




# Sopro SMART® for lightweight levelling with pipes and floating screed

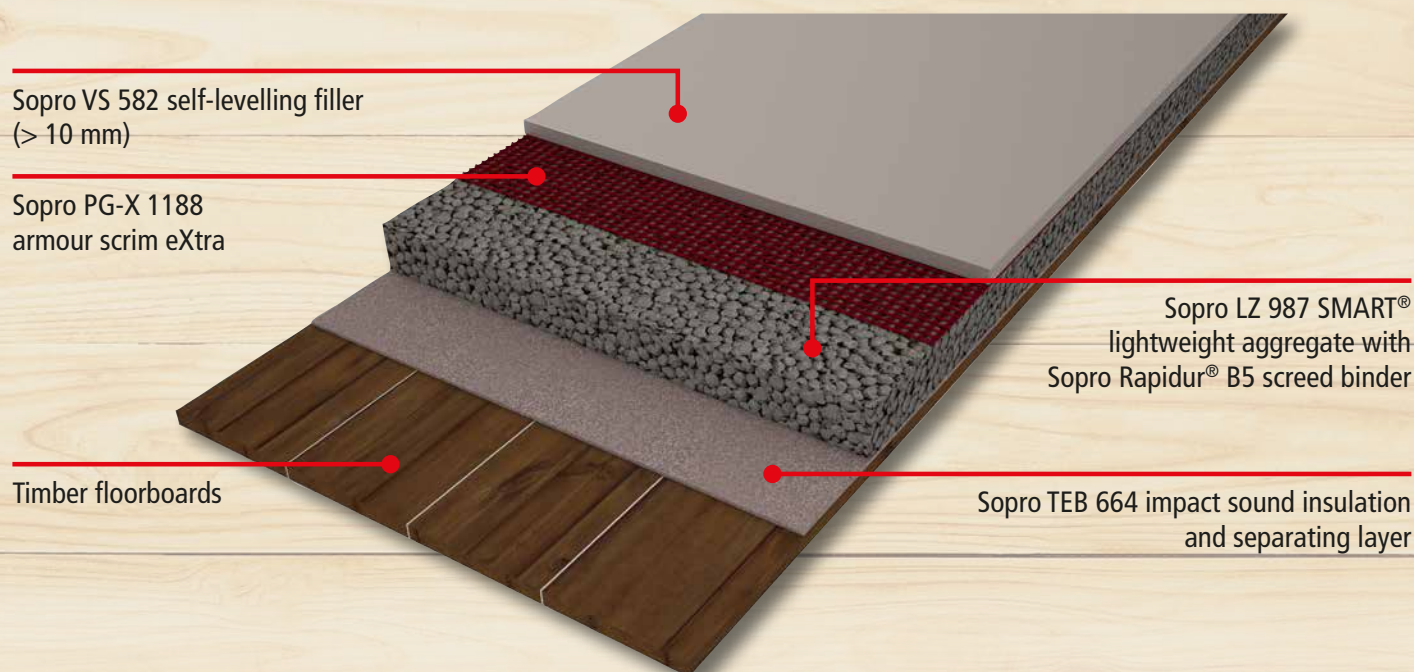


# Sopro LZ 987 SMART® lightweight aggregate as loose fill for sound insulation

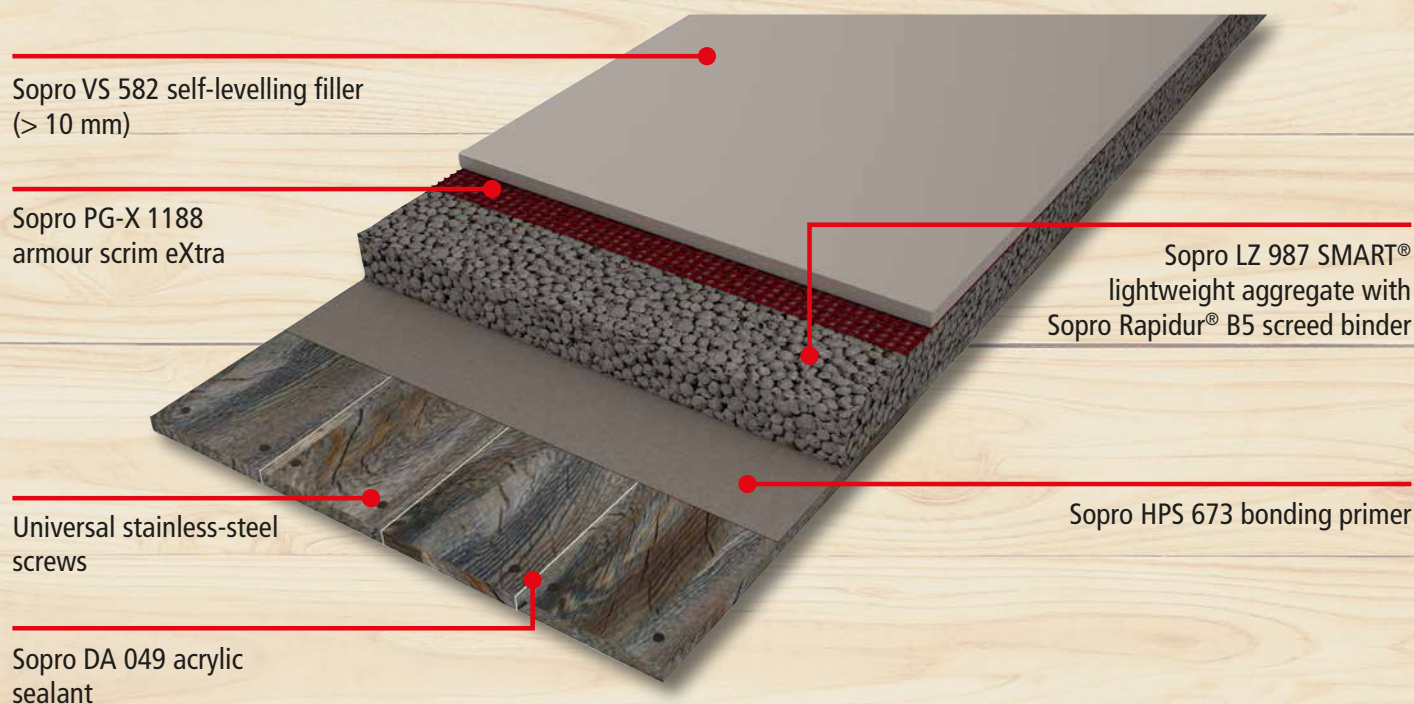




## Sopro SMART® system with impact sound reduction



## 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 ≤ 2.0% CM (unheated) and ≤ 1.8% 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)



<sup>3)</sup> Up to 70 mm in bonded construction.



# Sopro SMART® system components

## Perimeter insulation strip



- 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)



## Armour scrim eXtra



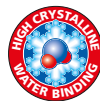
- For walls and floors, indoors and outdoors
- Additional reinforcement for extra impact strength and displacement resistance
- For improved crack-bridging performance and stress relief
- Component in Sopro SMART® system
- Can be loose laid, will not stand up
- No floating-up
- Strong adhesion to other Sopro products
- Long-term alkali resistance
- High temperature resistance
- Mesh size: approx. 6.8 (warp) x 3 (weft) mm



## Sopro VS 582 self-levelling filler



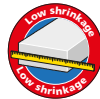
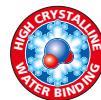
- Coat thickness: 3 – 70 mm<sup>3)</sup>
- For floors, indoors and outdoors
- 2-in-1 formulation: suitable as self-levelling filler and for laying to falls
- Self-levelling
- Ready to receive ceramic covering: after 2 – 3 hours
- Quick-drying
- Highly flexible through fibre reinforcement
- Suitable for timber flooring
- Pumpable
- Suitable for floor heating systems
- Long working life: 30 – 40 minutes
- Low-chromate to Regulation (EC) No 1907/2006, Annex XVII



## SoproTherm® FE NEO



- 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: 35<sup>1)</sup> – 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)

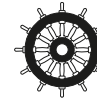




## Bonding primer S



- 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



## Acrylic sealant



- 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



## Impact sound insulation and separating layer



- 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, crackprone screeds or composite substrates
- Improves thermal insulation on poorly insulated and bonded screeds
- Alkali-resistant
- For live loads up to 3 kN/m<sup>2</sup>
- Exceptionally low construction height 3 mm



## FKM® XL Multi-purpose mega light flexible tile adhesive



- 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





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