

Cementitious FS

Description

Cementitious FS is a self-leveling, cementitious, mineral screed used for levelling various substrates such as concrete, cement and ship deck flooring.

Hardening takes place by both the hydration of the mineral binding agents and the film formation of polymers.

The floor must be laid with a layer thickness between 3 to 6 mm.

Layer thickness	Cementitious FS	Sand 0-3
1 – 5 mm	1	0
5 – 15 mm	1	1
15 – 30 mm	1	2

More sand means less tension but also less strength. Thicker layers generate more tension and consequently require more sand. The increased layer-thickness will compensate for the loss of strength.

Form

Powder, grey

Packaging

25 kg bag

Shelf life/storage

Up to 6 months after the production date if kept in the original, sealed, unopened and undamaged packaging and stored dry between +5 °C and +30 °C.

Application

Mixing ratio: 25 kg Cementitious FS + 6 kg water
25 kg Cementitious FS + 7 kg water + 25 kg sand 0-3
25 kg Cementitious FS + 8,5 kg water + 50 kg sand 0-3

Properties

Mineral bonded – solvent-free	
Very good mechanical properties	
Colour-fast	
Suitable for various subsequent treatments	
Fast hardening and drying	
Density ¹ (g/cm ³)	2,00
Density ¹ (g/cm ³) 1/1	2,20
Density ¹ (g/cm ³) 1/2	2,25
Powder weight ² (g/cm ³)	1,65
Slump flow ring (mm)	135
Slump flow ring (mm) 1/2	70
Pot-life (mins.)	30
Foot traffic (hours)	3 - 5
Compression strength ³ (N/mm ²)	>30
Flexural strength ³ (N/mm ²)	>8
Compression strength ⁴ (N/mm ²)	> 25
Flexural strength ⁴ (N/mm ²)	> 7
Compression strength ⁵ (N/mm ²)	> 20
Flexural strength ⁵ (N/mm ²)	> 6
Min. processing temp. (°C)	10

¹ = ISO 2811-1/+ 23°C / 50% R.H

² = powder weight ready-mixed mortar

³ = EN 196-1/ + 23°C / 50% R.H. @ 28 days

⁴ = EN 196-1/ + 23°C / 50% R.H. @ 28 days, 1 on 1

⁵ = EN 196-1/ + 23°C / 50% R.H. @ 28 days 1 on 2

Pour the water into a bucket and while mixing add the bag of Cementitious FS and the desired amount of sand 0-3. Mix thoroughly for 3 minutes to obtain a homogeneous mixture.

Mixing is preferably done with a powerful mixer or with the Quartzline Mobile Mixer. Preferably mix between 50 to 75 kg each time.

Cementitious FS is exclusively for indoor use and not suitable in damp or continuously wet environments.

System construction

Primer: The mixing ratio for a sand cement screed is one part Quartzline Universal to two parts water. Making sure that the substrate is completely sealed and saturated with primer will not only reduce the risk of blow-holes but also eliminate absorption and enhance adhesion. Quartzline Primer Universal can be sprinkled with 0,4 to 0,8 sand.

When applying Quartzline Primer Universal, the temperature should be between 10°C and 25°C. Start applying the primer with a watering can equipped with a fine filter nozzle and a soft broom to spread the primer in one or more even layers. Begin at the farthest point and work backwards towards the exit, leave the primer to dry until film-forming occurs which is recognisable by the transparent shine. Remove or evenly distribute any pools of primer before the final application which should be done within 24 hours after film-forming has taken place.

Substrate	Ratio primer / water	Usage	Sprinkled 750-1000 g/m²
Sand cement	1:3	600 gr/m ²	×
Concrete	1:3	300 gr/m ²	×
Wood	undiluted	300 gr/m ²	√
Linoleum	1:1	150 gr/m ²	×
PVC	1:1	150 gr/m ²	√
Tiles	undiluted	150 gr/m ²	√
Natural stone	undiluted	250 gr/m ²	√
Steel	undiluted	250 gr/m ²	√
Magnesite	1:1	250 gr/m ²	×
Cementitious substrates	1:1	250 gr/m ²	×

**THE INFORMATION ABOVE IS INDICATIVE AND CAN VARY
ACCORDING TO CIRCUMSTANCES.**

Please see TDS Primer Universal.

Levelling: **Cementitious FS**

Primer: Before any of the finishing coats below can be used, the Cementitious FS must be primed using Quartzline Primer BHH without filler.

Scratch layer: Quartzline Primer BHH with microdol A100

The above combination offers the best sealing and levelling properties for cementitious systems.

Wearing course: The following Quartzline floor systems can be used:

- SL-PU D30
- SL-PU 3K
- SL-PU D60
- SL-PU D70
- SL-PU UV
- SL-EP 2K
- Coating EPG
- Coating PU SG coloured
- Coating CSL
- Mortar floor finished with Topcoat E

THE FOLLOWING APPLIES FOR ALL CEMENTITIOUS SYSTEMS:
The substrate must be completely sealed and saturated to prevent absorption and leave sufficient water in the mix for the cement hydration process.

Usage

Cementitious FS consumption is 2,0 kg /m² / mm.

Layer thickness	Consumption ready-mixed	Consumption dry mix
3 mm	6,00 kg	4,84 kg
4 mm	8,00 kg	6,45 kg
5 mm	10,00 kg	8,06 kg

Cementitious FS consumption with sand 0-3 ratio 1:1 is 2,2 kg /m² / mm.

Layer thickness	Consumption ready-mixed	Consumption dry mix
5 mm	11,00 kg	4,39 kg
7,5 mm	16,50 kg	6,58 kg
10 mm	22,00 kg	8,77 kg
12,5 mm	27,50 kg	10,96 kg
15 mm	33,00 kg	13,16 kg

Cementitious FS consumption with sand 0-3 ratio 1:2 is 2,25 kg /m² / mm.

Layer thickness	Consumption ready-mixed	Consumption dry mix
15 mm	33,75 kg	13,51 kg
20 mm	45,00 kg	18,02 kg
25 mm	56,25 kg	22,52 kg
30 mm	67,50 kg	27,03 kg

All values above are theoretical and may vary according to absorption and quality of the substrate.

Substrate preparation

The substrate must be sound and sufficiently compression-resistant (at least 25 N/mm²), with a minimum adhesive strength of 1.5 N/mm².

The substrate must be clean and dry and free of dirt, oil, grease and other soiling.

Concrete substrates must be prepared mechanically using abrasive blast cleaning or scarifying equipment to remove cement laitance and achieve an open textured surface.

Weak concrete and loose cementitious levelling must be removed and surface damage such as blowholes and voids must be repaired with Quartzline Epoxygel and then primed again.

All dust, loose and friable material must be fully removed from all surfaces before the product is applied, preferably using a brush and/or industrial vacuum cleaner.

Foam or rubber tape should preferably be used on the edges to allow the cement to expand.

Application conditions

Substrate temperature :	Minimum 8°C, maximum +25°C
Ambient temperature:	Minimum 8°C, maximum +25°C
Relative Humidity:	Maximum 75% R.H.
Dew point:	Be aware of condensation!

The temperature of the subfloor and non-hardened materials must be at least 3°C higher than the dew point to prevent the formation of condensation and efflorescence or cement skin on the mortar surface.

Application

Processing time @ 20 °C	25 minutes
Light traffic @ 20 °C	3 hours
Fully Cured @ 20 °C	28 days

Check the R.H. and dew point before application.

Pour the mortar onto the primed substrate and distribute evenly to the desired thickness using a toothed trowel or Swedish finishing knife.

Clean tools with water immediately after use.
Hardened material can only be removed mechanically.

Remarks

Do not mix with other cement or cementitious floor products.

Freshly applied Cementitious SL Decorative must be protected from moisture, condensation and water loads for at least 24 hours.

Do not add more than the prescribed amount of water and never add water once the product has started to react.

Do not load the floor for 24 hours and don't exceed the prescribed layer thickness.

The end product has limited water-resistance, so do not apply in bathrooms.

Protect from direct sunlight, heat, strong winds and extreme temperatures to avoid accelerated drying and hairline cracks. These superficial hairline cracks or crackle normally occur under these circumstances and are not admissible as the subject of a complaint.

If layering is done using an alternative Quartzline screed or coating system, extra preliminary mechanical treatment may be necessary to remove the cement skin that can occur during processing. This could be the result of too much water in the mixture or high air humidity whereby surface sedimentation occurs.

Cleaning/maintenance

To maintain the appearance of the floor after application, the floor must be kept clean and all spillages removed immediately.

The floor must be cleaned regularly using a rotary brush, mechanical scrubbers, scrubber dryer, high pressure washer, wash and vacuum techniques etc.

Always use suitable detergents and waxes.

Clean the floor with tepid water. Never use hot water (warmer than 40 °C).

Value base

All technical data stated in this technical data sheet is based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

Health and safety information

For information and advice on safety handling, storage and disposal of chemical products, users should refer to the most recent material safety data sheet containing physical, ecological, toxicological and other safety related data.

Legal notes

This information, and in particular the recommendations related to the application and end use of Quartzline products, is provided in good faith based on our current knowledge and experience of the products. It is valid for products that are correctly stored, treated and applied under normal conditions in accordance with Quartzline's recommendations.

In practice, differences in materials, substrates and actual on-site conditions are such that no warranty in respect of merchantability or of suitability 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.

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