Cementitious SL Constructive

Description

Cementitious SL Constructive is a self-levelling, cementitious, mineral screed for industrial applications.
The Cementitious SL Constructive contains a high polymer concentration.

Hardening takes place by both the hydration of the mineral binding agents and the film formation of polymers.
Extreme strength makes this floor highly suitable for industrial applications.

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

Cementitious SL Constructive can be finished and/or further treated in various ways. This can be done using a Coating CSL with a Coating PU MG, or any other Floor covering such as Quartzline SL-PU, Quartzline SL-EP 2K or Quartzline Coating EPG.
Extremely suitable beneath tiles, carpets, parquet, etcetera

Cementitious SL Constructive is designed with specially selected reactive and non-reactive fillers. The exact grain composition of these fillers, together with our tailor-made levelling agent, guarantees excellent levelling and the very best mechanical properties.

Properties

Mineral bonded - solvent-free	
Very good mechanical properties	
Colourfast	
Polymer modified	
Suitable for many other	
Suitable for various subsequent treatments	
Fast hardening and drying	
Self-levelling, very smooth application	
Density [1] (g/cm^3)	2.00
Powder weight [2] (g/cm^3)	1.65
Slump flow (mm)	150
Pot-life (min.)	30
Foot traffic (hours)	3 - 5
Compression strength [3] (N/mm²)	> 26
Flexural strength [3] (N/mm²)	> 5
Compression strength [4] (N/mm²)	> 42
Flexural strength [4] (N/mm²)	> 10
Compression strength [5] (N/mm²)	> 52
Flexural strength [5] (N/mm²)	> 13
Min. processing temp. (ºC)	10

[1] = ISO 2811-1/+ 23ºC/50% R.H
[2] = powder weight in the ready-for-use mortar
[3] = ISO 196-1 / @ 7 days / + 23ºC/50% R.H
[4] = ISO 196-1 / @ 28 days / + 23ºC/50% R.H
[5] = ISO 196-1 / @ 3 months / + 23ºC/50% R.H

Form

Powder, grey

Packaging

25 kg bags

Shelf life/storage

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

Mixing

Mixing ratio: Add 5 kg of water to 25 kg of cement.
Use weighing scales to weigh the correct amount of water. **DO NOT** use a measuring cup as this is not sufficiently accurate.

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Pour the water into the bucket and while agitating add the bag of Cementitious SL Constructive and mix thoroughly for 3 minutes to obtain a homogeneous mixture.

Mixing is preferably done with the Quartzline Mobile Mixer.
With the Quartzline Mobile Mixer you can mix between 50 to 75 kg each time.
When mixing multiple batches keep mixing times as equal as possible, this is essential for an equal consistency of the mixture.

Quartzline Mobile Mixer

How to use the Quartzline Mobile Mixer:

Pour the water and pigment into the 60 liter mixing bucket and start the mixer on speed 1.
Slowly add the first two bags into the mixture and gradually increase the speed to 3 or 4, keep the speed just below the threshold of splashing.
Turn the mixer off for a moment to clean the sides of the bucket, making sure there are no remaining lumps there.
Turn the mixer back on and gradually increase the speed while slowly adding the third bag.
The maximum speed of 6 must be reached halfway through adding the third bag.

When the mixer starts having difficulties drawing a vortex in the mixture, raise the mixer roughly 7.5 cm higher.

When all the cement has been added, scrape the sides again and wait until all the cement is incorporated into the mixture, there should be no white powder visible.
The mixture should be mixed again at maximum speed for three more minutes **using a timer!**

After 1,5 minutes, the mixer must be lowered down again and then mixed for the remaining 1,5 minutes.

NOTE: The timer is of great importance! The longer the mixing time, the thinner the mixture will become and colour deviation will occur between the different batches.
So, within one project, keep the mixing times and methods as **EXACT** as possible, the standard advice from Quartzline is three minutes mixing time.

When the three minutes has elapsed reduce the speed to 1 and turn the mixer off.
Transport the Quartzline Mobile Mixer to the application site and empty the bucket completely. Alternatively empty the Mobile Mixer as fast as you can into 20 liter buckets and transport the Cementitious SL to the application site. Be advised to change the 20 liter buckets in time due to the start of the binding / reaction of the cement at the bottom of the buckets.
Cementitious SL Decorative can only be used indoors and is not suitable for constant humidity.

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The floor should always be adhesively applied to a screed (not floating).

System construction

Primer: ALWAYS use a layer of **Primer Universal** underneath a Quartzline Cementitious SL system.
Start at the farthest corner and work towards the exit. On porous surfaces apply the floor primer using a pourer with a fine spray head, and spread it with a soft brush. On non-porous substrates apply the Primer Universal with a piled roller. Allow the primer to dry until filming occurs, recognizable by the transparent gloss. Remove or spread any pools of primer before finishing the floor. After film formation has occurred apply the floor mortar within 24 hours.

On a cement or calcium sulphate screed substrate, always apply a layer of “Quartzline Primer BHH” before the Primer Universal is applied.

For other substrates see the chart below.

Surface	Ratio primer/water	Consumption
Blasted Concrete	1:3	300 - 500 g/m^2
Monolithic Concrete	1:1	150 - 250 g/m^2
Wood	undiluted	300 g/m^2
Linoleum	1:1	150 g/m^2
PVC	1:1	150 g/m^2
Tiles	undiluted	150 g/m^2
Natural stone	undiluted	250 g/m^2
Steel	undiluted	250 g/m^2
Cementitious self-levellings	1:1	250 g/m^2

PRIMER CONSUMPTION IS INDICATIVE AND DEPENDS ON ALL KINDS OF FACTORS.

Very absorbent surfaces must be saturated with “Primer Universal” using the correct mixing ratio. This will prevent the substrate from absorbing water from the Cementitious SL mixture and avoid problems such as shrinkage, possible surface pores or a weak and dusty surface.

Primer BHH followed by a layer of Primer Universal is also a possibility to avoid these problems at absorbent surfaces at all times.

See Technical Data Sheet “Quartzline Primer Universal”

Wearing Course: ***Cementitious SL Constructive***

This layer can be sanded after 24 to 48 hours.
Remove all dust before coating.
CAUTION: The newly laid floor is very sensitive to dirt which will immediately penetrate the substrate and can be difficult to clean. Wear only socks or other suitable footwear to sand and coat the floor.

Make sure that wheels on sanding machines are clean so that no marks are made while sanding. We advise using masking tape around the wheels to cover them.

1st Topcoat: Coating CSL, to guarantee adhesion of the Coating PU MG.

2nd Topcoat: Coating PU MG to give the Cementitious SL Constructive an attractive matt or satin gloss finish.

As well as the aforementioned layers, it's also possible to finish the Constructive with any other Quartzline floor covering such as Quartzline SL-PU, SL-EP 2K, Coating EPG or Cementitious SL Decorative, …
Use the Constructive as a very strong levelling layer instead of the Cementitious Underlayment.

FOR EACH CEMENTITIOUS SYSTEM THE FOLLOWING APPLIES:
The substrate must be well saturated so that no suction can occur and there is enough water in the cement slurry to enable hydration of the cement.

The Quartzline Cementitious SL Constructive is part of the following system:

- **Quartzline Construct**

Consumption

The consumption of the Cementitious SL Constructive is 2.0 kg/m²/mm.

Layer thickness	Ready to use mortar consumption	Powder consumption
3 mm	6,00 kg	4,95 kg
4 mm	8,00 kg	6,60 kg
5 mm	10,00 kg	8,25 kg
6 mm	12,00 kg	9,90 kg

These figures are theoretical and do not allow for the possibility of additional material being required due to surface porosity, surface profile, variations in level or wastage etc.

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.

The concrete or screed substrate must be primed.

Uneven substrates must be levelled to achieve an even substrate. Use Quartzline Cementitious SL Underlayment or Cementitious SL Constructive.
Please see respective Technical Data Sheets for more information.

Allow any filling layers such as Cementitious SL Underlayment or Constructive to dry thoroughly, then sand them and again prime with “Quartzline Primer Universal” diluted 1 to 1.

With subsequent installations of floor coverings, cementitious screeds are required to display a residual a residual moisture content of < 2,0 CM-%. (Heating screeds < 1,8 CM-%)

CAUTION for Anhydrite:
Unfortunately Anhydrite / Calcium Sulphate screeds come in many different qualities.
Therefore Quartzline BV states that after vacuuming, the floor must be primed with “Quartzline Primer BHH” and then lightly broadcasted with 0,4 - 0,8 kiln dried sand.
Then one layer of undiluted “Quartzline Primer Universal”.
The anhydrite / Calcium Sulphate screeds are required to display a residual moisture content of < 0,5 CM-%. (Heating screeds < 0,3 CM-%)

Application conditions

Substrate temperature:	Minimum 8ºC, maximum +30 ºC
Ambient temperature:	Minimum 8ºC, maximum +30 ºC
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 3ºC higher than the dew point to prevent the formation of condensation and efflorescence or cement skin on the mortar surface.

Application

Processing time @ 20 ºC	25 minutes
Light traffic @ 20 ºC	24 hours

Fully Cured @ 20 ºC	28 days

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

Pour the self-levelling onto the primed surface and work with a trowel to achieve the required thickness.

Remove all doors before application

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

Make sure that all windows and doors are closed and avoid (block out) draft.
Depending on climate conditions the floor can be sanded at the earliest after twenty-four hours, but this is done preferably after forty-eight hours

The floor should be finished within 7 days in order to avoid any possible formation of cracks.

Remarks

Do not mix with other cement or cementitious floor products.

Cementitious SL Constructive is for interior use only and unsuitable for constant moisture loads.
The floor must always be adhered to a subfloor (never floating).

Freshly applied Cementitious SL Constructive 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.

Various mixers, mixing times, mixing speeds and the natural differences in raw materials of levelling mortars can cause colour differences in the end result.
To obtain the most consistent colour it is important to work in the cleanest possible work area and according to a set pattern.

Protect from direct sunlight, heat or 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 a result of too much water in the mixture or high air humidity whereby surface sedimentation occurs.

Cleaning/maintenance

For durability, all spillages must be removed as soon as possible and the floor should be cleaned regularly.
Avoid excessive water, and after mopping allow the floor to dry as quickly as possible.

DO NOT leave puddles on the floor.
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 the 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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