VICAFLOOR-SC430®

Edition 01022

Self-Compacting, Fast Setting, Cementitious Floor Topping

Description

Vicafloor-SC430 is a one component, Cementitious Topping based on **Vicat** Special Binders, graded siliceous fillers, redispersible polymers, mineral additives and admixtures.
When mixed with water, it produces a self-compacting topping for levelling, repairing & renovation of Concrete floors for thicknesses ranging from 6mm - 50mm. **Vicafloor-SC430** Can be grinded to expose the aggregates & dry polished using diamond disks after 7 days to a very shiny surface.
Vicafloor-SC430 is classified as **CT-C40-F5** According to **BS EN 13813:2002**

Advantages

- Fast Setting and drying.
- Self-compacting for easier application.
- 4 hours walk on time (+20°C).
- Good air release.
- Very low shrinkage minimizes cracking risks.
- Joint-less flooring can be achieved due to low shrinkage.
- Self-Curing in normal conditions (No wind or heat)
- High early strength with long term strength gain.
- Characteristics improvement over 10 years.
- Application thickness from 6mm to 50mm.
- Easy to use and economic.

Uses

Vicafloor-SC430 provides a durable, seamless, high strength, abrasion resistant floor.
Vicafloor-SC430 is ideally suitable either where the floor is subjected to severe conditions of service, or where ever a luxury floor is required such as ware houses, storage depots, supermarkets, garages, shopping centers …etc
Vicafloor-SC430 Can also be used as a self-compacting repair material.
Vicafloor-SC430 is supplied in different colors enabling decorative designs to be applied.

Technical characteristics

Color	Grey (other colors are available upon request)
Toxicity	Non-toxic
Maximum Aggregate Size	3 mm
Processing Conditions	10°C - 35°C & 35-75% RH, recommended 40-65%
Water/Powder ratio	0.12 - 0.14
Setting time @ 21° C	Initial ≈ 70 min. Final ≈ 90 min.
Workable time @ 21° C	30 - 45 min
Dry density	≈ 1.26 Kg/L
Fresh density	≈ 2.20 Kg/L
Adhesion to concrete substrate (Adhesion depends very much on proper surface preparation)	> 1.5 N/mm^2 (primed with Primer- A42)
Flow according to BS EN 1015-3 (Without Jolting)	30 Cm
Linear Shrinkage at 56d according to BS EN 12617-4 (%)	0.03% (Unrestrained)
Linear Expansion at 56d according to BS EN 12617-4 (%)	0.01% (Unrestrained)
Flexural strength at 28d according to BS EN 196-1 (MPa)	> 5 MPa

Compressive strength results according to BS EN 196-1 (MPa) (4x4x16 prisms)

Water/Powder ratio	Age		
	24 hours	**7 days**	**28 days**
0.12	20	30	40-42

Compressive strength is increasing thereafter.

Package & Coverage

Vicafloor-SC430 is supplied in 25 Kg packs.
After mixing with water, the 25 Kg pack yields about 12.0 liters of Flowable mortar covering about 1.2 m² of 10 mm thickness on an even surface. Consumption rate can be higher depending on the surface roughness.
Allowance should be made for any possible wastage when estimating.

Application Instructions

Surface preparation

A good floor topping is only as good as the preparation.
In order that maximum bond strength is achieved between the substrate and the floor topping, all concrete substrates should be sound, clean, and free from laitance, dust, loose particles, grease, oil or any other foreigner matter. The substrate must be rough, porous and load bearing. Any water leaks must be stopped and repaired following a proper repair procedure, using **Vicaseal Mortar** & **Vicaseal Injection** if required.

Priming

All substrates must be primed using a suitable primer such as **Primer- A42** and left to cure until the surface is tacky.
For porous substrates another coat of **primer-A42** may be applied after the curing of the first coat. If any steel rebar are uncovered, they should be protected first using **Vicasteel-CP** before priming. In extreme cases of absorbent subfloors, a second coat of primer is to be applied after the drying of the first coat. If higher bonding values are required, **Vicabond** or other suitable resinous primers including resinous primers with sand broadcasting can be used.

Mixing

- Add 3.0 - 3.25 liters of water to one **Vicafloor-SC430** 25 Kg bag.
- Either the powder or the water may be introduced first in the mixer, for best results introduce half of the water then all the powder then the remaining water quantity & continue mixing till homogeneity.
- A maximum 0.25 liter of additional water can be added under stirring until the desired consistency is achieved.
- Mechanical mixing using a Forced action mixer is essential for a rapid and homogeneous mix.
- Slow speed drill (300 - 600 rpm) with a helical paddle is also suitable for small quantities.

Application

- Make sure that the primer is tacky using your finger tip and there is no ponding and no bond breaking substance over the primer.
- **Vicafloor-SC430** will be laid on the prepared surfaces in one application by screeding.
- No joints are needed but those in the original floor should be respected in the topping.
- Set up the Screeding guides with a suitable span about 1.2 m to minimize any depressions.
- Pour **Vicafloor-SC430** in the formed zone and strike off any extras using a straight edge.
- Move the straight edge back and forth with a saw-like motion, then smooth using a smooth rake.
- Straight edging the surface, has the greatest effect on the surface tolerances. It should be performed over well leveled screed guides using straightedges specially made for this purpose including hollow magnesium straightedges.
- Temporary screed guides can be lumber, T bars …etc. which should be removed after the screed hardening.
- Permanent screed guides include metallic strips will remain as a part of the screed allow decorative designs or floor marking.
- Even surfaces can be obtained by proper straight edging prior to smoothing by mechanical grinding using diamond disks, and a very shiny surface can be obtained by dry polishing using diamond pads.
- Make sure to work in sections that can be finished within 15-20 min.
- **Vicafloor-SC430** is self-curing and doesn't require any additional curing; however it must be protected for 24 hours against direct sun light, wind and hot temperature.

The Application data fitted in this data sheet should be considered as a guide, however experience in field, site trials & applicators qualifications should be considered.

Precautions

- Protect the **Vicafloor-SC430** bags from direct sun rays or any other source of heat before use, this can lead to a very fast setting. Avoid working on hot substrates and avoid mixing with hot water.
- The temperature of **Vicafloor-SC430** & the elements coming into contact with it should be in the range of 5°C to 35°C.
- Never exceed the stated water dose and temperature to avoid bleeding, segregation and further cracking. Never remix with water to retrieve its initial workability.
- For application thickness other than the stated, please refer to our technical office.
- **Avoid contact with gypsum or any other sulfates on substrate, mixing water or curing water in plastic state.**

Storage & shelf life

Vicafloor-SC430 should be stored in normal temperature and closed shaded dry area in undamaged original packing.
It is recommended to be re-tested after 6 months from the production date.