

Cerrazzo

Thin-set epoxy terrazzo flooring

Description

Terrazzo floorings had descended directly from Rome, when Venetian mosaic workers discovered a way to reuse the marble remnants. These castoffs were mixed with cement, then ground and polished to expose the hidden chips, resulting in astonishing designs. Since then, the terrazzo floors, recognized for its glimmering beauty, started enticing architects all over the world. In recent years, cement was replaced by epoxy as binder which resulted into the growth of the third generation of thin set terrazzo floorings. Overcoming the deficiencies of cementitious terrazzo floorings, Cerrazzo employs a specially formulated epoxy resin, mixed with decorative marble, granite or glass chips, to bring out multi-coloured patterns and designs in vibrant shades.

Uses

Cerrazzo floorings are extensively used in airports, shopping malls, recreation areas, bars, clubs, retail stores to name a few.

Key features

- Thin-set, light weight and seamless
- Unlimited colours and patterns
- Stronger than concrete
- The lowest maintenance cost
- Non-staining and non-absorbent
- Extremely durable
- High wear resistance

Cerrazzo components

- Primer: Cipoxy 16
- Cerrazzo
- Cerrazzo grout
- Sealer coat: Duraseal

Directions to use

The concrete floors should be minimum 28 days old and be clean, dry and sound. The residual moisture should not be greater than 5%. The compressive strength of the concrete sub floor should be minimum 25 MPa. For surface preparation of concrete, refer to

SSPC-SP13/ NACE 6 "surface preparation of concrete" for detailed guidelines. The entire surface should be roughened by abrasive blasting to remove all laitance and obtain a surface profile of CSP 3. Crack detailing is necessary to ensure that fractures in the concrete substrate are not propagated into the Cerrazzo floor topping. Typically, crack detailing is achieved by the use of a flexible epoxy system, Cipothane 1000. As the substrate moves over time, the flexible epoxy expands and contracts to protect the terrazzo topping. Glass fibre mat can be laid over the flexi-epoxy layer to avoid crack propagation. Laitance needs to be removed together with all construction contaminants by vacuum assisted diamond grinding equipment or shot blasting.

Floor repairs : Cipicrete

Surface defects such as static cracks, honeycomb pitting, floor patches etc are filled up by an epoxy repair mortar, Cipicrete.

Storage

Store under warehouse conditions below 35°C in the original, unopened packs. If stored at high temperature and/or at high humidity conditions, the shelf life will be reduced.

Floor levelling: Ciposcreed HS

The floor surface should be perfectly even before Cerrazzo system is laid at the recommended thickness. All floor undulations are levelled by high strength epoxy self-levelling screed, Ciposcreed HS. Allow to cure overnight.

Installation of demarcation trims

Transition strips to be used are of heavy duty aluminium, brass or Zinc alloy. The depth will be equal to the specified Cerrazzo floor thickness(plus 2mm). The trims are installed at all terminations and either side of all movement joints. Where patterns are to be formed, the trims will be set out and marked on the floor and are then adhered by a suitable adhesive. Should curved patterns be required, serrated angle trim is used to permit the trim to be bent to shape.

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Performance Data:

Compressive strength ASTM C 579	: > 65 MPa
Flexural Strength ASTM D 790	: > 25 MPa
Tensile Strength ASTM D 638	: > 14 Mpa
Elongation ASTM D 638	: > 5%
Shore D Hardness ASTM D 2240	: > 75
Co-Efficient of Linear Thermal Expansion ASTM D 696 2003	: > 13.3x10 ⁻⁶
Adhesion ASTM D 4541	: >2.5 MPa
Flammability ASTM D 635	: 0.025 inch/min
Chemical Resistance (ASTM D1308)	: Isopropanol Ethanol : Sodium Hydroxide 10% : Hydrochloric Acid 10% : Sulphuric Acid 30%

Application of Cerrazzo

Primer: Cipoxy 16 : The prepared concrete substrate is primed using Cipoxy 16 @ 200 microns per coat. The primer is allowed to cure until tack free and for a maximum of 24 hours prior to being overlaid by Cerrazzo screed. If the substrate is found to be excessively porous, it may be necessary to apply a second coat of primer.

Cerrazzo Screed

Cerrazzo screed is supplied in a set of 4 component units, made up of resin, hardener, colour pack and decorative aggregates. The entire contents of the hardener component are added to the resin component and mixed with a slow speed electric mixer for 2-3 minutes until a homogenous mix has been achieved. Add the colour pack and aggregates under agitation and mixing continues for another 4-5 minutes so as to ensure that all decorative chips are fully wetted. The mixed material is then transferred to the screed box. The screed box is set to lay the screed at the desired depth (plus 2mm), in order to match the height of the demarcation trims. The screed box is pulled across the floor, leaving the required quantity of screed. The matrix is finished with a steel trowel to a flat and even finish. Allow the Cerrazzo screed to cure for a minimum of 3 hours after which it should be inspected to check the even distribution of the aggregates. If there are bald spaces appearing, these areas are topped up by applying freshly prepared screed and spreading evenly using the flat squeegee to fill the bald spaces. The screed is allowed to cure for a minimum 24 hours so as to acquire the required strength to withstand grinding and polishing operations.

Grinding

The purpose of the grinding process is to level the screed surface and evenly expose the aggregates. The Cerrazzo screed is ground dry, using vacuum assisted floor polishing and grinding equipment using 20 or 40 grit grinding heads. Multiple passes of the grinder will be required to remove approximately 2 mm of screed.

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Grouting

The grinding process using diamond grit grinders, exposes the voids caused by air bubbles in the screed and aggregate pop-outs, which are then filled up with Cerrazzo Grout. Cerrazzo Grout is a two component, viscous material containing resin and hardener. Unpack the two components and mix thoroughly using a slow speed electric mixer for 2-3 minutes. The grout is applied using a flat rubber squeegee or grout trowel and allowed to cure overnight. Re-grouting may be required if the voids still remain on the surface.

Polishing

Polishing operation is carried out using vacuum assisted floor polishing grinding equipment like HTC, Blastrac or similar. The polishing process is a multi-phase process where increasingly fine diamond polishing heads are used to produce the gloss level required.

Sealing

Over the polished Cerrazzo, an aliphatic PU sealer coat, Duraseal is applied to enhance gloss and wear resistance. Duraseal is poured directly onto the floor and spread with a flat mop to provide an even streak free finish and is allowed to cure for a minimum of 12 hours prior to opening the area to traffic.

Material Coverage & Pack Size:

■ Cipoxy 16	: 4-5 sqm / litre
■ Cerrazzo	: 20-22 kg / sqm
■ Cerrazzo Grout	: 5-8 sqm / kg
■ Duraseal	: 8-10 sqm / litre

Note: The above coverage rates are given for guidance only, as actual quantities used will vary depending upon the nature of substrate and design adopted at site.

Pack size

■ Cipoxy 16	: 5 litre / 20 litre
■ Cerrazzo	: Preweighed set
■ Cerrazzo Grout	: Preweighed set
■ Duraseal	: 5 litre

Health & Safety :

Cipoxy 16, Cerrazzo, Cerrazzo Grout, Duraseal should not come in contact with skin and eyes or be swallowed. Avoid prolonged inhalation of solvent vapours. Some people are sensitive to epoxy resins, hardeners and solvents. Gloves, goggles should be used. Ensure adequate ventilation and if working in enclosed areas use suitable breathing apparatus.

Disclaimer

All information contained in this data sheet is given to the best of our knowledge but no warranty is made with respect thereto. This data sheet becomes invalid as soon as a new edition has been published. Please contact us for latest edition. Description and advice regarding Cipy's products are based on long term field and laboratory tests carried out by us. No condition of warranty is given covering the results from the use of materials in the circumstances of any particular application, because the storage, handling and application of the materials are beyond our control.

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