Strongcoat Conductive

Self-leveling, epoxy resin system with conductive properties for floors and antistatic dissipative properties for walls

DESCRIPTION

Strongcoat Conductive is a self-leveling, flow-applied 2 mm thick epoxy resin floor topping with conductive properties, as well as electrostatic discharge material wall coating with anti-static properties.

The system comprises of an epoxy primer (Strongcoat Primer), highly conductive epoxy base coat (Strongcoat Conductive Base Coat) and epoxy topcoat available in two grades; horizontal grade for floor applications (Strongcoat Conductive Topcoat F) and vertical grade for wall applications (Strongcoat Conductive Topcoat W).

APPLICATIONS

Strongcoat Conductive has a resistance between 5 x 10^4 and 1 x 10^6 ohms. Strongcoat Conductive is suitable for use in areas where a static conductive floor is required, such as:

- Electronic manufacturing facilities.
- Hospital operation theatres.
- Hazardous dust and chemical environments.

ADVANTAGES

- Provides a conductive floor for static electricity to pass through to earth controlling static electricity.
- Provides anti-spark (spark-proof) whenever required for safety to prevent sparks.
- Provides a smooth finish.
- Hard wearing surface that can be subjected to heavy foot traffic and forklift traffic.
- Chemical resistant.

METHOD OF USE

SUBSTRATE PREPARATION

The substrate must be clean, dry, even, dense and free from oil, grease, dust and other contaminations. A clean surface will ensure maximum adhesion between the substrate and the coating. Concrete floors must have a minimum compressive strength of 25 MPa and a maximum concrete relative humidity of 80% (max. moisture content of 4%). Relative humidity can be measured by using hygrometers.

Concrete relative humidity should be less than 80% for concrete of 28 days old or more.

ELECTRICAL PROPERTIES FOR FLOORING SYSTEM:

Typical electrical resistance*: ASTM F150	5 x 10^4 to 1 x 10^6 ohms

**The electrical resistance values are for 2.0 mm thick topcoat when the system is applied in accordance with the mentioned instructions. Failure to follow these instructions may cause differences in these values. Consult DCP Technical Department for more information.*

PHYSICAL PROPERTIES FOR TOPCOAT F:

Colour:	Variable
Mixed density:	1.6 ± 0.1 g/cm³
Pot life:	40 - 60 min @ 25ºC
Cure time: Foot traffic Vehicular traffic	 24 hr @ 25ºC 48 hr @ 25ºC
Shore D hardness: ASTM D2240	85 ± 5 @ 14 days
Compressive strength: BS 6319-2	≥ 75 MPa @ 7 days
Flexural strength: ASTM C580	≥ 40 MPa @ 7 days
Tensile strength: ASTM C307	≥ 20 MPa @ 7 days
VOC:	< 50 g/ltr

PHYSICAL PROPERTIES FOR TOPCOAT W:

Colour:	Variable
Mixed density:	1.2 ± 0.1 g/cm³
Pot life:	1 - 2 hr @ 25ºC
Curing time:	7 days @ 25ºC
Taber abrasion resistance: (1000 g, 1000 cycle) ASTM D4060, weight loss CS17 wheel	80 milligram
VOC: ASTM D2369	< 20 g/ltr

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Unsound layers and contaminated concrete surfaces must be prepared using mechanical surface removing equipment. In case of areas deeply contaminated by oil or grease, such areas should be treated with hot compressed air.

PRIMING

Priming is required for flooring systems only. Concrete substrates should be primed with Strongcoat Primer. The primer should be allowed to cure for 24 hours. Use lambs wool roller to apply the primer. More than one coat may be required for highly porous or textured surfaces.

Self-adhesive copper tape should be firmly applied to the cured Strongcoat Primer so that no part of the floor is more than 2 meters away from the copper tape.

Make sure that the perimeter tape is overlapped and applied at 300 - 500 mm from the edge of the wall. Extend the copper tape to adequate number of earthing points depending on the floor area and condition.

Note: For the best results, always use a minimum of 2 earthing points even in small installations.

STRONGCOAT CONDUCTIVE BASE COAT

Stir each component of the Strongcoat Conductive Base Coat thoroughly before use. Transfer the entire contents of the base into the hardener container and, using a heavy-duty, slow-speed drill fitted with a mixing paddle, mix for at least 3 minutes until a uniform black colour is achieved.

Once mixing is complete, apply using a brush or lambswool roller.

STRONGCOAT CONDUCTIVE TOPCOAT F

Taking care to ensure that the bottom and sides are thoroughly scraped, transfer the entire contents of the resin and hardener and colour pack into a separate mixing container.

Using a jiffy-type mixer attached to a slow-running electric drill, mix for approximately for 2 minutes. Once the Strongcoat Conductive Topcoat F hardener, resin and colour pack have been mixed, transfer the entire contents into a Casco or Creteangel-type mixer, ensuring that the bottom and sides are thoroughly scrapped.

Start the mixer and add the entire contents of the Strongcoat Conductive Topcoat F filler container, making sure that the filler is completely dry and free of lumps.

Continue mixing for approximately 2 minutes. Once mixing is complete, apply the mixed materials to the primed surface at the required thickness using a rack.

PHYSICAL PROPERTIES FOR BASE COAT:	
Colour:	Black
Mixed density:	1.05 ± 0.05 g/cm^3
Pot life:	50 min @ 25°C
Tack free time:	2 - 3 hr @ 25°C

CHEMICAL RESISTANCE Occasional spillage after full cure (7 days @ 25°C)	
Lactic Acid 10%	R
Oleic Acid sat.	R
Citric Acid 25%	R
Vinegar 10%	R
Sodium Hydroxide 50%	R
Ammonia Solution 10%	R
Sodium Chloride sat	R
Water	R
Chlorinated Water	R
Dead Sea Water	R
White Spirit	R
Xylene	R
Acetone	R
Benzyl Alcohol	R
Brake Fluid	R
Diesel	R
Kerosene	R
Sulphuric Acid 25%	R
Phosphoric Acid 20%	RS + SS
Hydrochloric Acid 36%	RS + SS
Nitric Acid 10%	RS

R: Resistant
RS: Resistant with slight discolouration
SS: Slight softening

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Care should be taken when joining lanes to achieve a smooth connection. It is recommended to mask off edges with tape, which should be removed while the product is still wet.

Spike-roll the surface thoroughly while the material remains wet to ensure a uniform finish.

STRONGCOAT CONDUCTIVE TOPCOAT W

Stir each component of the Strongcoat Conductive Topcoat W thoroughly before use. Mix the hardener with a drill for 2 minutes until uniform. Transfer the entire contents of the base into the hardener container and mix for at least 3 minutes until a uniform mixture is achieved.

Apply the mixed Strongcoat Conductive Topcoat W to the prepared surfaces using a brush, lambswool roller, or airless spray machine.

Apply two coats of Strongcoat Conductive Topcoat W at a coverage rate of 6 m²/kg per coat. The second coat should be applied at a right angle to the first coat.

The second coat may be applied as soon as the first coat has initially dried. Drying time will vary depending on the substrate and ambient conditions. If the maximum overcoating interval is exceeded, the first coat must be abraded with sandpaper before applying the second coat.

Ensure adequate ventilation is provided to allow proper drying and curing of the material.

PACKAGING

Strongcoat Primer: 5 kg packs.
Strongcoat Conductive Basecoat: 5 kg packs.
Strongcoat Conductive Topcoat F: 15 kg packs.
Strongcoat Conductive Topcoat W: 5 & 20 kg packs.

COVERAGE

Strongcoat Primer: 5 m²/kg @ 200 micron DFT.
Strongcoat Conductive Basecoat: 7.5 m²/kg @ 125 micron WFT.
Strongcoat Conductive Topcoat F: 3.2 kg/m² @ 2 mm DFT.
Strongcoat Conductive Topcoat W: 6 m²/kg @ 70 micron DFT.

Actual coverage can vary depending on the substrate conditions.

STORAGE

Strongcoat Conductive has a shelf life of 12 months from date of manufacture if stored at temperatures between 10°C and 35°C.

The material may form crystals when stored at temperatures below 10°C, in such cases, conditioning for 1 - 2 days at temperatures between 30 - 35°C with simple manual mixing is needed before application.

If these conditions are exceeded, contact DCP Technical Department for advice.

CAUTIONS

HEALTH AND SAFETY

Strongcoat Conductive should not come into contact with skin and eyes.
In case of contact with eyes, immediately flush with plenty of water and seek medical attention.

For further information, refer to the Material Safety Data Sheet.

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