

# Strongcoat Conductive

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



## DESCRIPTION

Strongcoat Conductive provides 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 top coat available in two grades; horizontal grade for floor applications (Strongcoat Conductive Top Coat F) and vertical grade for wall applications (Strongcoat Conductive Top Coat W).

## APPLICATIONS

Strongcoat Conductive flooring system has a resistance between  $5 \times 10^4$  and  $1 \times 10^6$  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

- » Provide 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.
- » Alternative 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 N/mm<sup>2</sup> 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:

Surface resistance: ASTM F150-78	$5 \times 10^4$ to $1 \times 10^6$ ohms
Bulk resistance: DIN 51953	$5 \times 10^4$ to $1 \times 10^6$ ohms
Charge decay: (Fed. Spec. 101C Method 4046)	5000v to zero in less than 0.1 sec

### PHYSICAL PROPERTIES FOR TOP COAT F:

Colour:	Variable
Shore D hardness: ASTM D2240	$85 \pm 5$ @ 14 days
Compressive strength: BS 6319, Part 2:1983	$\geq 75$ MPa @ 7 days
Flexural strength: ASTM C580	$\geq 40$ MPa @ 7 days
Tensile strength: ASTM C307	$\geq 20$ MPa @ 7 days
Cure time:	
Foot traffic	24 hr @ 25°C
Vehicular traffic	48 hr @ 25°C
Mixed density:	$1.6 \pm 0.1$ g/cm <sup>3</sup>
Pot life:	40 - 60 min @ 25°C
VOC:	< 50 g/ltr

### PHYSICAL PROPERTIES FOR TOP COAT W:

Colour:	Variable
Curing time:	7 days @ 25°C
Pot life:	1 - 2 hr @ 25°C
Mixed density:	$1.2 \pm 0.1$ g/cm <sup>3</sup>
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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## SURFACE PREPARATION

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 system 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.

## STRONGCOAT CONDUCTIVE BASE COAT

Prior to mixing, stir the two components of Strongcoat Conductive base coat (base & hardener). The entire contents of the base container should be poured into the hardener container and the two materials mixed thoroughly for at least 3 minutes till achieving a uniform black colour.

The use of a heavy duty slow speed drill fitted with a mixing paddle is recommended. Application is done by using a brush or lambs wool roller.

## STRONGCOAT CONDUCTIVE TOP COAT 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 Top Coat F hardener, resin and colour pack have been mixed, transfer the entire contents into a Casco or Creteangel-type mixer, taking care to ensure that the bottom and sides are thoroughly scrapped.

Start the mixer and transfer to it the entire contents of the Strongcoat Conductive Top Coat F filler container, taking care to ensure that these are completely dry and lump-free.

Continue mixing for approximately 2 minutes. Once mixing is complete, transfer the mixed materials to the prime surface at the required thickness by rack.

## PHYSICAL PROPERTIES FOR BASE COAT:

Colour:	Black
Mixed density:	1.05 ± 0.05 g/cm <sup>3</sup>
Pot life:	1 - 4 hr @ 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 discoloration*

*SS: Slight softening*

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## COVERAGE

Strongcoat Primer: 5 m<sup>2</sup>/kg @ 200 micron DFT.

Strongcoat Conductive Top Coat F: 3.2 kg/m<sup>2</sup> @ 2 mm DFT.

Strongcoat Conductive Top Coat W: 6 m<sup>2</sup>/kg @ 70 micron DFT.

Strongcoat Conductive Base Coat: 7.5 m<sup>2</sup>/kg @ 125 micron WFT.

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 5°C and 30°C.

If these conditions are exceeded, DCP Technical Department should be contacted for advise.

## CAUTIONS

### HEALTH AND SAFETY

Strongcoat Conductive should not come into contact with skin and eyes.

In case of contact with eyes wash immediately with plenty of water and seek medical advise promptly.

For further information refer to the Material Safety Data Sheet.

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

While still wet, thoroughly spike roll the product.

## STRONGCOAT CONDUCTIVE TOP COAT W

Prior to mixing, stir individual components of Resin, Hardener. Drill the hardener for 2 minutes till it is uniform. Add the entire contents of the base container to the hardener and mix thoroughly for at least 3 minutes.

Use brush or lambs wool roller, or airless spray machine to apply the mixed Strongcoat Conductive Top Coat W on the prepared surfaces.

Apply 2 coats of Strongcoat Conductive Top Coat W at 6 m<sup>2</sup>/kg per coat, 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 depend on the substrate and the ambient conditions. If the over coating time is exceeded the first coat must be abraded with sand paper prior to the application of the second coat.

Adequate ventilation must be provided to ensure that necessary drying and curing of the material is achieved

## PACKAGING

Strongcoat Primer: 5 kg packs.

Strongcoat Conductive Top Coat F: 15 kg packs.

Strongcoat Conductive Top Coat W: 5 & 20 kg packs.

Strongcoat Conductive Base Coat: 5 kg packs.

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## MORE FROM DON CONSTRUCTION PRODUCTS

A wide range of construction chemical products are manufactured by DCP which include:

- » Concrete admixtures.
- » Surface treatments
- » Grouts and anchors.
- » Concrete repair.
- » Flooring systems.
- » Protective coatings.
- » Sealants.
- » Waterproofing.
- » Adhesives.
- » Tile adhesives and grouts.
- » Building products.
- » Structural strengthening.

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#### Note:

We endeavour to ensure that any information, advice or recommendation we may give in product literature is accurate and correct. However, because we have no control over where and how products are applied, we cannot accept any liability arising from the use of the products.

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