Strongcoat HB400

Solvent free high build epoxy floor coating for 200 to 400 microns thickness

DESCRIPTION

Strongcoat HB400 is a high build, hard wearing, solvent free epoxy resin coating, designed to provide a hard and glossy coating to concrete floors. It is supplied as a coloured base (resin) and hardener in pre-weighted quantities ready for onsite mixing and use.

Strongcoat HB400 permits the application of floor coatings at 200 - 400 microns per coat and can be supplied in different colours to suit the site requirements.

With the addition of Antislip Aggregate (Slip resistant aggregate) between coats, slip resistant floor system can be achieved with a build up thickness between 1.3 - 2.0 mm.

APPLICATIONS

Strongcoat HB400 is used as protective, decorative, high chemical resistance and hard wearing floor coating system for a wide range of applications including:

- Aircraft hangars.
- Car parks.
- Soft drink and beverage production areas.
- Dairies production areas.
- Show rooms.
- Production, maintenance and assembly areas.
- Warehouses.
- General food processing and manufacturing plants.

ADVANTAGES

- High chemical and mechanical resistance.
- Available in a wide range of attractive colours.
- Cost effective.
- Easy application.
- High build.
- Can be applied from 200 - 400 microns thickness per coat.
- Can be applied in slip resistant finishes.

STANDARDS

Strongcoat HB400 complies with BS 476, Part 7:1987, Class 1 Spread of Flame.

TECHNICAL PROPERTIES:

Colour:	Available in different colours
Mixed density:	1.5 ± 0.1 g/cm³
Solid contents:	100%
Pot life:	60 - 80 min @ 25°C 30 - 50 min @ 35°C
Minimum time between coats:	12 hr @ 25°C 6 hr @ 35°C
Maximum time between coats:	36 hr @ 25°C 18 hr @ 35°C
Full curing time:	7 days @ 25°C 5 days @ 35°C
Compressive strength: BS 6319-2	≥ 70 MPa @ 7 days
Flexural strength: EN 13892-2	≥ 40 MPa @ 7 days
Tensile strength: BS 6319-7	≥ 14 MPa @ 7 days
Bond strength on C25/30 concrete: ASTM D4541 EN 1542	≥ 2.0 MPa @ 7 days (concrete failure)
Impact resistance: ISO 9272	≥ 9.8 N.m
Water absorption: ASTM D570	< 0.25%
Taber abrasion resistance: (1000 g, 1000 cycle) ASTM D4060, weight loss CS17 wheel	≤ 60 milligram
VOC: ASTM D2369	≤ 10 g/ltr (complies with LEED)

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METHOD OF USE

SUBSTRATE PREPARATION

The substrate must be clean, dry, even, dense and free from oil, grease, dust and other contaminants. A clean surface will ensure maximum adhesion between the substrate and the coating.

Concrete floors must have a minimum compressive strength of 25 N/mm² and a maximum concrete relative humidity of 75% (max. moisture content of 4%), relative humidity can be measured using a hygrometer. Concrete relative humidity should be less than 75% for concrete 28 days old or more.

SURFACE PREPARATION

Unsound layers and contaminated concrete surfaces must be prepared using mechanical surface removing equipment. Acid etching can be used only in well ventilated areas. Areas deeply contaminated by oil or grease, such areas should be treated by hot compressed air.

PRIMING

Strongcoat HB400 is designed to be used without a primer. However, for highly porous substrates, Strongcoat Primer S is recommended.

MIXING

To avoid inconsistent workability and pot life, make sure that the materials to be used are stored in shaded area and protected from extremes of temperatures, for at least 24 hours prior to application.

Prior to mixing, stir well the individual components of the coloured base and hardener to eliminate any deposits. Add the entire contents of the hardener container to the base container and mix thoroughly using a slow speed drill mixer (i.e. 300 - 500 rpm) fitted with helix type paddle for approximately 3 minutes until uniform colour is achieved.

Take care to ensure that the bottom and sides of the hardener part are thoroughly scraped. Partial mixing is not allowed.

OCCASSIONAL SPILLAGE.

Chemical Resistance after full cure (7 days @ 25°C), ASTM D1308 (Spot - test @ 1 hr)

Organic Acids	
Oleic Acid sat.	R
Citric Acid 25%	R
Acetic Acid 5%	RS + SS
Acetic Acid 10%	RS + SS
Yogurt	R
Lactic Acid 10%	RS
Inorganic Bases	
Sodium Hydroxide 50%	R
Ammonia Solution 10%	R
Potassium Hydroxide 50%	R
Aquous Solutions	
Sodium Chloride sat	R
Hydrogen Peroxide 2%	R
Tap Water	R
Chlorinated Water	R
Dead Sea Water	R
Solvents	
White Spirit	R
Xylene	R
Toluene	R
Acetone	R
Oils & Fuels	
Benzyl Alcohol	SS
Brake Fluid	R
Engine Oil	R
Diesel	R
Kerosene	R
Detergents & Soaps	R

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COATING

Use brush or lamb wool roller to apply the mixed Strongcoat HB400 onto the prepared surfaces. A minimum film thickness of 200 microns must be applied per one coat of Strongcoat HB400 at 3 m²/kg per coat.

A second coat with a minimum film thickness of 200 microns 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. When Strongcoat Primer S is used at a rate of 5 m²/kg, it will give a dry film thickness between 150 - 175 microns with a clear yellow glossy finish.

ANTISLIP APPLICATION

The base coat should be applied at a minimum film thickness of 250 microns and then fully blinded with the chosen Antislip Aggregate. Once the base coat has reached initial cure, all excess aggregates should be removed before a further application of Strongcoat HB400 top coat.

The top coat should be applied at a minimum film thickness of 400 - 750 microns depending on Antislip Aggregate size used.

REMARKS

- Strongcoat HB400 should not be applied when the ambient or substrate temperature is below 10˚C or where ambient relative humidity exceeds 80%. At low application temperatures (i.e. below 15˚C) it is recommended to store the unmixed materials at warm conditions (i.e. around 25˚C) 24 hours prior to the application.
- Strongcoat HB400 should not be applied on surfaces which are known to suff er from rising damp. If the concrete humidity exceeds 75%, Strongcoat DPM should be used. Consult DCP's Technical Department for more information.
- A minimum thickness of 200 microns per coat should be applied to obtain a smooth finish.

CLEANING

Tools and equipment can be cleaned with DCP Solvent when it is wet. Dried Strongcoat HB400 may be removed mechanically.

OCCASSIONAL SPILLAGE.

Chemical Resistance after full cure (7 days @ 25°C), ASTM D1308 (Spot - test @ 1 hr)

Inorganic Acids	
Sulphuric Acid 25%	RS + SS
Sulphuric Acid 40%	RS + SS
Phosphoric Acid 20%	RS + SS
Hydrochloric Acid 10%	RS + SS
Hydrochloric Acid 32%	RS + SS
Nitric Acid 10%	R

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

PACKAGING

Strongcoat HB400 is available in 6 kg (4 litre), 18 kg (12 litre), and 27 kg packs (18 litre).

COVERAGE

Standard coverage:
Strongcoat Primer S: 5 m²/kg.
Strongcoat HB400 (base coat): 0.30 kg/m².
Strongcoat HB400 (top coat): 0.30 kg/m².
Approximate system thickness: 400 - 600 microns.

Antislip coverage When used with Antislip Aggregate #2 to achieve medium texture:
Strongcoat Primer S: 5 m²/kg.
Strongcoat HB400 (base coat): 0.38 kg/m².
Antislip aggregate #2: 2.0 – 4.0 kg/m².
Strongcoat HB400 (top coat): 0.57 kg/m².
Approximate system thickness: 2.0 mm.

Antislip coverage When used with Antislip Aggregate #3 to achieve fine texture:
Strongcoat Primer S: 5 m²/kg.
Strongcoat HB400 (base coat): 0.38 kg/m².
Antislip aggregate #3: 2.0 – 4.0 kg/m².
Strongcoat HB400 (top coat): 0.47 kg/m².
Approximate system thickness: 1.3 mm.

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STORAGE

Store in a dry area out of direct sunlight at temperatures between 5°C and 35°C.

SHELF LIFE

Strongcoat HB400 has a shelf life of 12 months from date of manufacture if stored in proper conditions and un-opened packs.

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

CAUTIONS

HEALTH AND SAFETY

Strongcoat HB400 should not come in contact with skin and eyes.
In case of accidental splashes to the eyes, rinse thoroughly with clean water and seek medical advise. Suitable protective gloves and goggles should be worn.
Do not use solvent to clean Strongcoat HB400 from skin.

For further information refer to the Material Safety Data Sheet.

FIRE

Strongcoat HB400 is nonflammable. Strongcoat Primer S and DCP Solvent are flammable. Ensure adequate ventilation. Do not use near a naked flame and do not smoke during use.

Flash Point:
DCP Solvent: 37°C.

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

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