

# Strongcoat HB

Solvent free high build epoxy floor coating for thickness up to 200 microns in one coat (Formerly known as Strongcoat HB60)



## DESCRIPTION

Strongcoat HB is a high build, hard wearing, solvent free epoxy resin coating, designed to provide a hard, gloss coating to concrete floors. It is supplied as two pack material in addition to a colour pack in preweighted quantities ready for on site mixing and use.

Strongcoat HB permits the application of floor coatings in excess of 200 microns per coat and can be coloured to suit site requirements.

With the addition of Antislip Aggregate (Slip resistant aggregate No. 2 or 3) between coats, slip resistant floor system can be achieved with a build up thickness between 1.25 to 2 mm.

## APPLICATIONS

Strongcoat HB 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.
- » Hospitals.
- » Production, maintenance and assembly areas.
- » Warehouses.
- » General food processing and manufacturing plants.

## ADVANTAGES

- » Produces a seamless, glossy, glass-like surface that is both easy to clean and does not induce bacterial and fungal growth.
- » High chemical and mechanical resistance.
- » Available in a wide range of attractive colours.
- » Cost effective.
- » Easy application.
- » High build.
- » Hydrocarbon resistant.

## STANDARDS

Strongcoat HB complies with the requirements of EN 1504-2, Surface Protection Systems principle 5.1.

## TECHNICAL PROPERTIES @ 25°C:

|  |   |
|--|---|
| Colour:  | Available in different colours            |
| Mixed density:   | 1.40 ± 0.05 g/cm <sup>3</sup>             |
| Solid contents:  | 100%                                      |
| Pot life:  | 60 - 100 min @ 25°C<br>20 - 40 min @ 35°C |
| Minimum time between coats:  | 12 hr @ 25°C<br>6 hr @ 35°C               |
| Maximum time between coats:  | 36 hr @ 25°C<br>18 hr @ 35°C              |
| Full curing time:  | 7 days @ 25°C<br>5 days @ 35°C            |
| Compressive strength: BS 6319-2  | ≥ 80 MPa @ 7 days                         |
| Flexural strength: EN 13892-2  | ≥ 30 MPa @ 7 days                         |
| Tensile strength: ASTM D638  | ≥ 20 MPa @ 7 days                         |
| Bond strength on C25/30 concrete: ASTM D4541 EN 1542                               | ≥ 2 MPa @ 7 days (concrete failure)       |
| Shore D hardness @ 14 days: ASTM D2240   | 85  |
| Water absorption: ASTM D570  | ≤ 0.15%                                   |
| Taber abrasion resistance: (1000 g, 1000 cycle) ASTM D4060, weight loss CS17 wheel | ≤ 65 milligram                            |
| VOC: ASTM D2369  | ≤ 10 g/ltr (comply 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/mm<sup>2</sup> and a maximum concrete relative humidity of 80% (max. moisture content of 4%), relative humidity can be measured using a hygrometer.

Concrete relative humidity should be less than 80% 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 HB is designed to be used without a primer. However, for highly porous substrates, Strongcoat Primer or 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 individual components of Resin, Hardener and colour pack. Add the entire content of the colour pack into the base container and mix with heavy duty drill for 2 minutes till a uniform colour is achieved. Add the entire contents of the hardener container to the mixed colour pack and base and mix thoroughly for at least 3 minutes.

| Performance characteristics   | EN 1504-2 requirements   | Measured value                                  |
|---|--|---|
| Abrasion resistance:<br>(1000 g, 1000 cycles)<br>EN ISO 5471-1<br>H22 wheel | ≤ 3000 mg  | ≤ 1500 mg                                       |
| Impact resistance:<br>EN ISO 6272-1   | ≥ 10 N.m   | ≥ 10 N.m<br>(Class II)                          |
| Capillary water absorption:<br>EN 1062-3                                    | < 0.1 kg/m <sup>2</sup> .h <sup>0.5</sup>                              | ≤ 0.005 kg/m <sup>2</sup> .h <sup>0.5</sup>     |
| Adhesion strength:<br>EN 1542   | ≥ 1 MPa<br>w i t h o u t<br>trafficking<br>≥ 2 MPa with<br>trafficking | ≥ 3.0 MPa<br>(Rigid system with<br>trafficking) |

### 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%  | R       |
| Acetic Acid 10% | SS      |
| Yogurt          | R       |
| Lactic Acid 10% | RS + SS |

#### Inorganic Bases

|                         |   |
|-------------------------|---|
| Sodium Hydroxide 50%    | R |
| Ammonia Solution 10%    | R |
| Potassium Hydroxide 50% | R |

#### Aqueous Solutions

|                      |   |
|----------------------|---|
| Sodium Chloride sat  | R |
| Hydrogen Peroxide 2% | R |
| Tap Water            | R |
| Chlorinated Water    | R |
| Dead Sea Water       | R |

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## COATING

Use brush or lambs wool roller, or airless spray machine to apply the mixed Strongcoat HB onto the prepared surfaces.

To get a film thickness of 400 microns, apply 2 coats of Strongcoat HB at 3.5 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.

When Strongcoat Primer is used at a rate of 5 m<sup>2</sup>/kg, it will give a dry film thickness between 120 - 150 microns with a clear yellow glossy finish.

## ANTISLIP APPLICATION

The base coat should be applied at a minimum film thickness of 200 - 250 microns depending on Antislip Aggregate used 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 HB top coat.

The top coat should be applied at a minimum film thickness of 290 - 320 microns depending on Antislip Aggregate size used.

## REMARKS

- » Strongcoat HB should not be applied at temperatures below 10°C or where ambient relative humidity exceeds 85%.
- » Strongcoat HB should not be applied onto surfaces known to suffer from rising damp.
- » In case of spray applications, airless spray machines should be used.
- » A minimum thickness of 150 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 HB may be removed mechanically.

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## OCCASSIONAL SPILLAGE

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

### Solvents

|                  |   |
|------------------|---|
| White Spirit     | R |
| Xylene           | R |
| Toluene          | R |
| Acetone          | R |
| Ethanol          | R |
| Ethyl Acetate    | R |
| N Propanol       | R |
| Methoxy Propanol | R |

### Oils & Fuels

|                    |   |
|--------------------|---|
| Brake Fluid        | R |
| Engine Oil         | R |
| Diesel             | R |
| Kerosene           | R |
| Detergents & Soaps | R |

### Inorganic Acids

|                       |    |
|-----------------------|----|
| Sulphuric Acid 25%    | R  |
| Sulphuric Acid 50%    | R  |
| Phosphoric Acid 20%   | RS |
| Hydrochloric Acid 10% | R  |
| Hydrochloric Acid 32% | RS |
| Hydrochloric Acid 50% | RS |
| Nitric Acid 10%       | R  |

*R: Resistant*

*RS: Resistant with slight discoloration*

*SS: Slight softening*

## CHEMICAL RESISTANCE:

**Based on test method ASTM D543, after 7 days immersion in the below chemicals**

|                          |    |
|--------------------------|----|
| Hydrochloric Acid 32%    | RS |
| Hydrochloric Acid 50%    | RS |
| Sulphuric Acid 25%       | R  |
| Sulphuric Acid 50%       | R  |
| Sodium Hydroxide 50%     | R  |
| Petrol                   | R  |
| Kerosene                 | R  |
| Skydrol                  | R  |
| Engine Oil               | R  |
| Brake Fluid              | R  |
| Saturated Sugar Solution | R  |

*R: Resistant*

*RS: Resistant with slight discoloration*



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## PACKAGING

Strongcoat HB is available in 6 kg packs (4.25 litre), 18 kg packs (12.75 litre) and 30 kg packs (21.3 litre).

## COVERAGE

### *Standard coverage:*

Strongcoat Primer S: 5 m<sup>2</sup>/kg.  
Strongcoat HB (base coat): 0.28 - 0.29 kg/m<sup>2</sup>.  
Strongcoat HB (top coat): 0.28 - 0.29 kg/m<sup>2</sup>.  
Approximate system thickness: 500 - 600 microns.

### *Antislip coverage when used with Antislip Aggregate #2 to achieve medium texture:*

Strongcoat Primer S: 5 m<sup>2</sup>/kg.  
Strongcoat HB (base coat): 0.35 kg/m<sup>2</sup>.  
Antislip aggregate #2: 2.0 - 4.0 kg/m<sup>2</sup>.  
Strongcoat HB (top coat): 0.45 kg/m<sup>2</sup>.  
Approximate system thickness: 2.0 mm.

### *Antislip coverage when used with Antislip Aggregate #3 to achieve fine texture:*

Strongcoat Primer S: 5 m<sup>2</sup>/kg.  
Strongcoat HB (base coat): 0.30 kg/m<sup>2</sup>.  
Antislip aggregate #3: 2.0 - 4.0 kg/m<sup>2</sup>.  
Strongcoat HB (top coat): 0.40 kg/m<sup>2</sup>.  
Approximate system thickness: 1.25 mm.

## STORAGE

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

## SHELF LIFE

Strongcoat HB 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 advice.

## CAUTIONS

### HEALTH AND SAFETY

Strongcoat HB 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 advice. Suitable protective gloves and goggles should be worn.

Do not use solvent to clean Strongcoat HB from skin.

For further information refer to the Material Safety Data Sheet.

### FIRE

Strongcoat HB 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 repair.
- » Flooring systems.
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- » Waterproofing.
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- » Tile adhesives and grouts.
- » Building products.
- » Structural strengthening.

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