

# Strongcoat 400

Nontoxic solvent free epoxy protective coating for concrete and metal



## DESCRIPTION

Strongcoat 400 is a solvent free, non-toxic; high build epoxy resin protective coating with outstanding chemical and mechanical properties. Strongcoat 400 is supplied as a two component product in pre-weighed base and hardener packs, ready for site mixing.

## APPLICATIONS

Strongcoat 400 is designed for internal applications such as:

- » Heavy duty protective coating for concrete and steel.
- » Internal protective lining for potable water concrete or steel tanks.
- » Heavy duty wall and floor coating in food processing plants, grain silos, dairies, breweries, hospitals, pharmaceutical industries and car parks.
- » High chemical resistant protective coating for power stations, oil refineries, and sewage treatment plants.

## ADVANTAGES

- » Approved for use in contact with potable water.
- » Produces a seamless, glossy, glass-like surface that is both easy to clean and does not induce bacterial and fungal growth.
- » Excellent resistance to a variety of chemicals.
- » Easy to clean with a smooth, hard and glossy finish.
- » Non-toxic.
- » Exhibits good mechanical properties.
- » Resistant to sewage effluents.

## STANDARDS

Strongcoat 400 complies with the requirements of BS 6920:2000.

## METHOD OF USE

### SUBSTRATE PREPARATION

#### Concrete surfaces:

The Substrate should be sound, clean and free from contamination. Surface Laitance should be removed by grit blasting or water jetting. All exposed blow holes should be filled with epoxy paste using Quickmast 341.

#### Steel surfaces:

All surfaces should be grit blasted to reach a bright finish meeting the requirement of Swedish Standard SA 2 1/2.

## TECHNICAL PROPERTIES:

|  |  |
|--|--|
| Specific gravity:  | 1.55 ± 0.10                            |
| Solid content:   | 100%                                   |
| Colour:  | Various                                |
| Bond strength over C25/30 concrete: ASTM D4541                                     | ≥ 2 MPa @ 7 days (substrate failure)   |
| Pot life:  | 100 min @ 25°C<br>45 min @ 35°C        |
| Re-coatable time: Minimum Maximum  | 4 hr @ 25°C<br>24 hr @ 25°C            |
| Full cure:   | After 7 days @ 25°C                    |
| Chemical resistance:   | Refer to DCP chemical resistance table |
| Compressive strength: BS 6319-2  | ≥ 80 MPa @ 7 days                      |
| Tensile strength: BS 6319-7  | ≥ 18 MPa @ 7 days                      |
| Flexural strength: ASTM D580   | ≥ 30 MPa @ 7 days                      |
| Taber abrasion resistance: (1000 g, 1000 cycle) ASTM D4060, weight loss CS17 wheel | 70 milligram                           |
| VOC: ASTM D2369  | < 20 g/ltr (comply with LEED)          |

## PRIMING

Strongcoat 400 is designed to be applied over wellprepared steel and concrete substrates directly without a primer. If the application will be taken place over other substrates, please consult DCP's Technical department for advice.

## MIXING

To ensure proper mixing, a mechanically powered mixer or drill fitted with a suitable paddle should be used. Stir the content of each component separately to disperse any settlement. Add the entire content of the hardener to the base and mix for 3 minutes and until a uniform colour and consistency are achieved.



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## APPLICATION

Strongcoat 400 can be applied by brush; roller or airless spray machine. The first coat should be applied to obtain a continuous uniform coating.

The second coat should be applied within the over coating time to achieve the maximum adhesion between the two coats.

### Notes:

- » Strongcoat 400 should not be applied over existing coatings. However it can be applied on top of itself, by maintaining the mentioned over coating time.
- » Application should not be undertaken if the temperature is below 5oC, nor when the relative humidity exceeds 90%.
- » Application should not be carried out, when there is standing or running water.
- » Strongcoat 400 is not colour stable when exposed to direct sun light nor when in contact with some chemicals. However this colour change does not affect the performance of the coating.
- » Precaution is recommended if the application is taking place at high temperatures (above 30oC).

## CLEANING

All tools should be cleaned immediately after application using DCP Solvent. Hardened materials must be cleaned mechanically.

## PACKAGING

Strongcoat 400 is available in 5 kg packs (3.2 litre) and 20 kg (12.9 litre) packs.

## COVERAGE

Approximately 0.30 - 0.35 kg/m<sup>2</sup> per coat. Two coats should be applied to achieve a total of 400 microns dry film thickness.

## STORAGE

Strongcoat 400 has a shelf life of 12 months from date of manufacture if stored in dry conditions at room temperature in original unopened Packs

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

## OCCASSIONAL SPILLAGE

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

### Organic Acids

|                 |    |
|-----------------|----|
| Oleic Acid sat. | RS |
| Citric Acid 25% | R  |
| Vinegar 10%     | SS |

### Inorganic Bases

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

### Aqueous Solutions

|                     |   |
|---------------------|---|
| Sodium Chloride sat | R |
| Tap Water           | R |
| Chlorinated Water   | R |
| Dead Sea Water      | R |

### Solvents

|              |    |
|--------------|----|
| White Spirit | R  |
| Xylene       | SS |
| Toluene      | R  |
| Acetone      | R  |

### Oils & Fuels

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

### Inorganic Acids

|                       |         |
|-----------------------|---------|
| Sulphuric Acid 25%    | RS      |
| Phosphoric Acid 20%   | RS + SS |
| Hydrochloric Acid 10% | RS      |
| Nitric Acid 25%       | RS      |

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## CAUTIONS

### HEALTH AND SAFETY

Strongcoat 400 should not come in contact with skin or eyes. Goggles and gloves should be used.  
In case of accidental contact with eyes, immediately flush with plenty of water for at least 10 minutes and seek medical advice if necessary.

For further information refer to the Safety Data Sheet.

### FIRE

Strongcoat 400 is not flammable.

## CHEMICAL RESISTANCE

**Based on test method ASTM D1308, after 7 days immersion in the below chemicals.**

|                       |    |
|-----------------------|----|
| Nitric Acid 10%       | RS |
| Phosphoric Acid 20%   | RS |
| Hydrochloric Acid 10% | RS |
| Vinegar 5%            | RS |
| Sulphuric Acid 25%    | RS |
| Ammonia Solution 10%  | R  |
| Tap Water             | R  |
| Sodium Chloride Sat.  | R  |
| Diesel                | R  |
| Engine Oil            | R  |
| Brake Fluid           | R  |

*R: Resistant*

*RS: Resistant with slight discoloration*

*SS: Slight softening*



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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.



**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.