Method Statement

Ref. #: DCP11/05-0016-A-2021

Strongcoat HB

(Epoxy floor coating for thickness up to 200 microns)

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Section A : General Comments

General Notes:

The information below is a detailed overview for the application of DCP's **Strongcoat HB** flooring system and should be read in conjunction with the relevant technical data sheet prior to application. All DCP Products should be applied by experienced specialist contractors.

All the points below assume correct preparation of the relevant surface.

High Temperature Working:

Application temperature ranges from 10°C to 35°C and Substrate's relative humidity must not exceed 80%.

It is suggested that, for temperatures above 35°C, the following guidelines are adopted as good working practice:

i. Unmixed materials and equipment should be stored in a cool place and away from direct sunlight.
ii. Avoid application during peak temperature of the day.
iii. Plan for enough materials, tools and labor to ensure continuous applicant process.
iv. Avoid applying the material if the ambient temperature is around 35°C and rising.

Low temperature working:

It is suggested that, for temperatures below 10°C, the following guidelines are adopted as good working practice:

i. Unmixed materials should be stored in a warm.
ii. Cold temperatures will affect the properties of the material.
iii. Avoid applying the material if the temperature is around 10°C and falling.

System Products:

Levelling and pinhole filler**: Quickmast 341.**

Primer: **Strongcoat Primer, Strongcoat DPM** (if required).

Floor topping: **Strongcoat HB, Anti Slip Aggregates #2 or #3** (if required)**.**

Tools and Equipment:

It is suggested that the following list of equipment are adopted as a minimum requirement

Personal protection	:	*Protective overalls*
	:	*Goggles or a face mask*
	:	*Good quality gloves*
	:	*Safety shoes*
	:	*Safety helmet*
Preparation equipment	:	*Concrete vacuum (Fig.1)*
	:	*Grinding or grit blasting machine (Fig.2)*
	:	*Brush (Fig.3)*
Application equipment	:	*Mixing paddle fitted in a heavy-duty slow speed electric drill (Fig.4)*
	:	*Empty bucket (25 litre) (Fig.5)*
	:	*Airless spray machine (if required) (Fig.6)*
	:	*Roller (Fig.7)*
	:	*Masking tape (Fig.8)*

Fig.1: Concrete vacuum

Fig.2: : Grinding or grit blasting machine

Fig.3: Brush

Fig.4: Mixing paddle fitted in a heavy-duty slow speed electric drill

Fig.5: Empty bucket

Fig.6: Airless spray machine

Fig.7: Roller

Fig.8: Masking tape

Section B : Application

1.0 Substrate Preparation

1.1 Concrete substrates should be fully cured and achieve a minimum compressive strength of 25 N/mm^2 and a minimum pull-off strength of 1.5 N/mm^2.

1.2 The concrete substrate should be below 75% RH and have less than 4% moisture content.

1.3 Perform relative humidity test using in situ devices (i.e. hygrometer) according to ASTM F2170.

1.4 Oil and grease contamination must be completely removed using degreasing products, hot compressed air, torching, or any other suitable method which assures the surface is free from any oil traces.

1.5 Excess laitance deposits or any surface treatments must be removed by mechanical means such as grit blasting.

1.6 Surfaces should be sound and with no irregularities as they can affect the finish of the applied product.

1.7 When applied over cement screeds**,** excess laitance, old coating or surface treatments are best removed mechanically using abrasive blast cleaning such as grinding, light sand/grit blasting, scarifying followed by vacuuming.

1.8 Non-porous substrates must be mechanically abraded to create a profiled surface for bonding.

1.9 Surface defects and imperfections such as voids and blowholes should be repaired before application using **Quickmast 341** epoxy paste to prevent material from flowing into them and producing air bubbles.

1.10 Before **Strongcoat HB** application, make sure the substrate is completely flat. A leveling tool should be used to evaluate the flatness of the application area depending on its size**.**

1.11 Apply the product to a small test area before actual application to check for any problems with the surface preparation.

Note: The temperature of the floor must be maintained above 10°C throughout the application and drying of the ***Strongcoat HB.***

Joints and moving cracks

- **Strongcoat HB** shouldn't be installed over any non-filled/sealed joints or any moving cracks.
- Open up and clean the existing joints in between the concrete slab and vacuum thoroughly**.**
- All dust, loose and friable material must be removed from all joint voids before application of any joint sealant.
- All existing joints such as (expansion, isolation, construction, and control joints) as well as all moving cracks, must be sealed using a proper sealing compound specifically designed for use in joints.
- It is advisable to reflect any existing joints in the same width, direction, and location on the surface of the finished screed.

2.0 Priming

Priming is done to seal the substrate in order to prevent pin holing caused by the release of air from the substrate, adequate evaluation of the substrate conditions will determine the type of priming required, reducing the risk of failures. The choice of primer depends on the substrate surface.

Strongcoat HB is designed to be used without a primer. However, for highly porous substrates, **Strongcoat Primer** is recommended, whereas for surfaces with a relative humidity greater than 75% **Strongcoat DPM** is recommended.

Strongcoat Primer [For application onto highly porous substrates].

2.1 For highly porous or textured surfaces

2.1.1 Stir individual components of **Strongcoat Primer** and ensure that bottom and sides are thoroughly scraped.

2.1.2 Transfer the entire content of the hardener into the base and mix for 2 - 3 minutes using a slow-speed mixer fitted with a suitable paddle.

2.1.3 Transfer the **Strongcoat Primer** to a roller tray and, using a medium-pile simulated sheepskin roller, apply one coat of the mixed primer evenly over the prepared surface.

2.1.4 **Strongcoat Primer** can be applied at a rate of (4 m^2/kg per coat) to achieve a dry film thickness of 200 microns per coat.

*Note: Avoid any primer ponding on the floor***.**

2.1.5 If a second coat is required, apply a second coat of the primer within its over coating time.

2.1.6 Allow drying fully for 24 hours before applying **Strongcoat HB.**

2.1.7 The primer should be protected from damp, condensation, and water for at least 24 hours.

Strongcoat DPM [For application onto surfaces with high relative humidity].

1.1 For surfaces with relative humidity above 75%

1.1.1 Stir individual components of **Strongcoat DPM** and ensure that the bottom and sides are thoroughly scraped.

1.1.2 Transfer the entire content of the hardener into the base and mix for 2 - 3 minutes using a slow-speed mixer fitted with a suitable paddle.

1.1.3 Use brush or short hair lambs wool roller for application to the prepared surface.

1.1.4 Prime with approximately (3.5 m²/kg) for the first coat and approximately (5 m²/kg) for the second coat of **Strongcoat DPM** depending on surface relative humidity to achieve dry film thickness of 200 microns per coat and allow to dry.

Notes:

- *Coverage figures will vary according to the texture, porosity, and evenness of the surface on which the **Strongcoat DPM** is being applied.*
- *One coat of **Strongcoat DPM** is required where the relative humidity level of the screed is between 75% and 85%. For RH levels between 86% and 98%, apply 2 coats.*

1.1.5 After the applied layer of **Strongcoat DPM** has been applied and left to cure, apply **Strongcoat Primer** as mentioned above.

1.1.6 Allow drying fully for 24 hours before applying **Strongcoat HB.**

3.0 Mixing

3.1 Stir individual components of **Strongcoat HB** thoroughly and ensure that the bottom and sides are thoroughly scraped before mixing.

3.2 Use a suitable mixer attached to a slow-running electrical drill to mix the Base and Hardener components of **Strongcoat HB.**

3.3 Place the mixer as near to the working area as possible.

3.4 Pour the entire content of the Hardener onto the Base container.

3.5 Start mixing for approximately 3 minutes until a uniform consistency is achieved.

Notes:

- *Never mix **Strongcoat HB** by hand as this could lead to areas of uncured material.*
- *Never add the water to the mix.*
- *Ensure that sufficient labor is available to enable continuous mixing and pouring.*
- *After mixing ensure that the mix is free from lumps.*
- *Do not mix part of packs under any condition, as this will change the mixing ratio of product components which will affect the material performance.*

4.0 Application

4.1 Each independent area of application should have sufficient materials, equipment, and labor.

4.2 Avoid contact to vertical structures by masking off edges with tape which is then removed while **Strongcoat HB** is still wet.

4.3 Once mixing is complete, transfer the **Strongcoat HB** to a roller tray and, using a medium-pile simulated sheepskin roller, apply it evenly over the surface.

4.4 Mixed **Strongcoat HB** should be applied within the product's pot life depending on the ambient temperature.

4.5 Once mixing is completed, apply 2 coats of mixed **Strongcoat HB** to the prepared surface (typically at 4 m^2/kg per coat) starting in one corner in a continuous application.

*Note: This coverage figure is based on application to a smooth dense surface. Coverage figures will vary according to the texture, porosity, and evenness of the surface on which the **Strongcoat HB** is being applied.*

4.6 The second coat of **Strongcoat HB** should be applied at a right angle to the first coat.

4.7 The second coat of **Strongcoat HB** must be applied no later than 24 hours at 20°C after the first coat has cured. Additionally, the first coat of **Strongcoat HB** must not be contaminated prior to applying the second coat.

For Slip Resistant Finishes

- Apply a coat of **Strongcoat HB** to the primed surface and whilst this is still wet, completely blind it with an appropriate grade of DCP Coarse Aggregate until the surface is covered and no resin spots remain. (consult DCP's Technical Department for details of the Aggregate grade to be used.)
- Allow the applied coat of **Strongcoat HB** to cure for 24 hours @ 20°C.
- Vacuum off the excess Aggregate.
- Seal the bound Aggregate with a further coat of **Strongcoat HB**; the second coat should be applied at a right angle to the first coat.
- The coverage rate of Strongcoat HB will be considerably reduced when using it to seal aggregates.
- Adequate ventilation must be provided to ensure that necessary drying and curing of the material is achieved.
- Allow 1 day after applying the final coat for full curing before subjecting to foot traffic, 7 days before subjecting to vehicle traffic or any chemical spillage.

Notes:

- *For best results, mixing and application should be done in a continuous process.*
- *Keep a continuous application and place mixed material efficiently to maintain a "wet edge".*
- *For hot climate conditions (temperature > 35°C), special procedures should be conducted.*
- ***Strongcoat HB** should not be used on new concrete less than 14 days old or floors where rising damp is valid unless a suitable primer is used.*
- *Freshly laid **Strongcoat HB** should be protected from moisture since moisture may disturb hardening.*

5.0 Cleaning

5.1 All tools used with **Strongcoat HB** should be cleaned with DCP-Solvent when it is wet, dried **Strongcoat HB** may be removed mechanically.

5.2 **Strongcoat Primer** can be cleaned by DCP solvent prior to setting.

5.3 **Strongcoat DPM** can be cleaned by DCP solvent prior to setting.

6.0 Limitations

6.1 Avoid freshly applied material exposure to rain, frost, wind, or direct heat that may impair the product setting.

6.2 Do not apply in thicknesses exceeding 200 microns.

6.3 Working time of epoxy systems decreases when the ambient temperature rises.

6.4 Bonding between successive layers may be severely affected by the intervention of moisture or dirt between them.

6.5 Avoid significant temperature variation during application and setting times.

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

6.6.1 If the ambient and the substrate temperature is less than 10°C, do not apply the material.

Section C : Cautions

Health and safety

Strongcoat HB should not come into contact with skin or eyes. In case of accidental contact with eyes, immediately flush with plenty of water for at least 10 minutes and seek medical advice if necessary. Apply in well-ventilated areas.

Fire:

Strongcoat HB is nonflammable.

Strongcoat Primer and **DCP Solvent** are flammable. Do not use near a naked flame and do not smoke during use.

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

Section D : Approval and Variations

This method statement is offered by DCP as a 'standard proposal' for the application of **Strongcoat HB**. It remains the responsibility of the Engineer to determine the correct method for any given application. Where alternative methods are to be used, these must be submitted to DCP for approval, in writing, prior to commencement of any work. DCP will not accept responsibility or liability for variations to the above method statement under any other condition.