Method Statement

Ref. #: DCP00/05-0017-A-2021

Strongcoat SL1

(1 – 2 mm thick epoxy self-leveling topping for floor surfaces)

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Section A : General Comments

General Notes:

The information below is a detailed overview for the application of DCP's **Strongcoat SL1** 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 - 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:

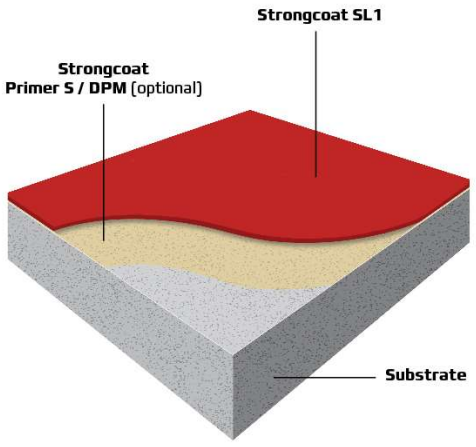
It is suggested that, for temperatures below 10°C, the following guidelines are adopted as good working practice:

i. Unmixed materials should be stored in a warm.
ii. Cold temperatures will affect the properties of the material.
iii. Avoid applying the water proof coating if the temperature is around 10°C and falling.
iv. The material may form crystals when stored at temperatures below 10˚C, in such cases, conditioning for 1 - 2 days at temperatures between 30 - 35˚C with simple manual mixing is needed before application.

System Products:

Primer: **Strongcoat Primer S, Strongcoat DPM.**

Floor topping: **Strongcoat Sl1.**



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*
Equipment	:	*Concrete vacuum (Fig.1)*
	:	*Shot blasting machine (Fig.2)*
	:	*Brush (Fig.3)*
	:	*Power-whisk fitted in a heavy-duty slow speed electric drill (Fig.4)*
	:	*Empty bucket (25 litre) (Fig.5)*
	:	*Pump (if required) (Fig.6)*
	:	*Roller (Fig.7)*
	:	*Rubber spike shoes (Fig.8)*
	:	*Masking tape (Fig.9)*
	:	*Casco or creteangle type mixer (Fig.10)*
	:	*Pin rake (Fig.11)*
	:	*Spike roller (Fig.12)*

Fig.1: Concrete vacuum

Fig.2: Shot blasting machine

Fig.3: Brush

Fig.4: Power-whisk fitted in a heavy-duty slow speed electric drill

Fig.5: Empty bucket

Fig.6: Pump

Fig.7: Roller

Fig.8: Rubber spike shoes

Fig.9: Masking tape

Fig.10: Casco or creteangle type mixer

Fig.11: Pin rake

Fig.12: Spike roller

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 80% RH and have less than 4% moisture content, for concrete of 28 days old or more. Alternatively, **Strongcoat DPM** should be applied according to the priming section.

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**,** shot blasting is recommended to remove any laitance followed by vacuuming.

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

1.9 All cracks and spalled concrete should be repaired before starting the application to prevent material flowing into them and producing air bubbles. Consult the DCP's Technical Department for specific recommendations.

1.10 All blow holes and minor imperfection should be repaired by epoxy paste using **Quickmast 341.**

1.11 Before **Strongcoat SL1** 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. Height markings network separated every (1.5 x 1.5 m) is a recommended to make it easier to apply the material.

1.12 Apply the product on 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 SL1.***

Joints and moving cracks:

- **Strongcoat SL1** 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 finish 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. Choice of primer depends on the substrate surface.

Strongcoat Primer S [For application onto porous and impervious substrates].

2.1 For impervious surfaces

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

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

2.1.3 Apply one coat of the mixed **Strongcoat Primer S** at rate of (5 m^2/kg per coat) to achieve dry film thickness of 175 microns per coat, use brush or short hair lambs wool roller for application to the prepared surface.

Note: Avoid any primer ponding on the floor.

2.1.4 Allow to dry fully for 24 hours before applying **Strongcoat SL1.**

2.2 For highly porous or textured surfaces

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

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

2.2.3 Apply one coat of the mixed **Strongcoat Primer S** at rate of (5 m^2/kg per coat) to achieve dry film thickness of 175 microns per coat, use brush or short hair lambs wool roller for application to the prepared and allow to cure.

Note: Avoid any primer ponding on the floor.

2.2.4 Within the overcoating time, apply a second coat.

2.2.5 Allow to dry fully for 24 hours before applying **Strongcoat SL1.**

2.2.6 **Strongcoat Primer S** 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 greater than 80%

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

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

1.1.3 Use brush or short hair lamb's wool roller for application to the prepared surface.

1.1.4 Prime with 1 - 2 coats of **Strongcoat DPM** depending on surface relative humidity at rate of (5 m²/kg per coat) to achieve dry film thickness of 200 microns per coat and allow to dry.

1.1.5 After the applied layer of **Strongcoat DPM** has been applied and left to cure, apply **Strongcoat Primer S** at rate of (5 m²/kg per coat) to achieve dry film thickness of 175 microns per coat.

1.1.6 Allow to dry fully for 24 hours before applying **Strongcoat SL1.**

3.0 Mixing

3.1 Stir individual components of **Strongcoat SL1** thoroughly and ensure that the bottom and sides are thoroughly scraped before mixing.

3.2 Use Jiffy-type mixer attached to a slow-running electrical drill to mix the Base and Hardener components of **Strongcoat SL1.**

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

3.4 Pour the entire content of the Hardener and the base components into a separate mixing container.

3.5 Start mixing for approximately 2 minutes until a uniform consistency is achieved.

3.6 Once the Hardener and Base have been mixed, transfer all the mixed material into a Casco or Creteangle-type mixer.

3.7 Ensure that the bottom and sides are thoroughly scraped.

3.8 Start the mixer and transfer to it the entire contents of the **Strongcoat SL1** Filler container gradually.

3.9 Continue mixing until a smooth, lumps free consistency is achieved. Total mixing time not to be less than 2 minutes.

Notes:

- *Ensure that the filler part of **Strongcoat SL1 is** completely dry and lump-free.*
- *Never mix **Strongcoat SL1** 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 segregation and lumps.
- Do not mix part of packs under any condition, as this will change the mixing ratio between the powder and the liquid polymer which will affect the material performance.
- In certain cases, the Base of the product can be supplied uncoloured and needs the addition of a colour pack. In such cases, mix the components of the Base, Hardener and colour pack using same procedure above, then add the filler component accordingly.

4.0 Application

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

4.2 Avoid contact to vertical structures by masking off edges with tape which is then removed while **Strongcoat SL1** is still wet.

4.3 Once mixing is completed, pour and spread **Strongcoat SL1** to the primed surface (typically at 1000 - 2000 microns (DFT) per layer) starting in one corner in a continuous stream along one edge of the area.

4.4 Even out using a pin rake adjusted to give the required thickness with the aid of pin leveler.

4.5 Care should be taken when joining the lanes, to achieve smooth connection.

4.6 The coverage of the mixed material must by constantly checked to ensure correct thickness application.

4.7 Keep a continuous supply of mixed material flowing and place efficiently to maintain a "wet edge" which will reduce the differences between mixes where the material has already started to dry and set.

4.8 **Immediately** after spreading **Strongcoat SL1**, thoroughly roll the surface by using spike roller to release any entrapped air and to get smooth finish.

4.9 Allow the material to cure for 24 - 72 hours before subjecting to foot traffic depending on ambient temperature.

Notes:

- For best results, pouring and leveling should be done in a continuous process.
- For hot climate conditions (temperature > 35°C), special procedures should be conducted.
- **Strongcoat SL1** 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 SL1** should be protected from moisture for 4-6 hours after application. Moisture may whiten the surface and make it sticky. It may also disturb hardening.
- Faded or sticky parts of the surface should be removed by grinding or milling and laid again.

5.0 Cleaning

5.1 All tools used with **Strongcoat SL1** should be cleaned with **DCP Solvent** when it is wet, dried **Strongcoat SL1** may be removed mechanically.

5.2 **Strongcoat Primer S** and **Strongcoat DPM** can be cleaned by **DCP Solvent** prior to setting.

6.0 Limitations

6.1 Do not apply at thicknesses exceeding 2 mm.

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

6.3 Working time of epoxy systems decreases when 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.

6.5.1 If the ambient and the substrate temperature is less than 5°C, do not apply the material.

Section C : Cautions

Health and safety

Strongcoat SL1 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 SL1 and **Strongcoat DPM** are nonflammable.

Strongcoat Primer S 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 SL1**. 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.