



Cemflow Renovation

(Fibre reinforced base screed)



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Section A : General Comments

General Notes:

The information below is a detailed overview for the application of **Cemflow Renovation** 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 75% unless a suitable primer is used.

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 shaded area 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. Cool water is advised for mixing (temperature around 20°C).
- v. 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 grout if the temperature is around 10°C and falling.

System Products:

Primer: **Neoprene Primer, Strongcoat Primer + DCP Coarse Aggregate, Strongcoat DPM.**

Floor Topping: **Cemflow Renovation.**

Tools and Equipment:

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




<i>Personal protection</i>	:	<i>Protective overalls</i>	
	:	<i>Goggles or a face mask</i>	
	:	<i>Good quality gloves</i>	
	:	<i>Safety shoes</i>	
	:	<i>Safety helmet</i>	
<i>Preparation equipment</i>	:	<i>Concrete vacuum (Fig.1)</i>	
	:	<i>Grit blasting machine (Fig.2)</i>	
	:	<i>Brush (Fig.3)</i>	
<i>Application equipment</i>	:	<i>Power-whisk fitted in a heavy-duty slow speed electric drill (Fig.4)</i>	
	:	<i>Empty bucket (Fig.5)</i>	
	:	<i>Pump (if required) (Fig.6)</i>	
	:	<i>Roller (Fig.7)</i>	
	:	<i>Spike roller (if required) (Fig.8)</i>	
	:	<i>Masking tape (Fig.9)</i>	
	:	<i>Spike roller (Fig.10)</i>	

Fig.1: Concrete vacuum

Fig.2: Grit 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: 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/mm² and a minimum pull-off strength of 1.5 N/mm².
- 1.2. The concrete substrate should be below 75% RH and have less than 4% moisture content. Alternatively, **Strongcoat DPM** should be applied according to the priming section.
- 1.3. Perform relative humidity test using in situ devices according to ASTM F2170.

*Note: when the substrate's RH is above 75% after it is fully cured, this indicates that there is a rising damp condition and the substrate should be primed using **Strongcoat DPM**.*



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



- 1.5. Excess laitance deposits are best removed mechanically by grit blasting, any surface irregularities must be removed using profiling equipment (scraping, grinding, milling, etc.) followed by vacuum cleaning to remove dust debris. All preparation equipment should be of a type approved by DCP.
- 1.6. Prior to application onto impervious surfaces the area should be thoroughly cleaned and lightly scarified.
- 1.7. Surfaces should be sound and with no irregularities as they can affect the finish of the applied product.
- 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 to prevent material from flowing into them and producing air bubbles. Consult the DCP's Technical Department for specific recommendations.



Repair of surface imperfections using cementitious repair mortar

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

Notes:

- If an impervious coating, screed, or floor covering is to be used the concrete substrate should be below 75% RH alternatively **Strongcoat DPM** should be applied.
- The temperature of the floor must be maintained above 10°C throughout the application and drying of the **Cemflow Renovation**.

Joints and Moving Cracks

- **Cemflow Renovation** 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

Adequate evaluation of the substrate conditions will determine the type of priming required, reducing the risk of failures. Priming is mandatory to prevent air release from the mechanically prepared substrate. The choice of primer depends on the substrate surface.

The following priming options are available:

Neoprene Primer [For application onto sand/cement screeds, **Cemflow Base**, or porous substrates]

- Shake the product well before use.
- Dilute **Neoprene Primer** with 4 parts potable water and stir until thoroughly dispersed.
- Apply one coat of the 1:4 diluted **Neoprene Primer** evenly to the whole surface using a soft broom or brush and allow it to dry completely.
- Drying time depends on the substrate and the ambient temperature.
- As soon as the first coat has dried, Dilute **Neoprene Primer** with 3 parts potable water and stir until thoroughly dispersed.
- Apply a second coat of the 1:3 diluted **Neoprene Primer**.
- Depending on the porosity of the substrate a further coat may be required, ensure sufficient coats of **Neoprene primer** are installed to reduce the risk of air transfer from dry, porous substrates.
- The primer must be allowed to dry before the application of **Cemflow Renovation**.



Note: Adequate ventilation must be provided to ensure that necessary drying and curing of the material is achieved.

Strongcoat Primer [For application onto porous and impervious substrates]

1.1 For impervious surfaces_[such as tiles, coatings or onto **Strongcoat DPM**]

- 1.1.1 Stir individual components of **Strongcoat Primer** and ensure that 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 Apply one coat of the mixed **Strongcoat Primer** at a rate of (4 m²/kg per coat) to achieve dry film thickness of 200 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.

- 1.1.4 While the applied layer is still tacky, fully blind with **DCP Coarse Aggregate** at approximately 3 kg/m² until the surface is covered and no resin spots remain.
- 1.1.5 Allow to dry fully overnight and remove excess aggregate before applying **Cemflow Renovation**.

1.2 For porous substrates

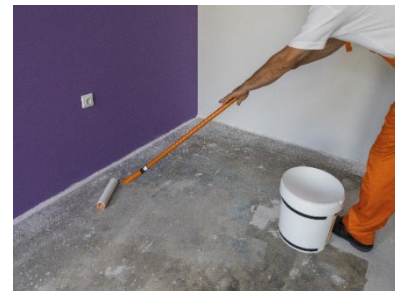
*Note: for porous substrates, **Neoprene Primer** is usually used. However, **Strongcoat Primer** is recommended for:*

- *Weak substrates.*
- *Substrates with shrinkage cracks and spider web cracks, blowholes, and voids.*
- *Hot climatic conditions.*
- *Where the final floor will be exposed to heavy traffic*

Method of Application

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

*Note: Never mix **Strongcoat Primer** by hand as this could lead to areas of uncured material.*



- 2 Apply one coat of the mixed **Strongcoat Primer** at a rate of (4 m²/kg per coat) to achieve dry film thickness of 200 microns per coat, use brush or short hair lambs wool roller for application to the prepared and allow to cure.

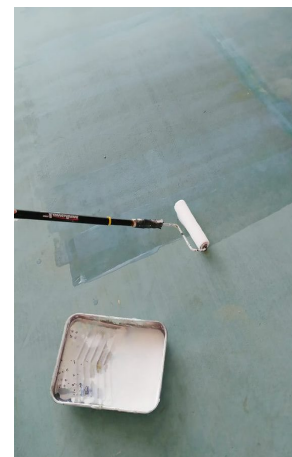
Note: Avoid any primer ponding on the floor.

- 3 Within the over coating time, apply a second coat and whilst still tacky fully blind with **DCP Coarse Aggregate** at approximately 3 kg/m² until the surface is covered and no resin spots remain.
- 3.2 Allow to dry fully overnight and remove excess aggregate before applying **Cemflow Renovation**.

Strongcoat DPM [For application onto surfaces with high relative humidity (above 75%)]

1.1 For surfaces with relative humidity between 75 and 85%

- 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 the hardener into the base and mix for 2 - 3 minutes using a slow-speed mixer fitted with a suitable paddle.
- 1.1.3 Once mixing is complete, transfer the **Strongcoat DPM** to a roller tray and using a medium-pile simulated sheepskin roller, apply it evenly over the prepared surface.
- 1.1.4 Prime with 1 coat of **Strongcoat DPM** at a rate of approximately (3.5 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** at a rate of (4 m²/kg per coat) to achieve a dry film thickness of 200 microns.
- 1.1.6 Whilst it is still tacky fully blind with **DCP Coarse Aggregate** at approximately 3 kg/m² until the surface is covered and no resin spots remain.
- 1.1.7 Allow to dry fully overnight and remove excess aggregate before applying **Cemflow Renovation**.



1.2 For surfaces with a relative humidity greater than 85%

- 1.2.1 Stir individual components of **Strongcoat DPM** and ensure that the bottom and sides are thoroughly scraped.
- 1.2.2 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.
- 1.2.3 Once mixing is complete, transfer the **Strongcoat DPM** to a roller tray and using a medium-pile simulated sheepskin roller, apply it evenly over the prepared surface.
- 1.2.4 Prime with 1 coat of **Strongcoat DPM** at a rate of approximately (3.5 m²/kg per coat) to achieve dry film thickness of 200 microns per coat and allow to dry.
- 1.2.5 Prime with the second coat of **Strongcoat DPM** at a rate of approximately (5 m²/kg per coat) to achieve dry film thickness of 200 microns per coat and allow the second coat to dry.

*Note: Coverage figures will vary according to the texture, porosity, and evenness of the surface on which the **Strongcoat DPM** is being applied.*

- 1.2.6 After the second coat of **Strongcoat DPM** has been applied and left to cure, apply **Strongcoat Primer** at rate of (4 m²/kg per coat) to achieve dry film thickness of 200 microns.
- 1.2.7 Whilst it is still tacky fully blind with **DCP Coarse Aggregate** at approximately 3 kg/m² until the surface is covered and no resin spots remain.
- 1.2.8 Allow to dry fully overnight and remove excess aggregate before applying **Cemflow Renovation**.

3.0 Mixing

3.1 For hand application

- 3.1.1 Use power-whisk fitted in a heavy-duty slow-speed electric drill to mix 25 kg of powder to 4.0 – 4.5 litre of potable water.
- 3.1.2 Place the mixing water into a clean container. And add the required weight of the dry powder slowly to the water while mixing continuously.
- 3.1.3 Continue mixing until a smooth, lumps-free consistency is achieved. Total mixing time not to be less than 2 minutes.
- 3.1.4 Leave to stand for 2 - 3 minutes and mix briefly for 1 minute before applying.

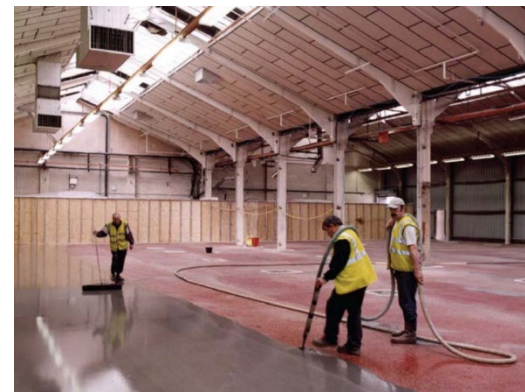


Notes:

- *Cool water is advised for mixing (temperature around 20°C or low).*
- *Measure the necessary amount of clean water per bag.*
- *Never add the water to the powder or add it in stages, as this alters the properties of the product.*
- Ensure that sufficient labor is available to enable continuous mixing and pouring.
- After mixing ensure that the mix is free from segregation and lumps.

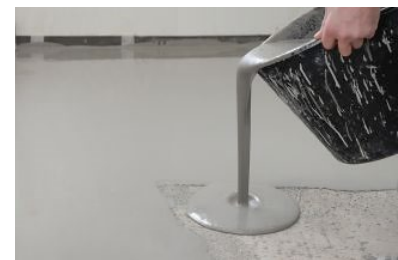
3.2 For Pump application

- 3.2.1 Mix the powder and water according to the method recommended by the pump manufacturers.
- 3.2.2 For pumps having a continuous water feed, adjust the rate of water flow until the mix is a smooth fluid, uniform grey liquid with no surface separation, producing a flow of approximately 120 mm using a 35 cc flow ring.
- 3.2.3 To avoid separation, applications greater than 15mm require less water and therefore a reduced flow.



4.0 Application

- 4.1 Each independent area of application should have sufficient materials, equipment and labour, it is always better to work in manageable sections of approximately 20 m².
- 4.2 Starting in one corner, pour or pump the mixed material onto the prepared surfaces in a continuous stream along one edge of the area to the required thickness and allow to attain a smooth finish.



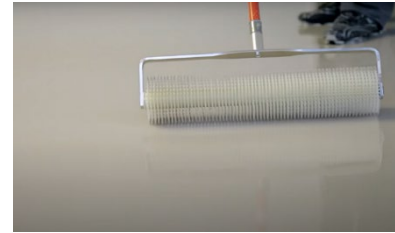
Note: The product can be pumped using an appropriately sized pump.

- 4.3 Apply at a thickness between 5 - 50 mm in one pass only.

- 4.4 The use of a spiked roller while the applied layer is still wet will help eliminate entrapped air and smooth out flow lines.

Notes:

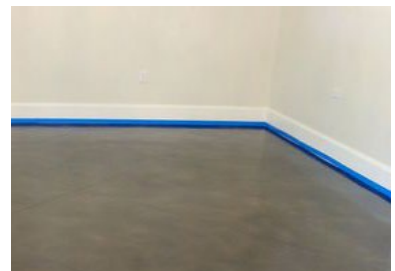
- *Do not over roll as this may cause an unsightly appearance.*
- *Do not roll material that has been applied for more than 2 - 3 minutes.*



- 4.5 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.

- 4.6 Avoid contact to vertical structures by putting in an edge strip such as foam tape.

- 4.7 For best results, pouring and leveling should be done in a continuous process.



- 4.8 Fresh mixed **Cemflow Renovation** should be placed within 6 minutes of the previous adjacent batch being poured to reduce the formation of seam lines.

- 4.9 Apply floor covering (subject to RH test) over **Cemflow Renovation** when it is at least 24 hours old.



- 4.10 For resin screeds, allow at least 72 hours before priming with the appropriate primer.

- 4.11 Where materials are to be applied over the surface of the hardened **Cemflow Renovation**, it is good practice to STR the surface prior to carrying out subsequent treatments.

- 4.12 After application, **Cemflow Renovation** (at 20°C) can be opened to:

- Foot Traffic: after 3 hours.
- Light Traffic: after 24 hours.
- Heavy Traffic: after 3 days.

Notes:

- *If the mixing batch stiffens, it should be discarded, do not remix it with water.*
- *Do not exceed the recommended water content and only use cool potable water.*
- *If the ambient or the substrate temperature is less than 10°C, do not apply the material.*
- *For hot climate conditions (temperature > 35°C), special procedures should be conducted.*
- *Freshly laid **Cemflow Renovation** should be protected from direct sunlight or sources of heat and strong drying winds.*
- ***Cemflow Renovation** is not recommended for external use or situations where water may come into direct contact with the cured material.*
- ***Cemflow Renovation** 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.*
- *Protect from frost.*



- Use polyethylene sheets to protect **Cemflow Renovation** from rain, snow, water, and other forms of moisture.
- **Cemflow Renovation** should not be applied to asphalt or bituminous surfaces.

5.0 Curing

- 5.1 Curing is not required in normal conditions.
- 5.2 In harsh climatic conditions like direct sunlight, the flow of wind, elevated temperatures, etc.; freshly hardened concrete surfaces should be cured with damp Hessian or to be covered with polyethylene sheets to minimize rapid evaporation and plastic shrinkage.

6.0 Cleaning

- 6.1 All tools used with **Cemflow Renovation** should be cleaned with water immediately after finishing.
- 6.2 **Neoprene Primer** can be cleaned with water when still wet.
- 6.3 **Strongcoat Primer** can be cleaned by DCP solvent prior to setting.
- 6.4 **Strongcoat DPM** can be cleaned by DCP solvent prior to setting.

Section C : Cautions

Health and safety

Cemflow Renovation may cause irritation on to 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:

Cemflow Renovation is nonflammable.

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 **Cemflow Renovation**. 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.