Flowshield SL ESD

(01/03/2011)

Application instructions overview

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Note: After preparation and once the first priming process has begun, all further processes are to strictly follow within the over coating window period (the time between each application process), in order to ensure full chemical bond between each system component. The timing of this is strictly dependant on temperature and particularly the surface temperature of the floor being treated.

1 Substrate & Preparation

Surfaces to be treated should be sound and provide adequate strength for the proposed end use (minimum 25 N/mm^2 compressive strength and 1,5 N/mm^2 tensile pull off strength).

The surface profile and levels should be appropriate for the system to be applied. Substrate humidity must not exceed 75% RH, if it exceeds this then use Hydraseal DPM as a primer. Moisture content of substrate to be no more than 4%.

Blasting, scouring or diamond grinding is typically recommended for the purpose of removing laitance, potential surface weaknesses and opening the pores. Irregularities, damage and cracks are repaired using an appropriate epoxy repair material. All residues of the preparation process must be totally removed to provide a dry, dust free, open textured and clean surface.

Contact us for advice if there are impurities, such as oils etc., in the concrete. Check the relative humidity of floors at ground level. Follow our instructions for connections to grid drains, cesspools, pipes and pipe inlets.

2 Joint Preparation

Clean out all existing joints. Along the line where the copper tape is to bridge over these joints, cut out the concrete just a little wider than the copper tape (app 15-20mm) to form a submerged channel approximately 40mm deep and continuing into both sides of the slab for approximately 30mm beyond the joint line.

3 Sealing of Surface

Prime using **Flowprime** in order to fully seal the prepared surface**.** This may require two coats depending on concrete porosity.

In mixing the **Flowprime**, pour all of the Hardener B into the Base A container. Mix using a slow speed rotary mechanical mixer and helical spinner until a homogenous mixture is obtained. Avoid entraining too much air. Immediately after mixing, pour out all of the resultant mixture onto the floor surface and spread quickly using a double-lipped rubber squeegee and/or roller. Ensure that the primer permeates any surface irregularities.

Allow the primer to harden until the surface can be walked on, approximately 15 hours at 20°C. At lower temperatures the hardening time is longer. It is critical there are no dry patches after priming. In instances where the substrate is highly absorbent, two coats of primer may be required in order to avoid such dry patches.

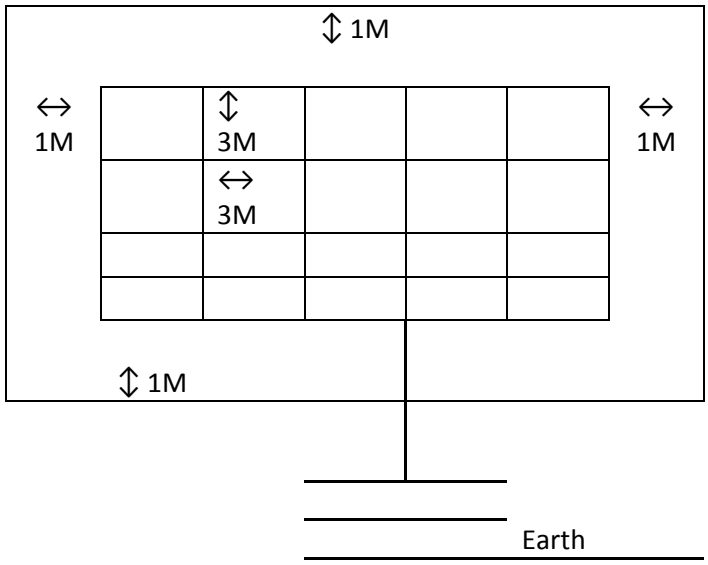
Consumption of primer: approx. 0.3 kg/m^2 (depending on porosity and texture of surface.)

Hydraseal DPM must be used as the alternative primer in instances where the substrate exceeds 75% RH; In this case refer to the separate application instructions for **Hydraseal DPM**.

4 Copper grid layout

After curing of the **Flowprime** apply copper tape in grid format as follows:

Starting 1 m from the perimeter walls place the tape at a maximum of 3m intervals to form a grid as per the detail below (note this grid or pattern will be dependant on the size and shape of the particular area. Please consult the Flowcrete technical department regarding a final grid pattern.



Where joints are to be bridged, lay the copper tape down into the preformed channel and cross the movement joint line, allowing excess copper tape to fold down into the joint void below to accommodate movement and then place a bond breaker (PVC or masking tape) over the copper tape in the joint region to form a slip joint or alternately place a backing cord over the copper tape in the joint void. Then fill this channel either side of the joint line with Flowtex HT mortar until level with surrounding concrete surface.

Ensure the self adhesive copper tape is thoroughly pressed down onto the primed surface by rubbing firmly with a clean lint free cloth.

Allow at least one earth point per every 200m^2 of grid.

5 A.S. Black primer

A.S. Black Primer is supplied in a complete kit (components A + B.) The black pigmented Base A must be stirred well. Transfer Hardener B to Base A. Mix thoroughly using a low-speed mechanical mixer for 1-2 minutes.
Remember never to split batches/components. Incorrect mixing ratios or poor mixing can result in irregular hardening and/or variations in colour, etc.

Apply the **A.S. Black primer** at 0,12kg per m2 (or 42m2 per 5kg kit) over the entire floor. Use a short fibre mohair roller and ensure it is rolled out accurately and evenly at this rate.
Allow the primer to harden until the surface can be walked on, approximately 12 hours at 20°C. At lower temperatures the hardening time is longer.

NB: Check the electrical resistance <u>prior</u> to applying the Flowshield ESD component.

6 Flowshield ESD

Mixing

Flowshield ESD is supplied in complete kits A+B+C.
The pigmented Base A must be stirred well. Then thoroughly stir in the carbon fibre. Transfer Hardener B to Base A. Mix thoroughly using a low-speed mechanical mixer for 1-2 minutes. Then add Filler C and Mix thoroughly.
Remember never to split batches/components. Incorrect mixing ratios or poor mixing can result in irregular hardening and/or variations in colour, etc.

Application

The blended compound is poured out immediately after mixing in a 'run' along the floor surface. Spread the material with a notched rake (a 5mm SL rake to give 2mm thickness).
The average thickness is guaranteed only by measuring, and checking how much material has been used. (Say every 50m^2).

Flowshield ESD is applied in thicknesses of 2mm.

Allow approximately 5 minutes for settling of the spread ESD thereafter the surface is thoroughly rolled with a spiked roller to remove any entrapped air bubbles. The spiked roller also contributes to the smoothing of the surface. Use **clean** spiked shoes wherever it is necessary to walk over freshly laid compound.

During prolonged interruptions in the work process, the seam will be placed where it is least visible, e.g. along drainpipes or door openings etc. Use masking tape. Apply the compound up on the tape. Remove the tape after rolling with the spiked roller and **before initial set**. During the continuation of the work, mask with new tape on the finished coat. **Remove tape after spiked rolling**.

Allow the product to harden until it can be walked on (after approximately 24 hours at 20°C). The hardening time lengthens at lower temperatures.

Skirting/coves

Note: Should it be required to form coved skirting, allowance must be made for earth wire to pass beneath the coving material.

Check if the skirting should follow the floor, or be straight in the top edge. Limit the height with tape or a fixed edge trim before starting, and then prime the wall with Flowprime.

Apply the Flowtex F1 skirting compound in the wet primer with a trowel/spatula. Carefully smooth. If applied to a tape, draw the tape and brush to the top edge to obtain a smooth transition.

Apply coving using coving trowel. It is important to trowel smooth the outer edges of the cove to avoid raised edges.

NOTE! Pay special attention to the above. A well executed skirting shows good workmanship.

Topcoats

Before applying Flowcoat SF 41 topcoat, the skirting coves should be scraped to remove all loose stones and high points. The surfaces should then be thoroughly vacuum cleaned. The compound should harden for at least 15 hours before applying the topcoat.

Apply a flood layer of Flowcaot SF 41L on the Flowtex surface. Allow the topcoat to penetrate down into the compound for approx. 5 minutes, then smooth the surface with a broad spatula or foam squeegee. Finally, smooth the surface with a rubber squeegee and roll with medium pile to obtain a consistent surface structure.

Note: Flowtex F1 coving system is not an anti-static material.

Note that:

Flowcrete products are often multiple-component systems. Poor mixing, or incorrect mixing procedures, can result in irregular and incomplete hardening, which in turn, can cause in an inferior final result.

Pigmented Base A is stirred first before Hardener B is added.

The ambient temperature should be above 15°C to achieve the best results during application. The temperature of the substrate should be at least 10°C, although a temperature of 15-25°C is recommended.

The temperature of the substrate should always exceed the “dew point” by more than 3°C during application and hardening.

The product should be stored in such a way that the temperature is the same as the room temperature where the product is to be applied, i.e. between 15-25°C. This improves the mixing, flow, penetration and hardening of the product.

The surface can normally be walked on after approx. 15 hours at 20°C. Complete hardening takes 5-7 days.

There are often several types of products at a workplace. Pre-sort the products and their relevant components separately to avoid mistakes.

Cleaning of equipment

Clean immediately after use in solvent, e.g. Flowcrete W.S.B.C or Epoxy Thinners

IMPORTANT NOTE

Any recommendation or suggestion relating to the use of the products made by Flowcrete SA (Pty) Ltd., whether in its technical literature, or in response to a specific enquiry, or otherwise, is based upon data believed to be reliable, however the products and information are intended for use by Customers having requisite skill, training and know-how in the industry and therefore it is for the Customer to satisfy themselves of the suitability of the products for its own particular use and it shall be deemed that the Customer has done so at its sole discretion and risk.

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