Standard Specification for the application of Duracon SL Flooring System to interior concrete surfaces

Project:
Prepared for:
Specification:
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1.0 PREAMBLE:

This specification is for the application of the **Duracon SL Flooring System** to concrete substrates. The specification also deals with preparation of the surfaces before the application of this self-levelling system with a non-skid topcoat.

The **Duracon SL Flooring System** comprises of a medium-viscosity, urethane-modified, pre-reacted 100% solid membrane system based on acrylic monomers, applied to the concrete structure, and includes a suitable primer to provide a good key to damp or porous surfaces.

2.0 SURFACE PREPARATION:

2.1 General Responsibility:

Unless expressly agreed otherwise at time of contract pricing, all work in this section shall be the responsibility of the Main Contractor, whether carried out by his own staff, other sub-trades or the Specialist Finishes Sub-Contractor. In the latter case, such preparatory work shall be priced separately from work defined in Sections 3.0 - 4.0 inclusive.

2.2 Mosskilling Treatment: (If required)

All surfaces shall be treated with Equus **Mosskill** solution to kill all moss/mould spores and growths. Stipulated kill-times shall be observed.

Note: Badly affected surfaces may require treatment before and after waterblast cleaning to ensure a residual moss-kill treatment before coating application.

2.3 Concrete Preparation:

The substrate must be dry, firm, solid and free of residues of laitance, dust, grease, oil and other contaminants. In case of serious oil contamination, acetylene flame cleaning, followed by mechanical treatment, is required. Do not use solvents as a cleaning agent. Their use will drive fat/oil further into the concrete compromising the adhesion of the **Duracon SL Flooring System** to the concrete.

The concrete must be cured for a minimum of 28 days. The cohesive strength of the concrete substrate must be greater than 1.5 N/mm^2 in average value. This can be checked by carrying out a pull-off test in accordance with:

ASTM C1583 Standard Test Method for Tensile Strength of Concrete Surfaces and the Bond Strength or Tensile Strength of Concrete Repair and Overlay Materials by Direct Tension – Pull-off Method.

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The concrete substrate shall be prepared with suitable methods such as captive shot blasting, scarifying or grit blasting. After treatment, the surface must be cleaned with an industrial vacuum cleaner. The final prepared surface profile shall be CSP3 (typical of light shot blast), as defined in:

ICRI Guideline No. 310.2R-1997, Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays and Concrete Repair.

For new concrete, good water curing under polythene is recommended. Liquid- or spray-applied curing compounds shall not be used.

The humidity on the surface of the concrete must not exceed 4%. The substrate temperature should be at least 3°C above the dew point at the time of application. Do not apply when atmospheric condensation is occurring or likely to occur before full system cure is achieved.

Note: Contact Equus Industries Ltd for a further preparation methodology if required prior to any coating work.

3.0 SURFACE PRETREAMENT:

3.1 Cracks:

Shrinkage cracks in the concrete surface, which are 1 mm wide or greater, shall be ground out to a minimum 6 mm wide by 10 mm deep prior to treatment. Mix suitably-catalysed **Duracon 223** resin in accordance with the Manufacturer's instructions and trowel into the crack after the primer has been applied.

All hairline cracks and untreated cracks up to 1 mm wide shall be stripe coated with a 150 mm wide application of **Duracon 223** resin applied at a spreading rate of 1kg/m^2. Embed 80 mm wide Equus Jointing Tape into the wet resin. This shall be done after priming.

3.2 Concrete Imperfections:

Concrete defects, voids or irregularities shall be rectified with **Duracon Ready Rep Mortar** after priming with **Duracon108** primer.

4.0 DURACON® SL FLOORING SYSTEM APPLICATION:

Note: All MMA liquid components of the system (primer, bodycoat, wearcoat, topcoat) shall be mixed and catalysed with Duracon Catalyst before use as per the Manufacturer's instructions. The percentage of catalyst added is dependent on atmospheric conditions (heat, cold, humidity) at the time of application.

The components cure rapidly so mix only what can be used within the stated timeframe.

4.1 Primer:

Apply suitably-catalysed **Duracon 108** to achieve a spreading rate of 0.3 - 0.5 kg per m^2, depending on surface porosity, to obtain a continuous resin film. Broadcast 0.3 – 0.7mm dry quartz aggregate onto the wet resin at a spreading rate of approx. 0.3kg per m^2 to provide a key for the subsequent coating. Allow to cure for 45 – 60 minutes, depending on site conditions and percentage (%) of Catalyst added.

4.2 Coving:

Prior to use **Duracon BFK** must be carefully stirred to achieve a uniform distribution of the paraffin contained in the product.

Duracon BFK is thoroughly mixed together with catalyst in accordance with site conditions. After the catalyst has been stirred in, the aggregate shall be added and mixed in at a ratio of 1kg **Duracon BFK resin** to 3-4 kg selected aggregate.

Immediately after mixing, the material shall be applied and smoothed out with a coving trowel. This process is carried out before the application of the Wear Layer.

4.3 Wear Layer:
Mix **Duracon 205 with SNL Powder,** in a ratio of up to 1 to 2 by weight and add catalyst as per mixing instructions. Pour onto the substrate and spread out to 3 kg per m^2. Apply this coat by notched trowel or squeegee and then spike roll. Allow 45 – 60 minutes to cure, depending on site conditions and percentage (%) of Catalyst added.

Note: Duracon 205 can coloured by adding **Duracon Tinter** mixed at the rate of 5% by weight with **Duracon 205** resin.

4.4 Topcoat Application:
Apply suitably-catalysed **Duracon 307** to achieve a spreading rate of 0.3kg per m^2. Allow to cure for 45 – 60 minutes, depending on site conditions and percentage (%) of Catalyst added. Immediately broadcast chosen aggregate into the wet topcoat at a spreading rate of 1-2kg/m2 depending on required surface profile. Sweep up and/or vacuum excess aggregate and recycle for later.

Apply a second coat of **Duracon 307** to achieve a spreading rate of 0.2 kg per m^2. Allow to cure for 45 – 60 minutes, depending on site conditions and percentage (%) of Catalyst added.

Note: The operating temperature on the Duracon SL Flooring System shall not exceed 65C.

4.5 Procedures:
Ensure that at all times all work is carried out in accordance with procedures published by **Equus Industries** for the **Duracon SL Flooring System**.

4.6 Quality Assurance (QA)
The Equus Certified Applicator is responsible for onsite **QA.** The Equus project checklists outlining the required processes shall be completed and signed as each stage of installation is completed. Photographs of each stage shall be taken and submitted as part of the overall **QA.** A Warranty will not be issued unless a copy of the documentation has been filed with Equus Industries Ltd. Third party QA documentation is acceptable provided it is equivalent to the Equus issued QA.

5.0 CONSTRUCTION JOINTS:

All construction and expansion joints formed in the floor base must be carried through the **Duracon® SL Flooring System** to the floor surface.

All such joints shall be prepared and primed with **Duracon 108** (suitably catalysed) and must be filled with an oversized backing rod correctly placed and filled with **Matacryl LM** (always respecting the 2:1 width-to-depth ratio of the joint design).

6.0 PENETRATIONS:

If any penetrations are made through the finished **Duracon SL Flooring System**, all holes for fixings or anchors shall be filled with **Tremco Dymonic FC** (PU sealant) prior to the installation of the penetration. Half screw the fixings and leave the sealant to cure for at least 6 hours. Finish the screwing process after this so that the sealant will act as a gasket to prevent water ingress around the fixing.

7.0 MAINTENANCE AND WARRANTY:

7.1 Maintenance:

Should the system be damaged at any time by undue mechanical force or excessive building movement and/or wear, the surface shall be repaired using compatible materials applied in accordance with a repair methodology issued by Equus Industries Ltd.

The surface can be washed down at any stage using a neutral detergent and soft surging with a low-pressure water wash.

7.2 Warranty:

The **Duracon SL Flooring System** may be warranted for a period of two to five (2-5) years from the date the application is completed.

Such warranty is issued by the Approved Equus Applicator carrying out the work, and is backed by the manufacturer as to the suitability for use of the materials supplied, provided that:

.1 All specified work is carried out by the approved Equus Industries Ltd. Applicator.

.2 All work is carried out in accordance with this specification or any written amendments thereto issued by the manufacturer.

.3 A yearly inspection of the floor is carried out and any damaged areas are repaired.

.4 Special conditions may be applied where service conditions involve severe mechanical abrasion / impact or chemical spillage or both.

.5 The warranty does not cover cracking to the system caused by substrate movement.

.6 The warranty does not cover adhesion problems caused by rising moisture from below the floor.

The area is subject to usage conditions described to Equus Industries Ltd. and the Approved Applicator at the time the work is done, and those conditions remain for the term of the Warranty.

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