

Standard Specification for the application of Chevaline Dexx on concrete surfaces in Plantrooms and Bunds.

Project:
Prepared for:
Specification: P3018
Dated: April 2024
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1.0 PREAMBLE:

This specification is for the application of the **Chevaline Dexx** waterproofing system to concrete surfaces inside or outside industrial or commercial Plant Rooms and containment bunds. The system is designed as an easy maintenance trafficable waterproof coating with chemically resistant durable topcoats to prevent damage to the building fabric as a result of water or chemical spillage, plant malfunction and maintenance. Slip resistance may be incorporated into the membrane system for onsite safety purposes.

The **Chevaline Dexx System** is a multi-layer waterproofing system that incorporates a chopped strand fibreglass mat as reinforcement to accommodate concrete stresses in all directions and will contain the spread of any such spillages within the plant room area or bund.

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 - 7.0 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 before coating. In case of serious oil contaminations, 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 concrete compromising the adhesion of the **Chevaline Dexx** membrane 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/mm² in average value. This can be checked by undertaking a pull-off test if required 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.



The concrete substrate shall be prepared with suitable methods such as diamond grinding or captive shot blasting. The final prepared surface profile shall be CSP2, 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 floors, good water curing under polythene is recommended. Liquid or spray applied concrete curing compounds shall not be used.

The humidity on the surface of the concrete must not exceed 4% and 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 obtained.

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

2.4 Concrete Repairs:

Concrete defects, voids or irregularities may be rectified using one of the following options:

- **Chevaline Epistixx Mortar: (Epoxy Mortar)**

Mix **Chevaline Epistixx Primer** as per manufacturer's instructions. Add the listed components in order in the ratios below to create the mortar:

- 1 litre of mixed **Chevaline Epistixx Primer**
- 0.4 litre of water and mix until homogenous consistency
- 1 kg of cement and,
- 2 kg of sand as a maximum.
- Add sufficient water to achieve the required mortar consistency.

Allow to cure 6 – 8 hours depending on prevailing weather conditions.

- **ASOCRET BIS 5/40: (Cementitious Mortar)**

Add the components listed in order in the ratios below to create the mortar:

- 2.8 - 3 litres of water placed in a clean bucket.
- 25kg **ASOCRET BIS 5/40** shall be slowly added **while drill** mixing continuously for a minimum of 3 minutes.
- 0.5-0.75 litres of water shall be further added and drill mixed to a lump free consistency.

Larger volumes shall be mixed onsite in a concrete mixer in accordance with the ratios above.

Note: The ASOCRET BIS 5/40 Mortar has a pot life of 60 minutes. Mix only what can be used within this timeframe. Allow to cure for 12 hours depending on prevailing weather conditions.

- **Equus Ready Rep: (Fast Curing Mortar):**

Mix **Equus Ready Rep** powder and **Equus Ready Rep** liquid in the required ratios in accordance with the Manufacturer's instructions.

Allow to cure for 45 – 60 minutes, depending on weather conditions.



3.0 SURFACE PRETREATMENT:

Shrinkage/Settlement Cracking and Construction Joints:

Concrete cracks greater than 1 mm width which appear likely to move regularly shall be saw-cut or chased to 10 mm width and 5 mm depth. Prime as required and fill with **Dymonic FC** polyurethane sealant. All such joints shall be overlaid after surface priming with a 150 mm strip of 300gsm. chopped strand fibreglass matt embedded into wet **Chevaline Dexx Bodycoat**. The full **Chevaline Dexx Membrane System** is then carried over such cracks.

Irregular cracks for which saw-cutting or chasing is impractical, shall be pretreated after surface priming with **Chevaline Dexx Bodycoat** applied as a 100-150 mm wide band, with 300gsm glass-fiber mat or tape embedded as a reinforcement. This shall be allowed to dry overnight before membrane application is begun.

All construction and expansion joints formed in the floor base must be carried through the **Chevaline Dexx Membrane System**. The joints shall be prepared and primed with **Chevaline Epistixx Primer** and must be filled with an oversized backing rod, correctly placed and subsequently sealed with **Dymonic FC** (always respecting the 2:1 width-to-depth ratio of the joint profile).

4.0 UPSTANDS:

All monolithic horizontal/vertical transitions which are not already coved shall be rounded to 5mm minimum radius using **Dymonic 100** applied as a fillet at least 24 hours before membrane application. Where the transition is not monolithic, a plaster or timber fillet of 50x50 section shall be installed prior to **Dexx** application.

5.0 CHEVALINE DEXX SYSTEM APPLICATION:

5.1 Primer:

All surfaces to be coated shall receive one (1) coat of **Chevaline Epistixx Primer**, mixed and diluted for easy application by brush, roller or soft broom at a spreading rate of 8-10 m² per litre of mixed material. Allow to dry over-night.

Note: If there is likely to be a delay in membrane application apply a thin key coat of **Chevaline Dexx Bodycoat 80/20** within 24 hours of primer application, to ensure good bonding of the membrane system. Allow overnight dry before proceeding with membrane application.

5.2 Chevaline Dexx Membrane Application:

The membrane comprises **Chevaline Dexx Bodycoat** and 300 gsm. glass fibre mat applied in the following sequence:

- **Chevaline Dexx Bodycoat**
- Glass-fibre mat (laid into wet Bodycoat)
- **Chevaline Dexx Bodycoat**
- **Chevaline Dexx Bodycoat** (Allow to dry over-night)

All **Chevaline Dexx Bodycoats** shall be applied with a medium/ long nap roller. Application shall always be in accordance with Manufacturer's instructions particularly with regard to spreading rates and dry times, to ensure a sound tight membrane is achieved.



Ensure that the reinforcement mat is embedded in the wet bodycoat and that the **Chevaline Dexx Bodycoat** is well worked in, to eliminate air-trap and to fully encapsulate the fiber-glass strands. Allow to dry overnight.

Apply additional coats of **Chevaline Dexx Bodycoat** as required to achieve a pinhole free finish and give the correct film build. The Total spreading rate for the system shall be approximately 15 litres of **Chevaline Dexx Bodycoat** per 10 m² of surface area under normal laying conditions.

5.3 Non-Skid Surface: (if required)

Apply one (1) coat of **Chevaline Dexx Wearcoat** over the pinhole free membrane by brush and or roller to an even finish. Non-skid aggregate profile and spreading rate shall be in accordance with Equus recommendations for the anticipated service conditions.

5.4 Topcoat Application:

a) All Surfaces:

Apply a minimum of one (1) coat of **Traxx 2000 Wearcoat** applied by roller or spray at a spreading rate of approx 8 m² per litre as supplied.

b) All Surfaces: (Chemical Resistance)

These shall be sealed with one (1) full coat of **Traxx SHS 2000 Wearcoat** applied by roller, brush or spray at a spreading rate of 3-4 m² per litre as supplied.

6.0 PENETRATIONS:

If any penetrations are made through the finished **Chevaline Dexx 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 GENERAL NOTES:

7.1 Sumps, Drains and Upstand Details:

The **Chevaline Dexx Membrane** shall be taken 100 mm up all associated upstands and turned into any sumps or drains which may be incorporated in the floor slab.

7.2 Water Entry Points:

Ensure all construction details which may allow water entry to the slab beneath the membrane are adequately sealed.

7.3 Procedures:

Ensure that at all times all work is carried out in accordance with procedures published and issued by **Equus Industries** for the **Chevaline Dexx Waterproofing System** as described.

7.4 Quality Assurance:

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.



8.0 MAINTENANCE AND WARRANTY:

8.1 Maintenance:

The **Chevaline Dexx System** may be cleaned at any time by low pressure spraying/brooming and hosing off using a weak (0.1%) neutral detergent solution. Floor sweeping machines and/or abrasive cleaning agents shall **not** be used.

It is recommended that the surface be inspected at 4-5 yearly intervals, and, if necessary, a further application of topcoat be carried out to preserve the appearance and performance of the applied membrane.

Should mechanical damage occur because of undue wear, vandalism or associated building maintenance, the **Chevaline Dexx System** can be easily repaired by patching and/or resurfacing as required, after simple preparation.

8.2 Warranty:

The **Chevaline Dexx System** as described may be warranted as waterproof for up to fifteen (15) years from the date of application.

Such warranty is issued by the Certified 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 a Certified Equus Applicator.
- .2 All work is carried out in accordance with this specification or any written amendments thereto issued by the Manufacturer.
- .3 An annual inspection of the **Chevaline Dexx System** 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.

The area is subject to usage conditions described to **Equus Industries Ltd.** and the Certified Equus Applicator at the time the work is undertaken and that those conditions remain for the term of the Warranty.

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