

Standard Specification for the application of Chevaline Dexe Carpark waterproofing system to concrete surfaces.

Project:
Prepared for:
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1.0 PREAMBLE:

This specification is for the application of the **Chevaline Dexe Carpark System** to waterproof concrete car parking areas to prevent water penetration into the structure. The specification also deals with preparation of the surfaces before the application of the waterproofing system.

The **Chevaline Dexe Carpark System** is a multi-layer waterproofing system that incorporates two-layers of chopped strand fibreglass as reinforcement to accommodate stresses in all directions. It is generally further protected against oil, petrol and grease contamination by the application of a topcoat of **Traxx 2000 HS Wearcoat**.

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. 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 the concrete compromising the adhesion of the **Chevaline Dexe Carpark 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/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 captive shot blasting, scarifying or grit blasting. The surface must be cleaned with an industrial vacuum



cleaner after treatment. 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 decks, 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.

2.4 Concrete Imperfections:

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 CARPARK 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 the primer application, to ensure good bonding of the membrane system. Allow overnight dry before proceeding with the membrane application.

5.2 Waterproofing 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 **Chevaline Dexx Bodycoat**)
- **Chevaline Dexx Bodycoat**
- Glass-fibre mat (laid at right angles to the first layer)
- **Chevaline Dexx Bodycoat** (Allow to dry over-night).
- **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.

In areas of high traffic use, allowance shall be made for an additional thickness of glass fiber mat and an additional **Chevaline Dexx Bodycoat** within the membrane system, to ensure resistance to such traffic and increased likelihood of impact damage. Such areas shall be clearly delineated on plans.

5.3 Non-Slip Surface – Pedestrian Access/All Traffic Areas:

Treat the membrane with one coat of **Chevaline Dexx Wearcoat**, with profile grade and spreading rate in accordance with Equus recommendations, for likely service conditions.

5.4 Topcoat Application:

To provide stain and hydrocarbon resistance, **Traxx 2000 HS Wearcoat** shall be applied 48 – 72 hours after the final **Chevaline Dexx Bodycoat** application. Apply two (2) coats of **Traxx 2000 HS Wearcoat** at a spreading rate of 7-8 m² per litre per application. Allow overnight drying between coats.

5.5 Sumps, Drainage and Upstand Details:

The **Chevaline Dexx Membrane** shall be taken 150 mm up all associated upstands and turned into any rainwater sumps which may be incorporated in the floor slab.

5.6 Water Entry Points:

Ensure all construction details, which may allow water entry to the slab beneath the membrane, are adequately sealed. This may necessitate extension of the **Chevaline Dexx** membrane or a compatible alternative waterproof coating system to drip edges, where the **Chevaline Dexx** membrane should be turned down the entire thickness. Allowance for this shall be made during initial design detailing if required.

5.7 Membrane Edge Protection:

Where vehicular traffic enters or exits **Dexx**-treated areas, it is recommended that low-profile hardwood or galvanised steel judder bars be bolted to the slab so that the membrane edge is protected against scuffing.

Where the **Chevaline Dexx Carpark System** is finished to a preformed patent metal expansion joint, or is finished part-way across a deck, it is recommended that the membrane be turned down to a chase at the rear edge of the metal or cut into the deck and sealed using **Traxx Floorjoint** as an adhesive/sealant.

5.8 Traffic Markings:

Traffic markings – using **Traxx 2000 Wearcoat NS** in the appropriate colour - may be carried out using a brush, roller or spray equipment.

5.9 Placing in Service:

The treated areas may be placed in service 72 hours after the final **Traxx 2000 HS Wearcoat** application, depending on ambient site conditions.

5.10 Procedures:

Ensure that at all times all work is carried out in accordance with procedures published by **Equus Industries Ltd** for this system. A full Quality Assurance Program shall be followed during installation. All detail work shall be carried out strictly in accordance with stipulated recommendations, and all surfaces shall be fully inspected for integrity under the QA



Program prior to hand-over.

6.0 PENETRATIONS:

Should any penetrations need to be made after the **Chevaline Dexe Carpark System** installation, all fixing holes shall be filled with **Tremco Dymonic FC** (PU sealant). Fixing bolts shall be half screwed into the sealant, leaving the sealant to cure for at least 6 hours. After 6 hours, finish the screwing process. This will act as a gasket.

7.0 MAINTENANCE AND WARRANTY:

7.1 Maintenance:

The **Chevaline Dexe Carpark 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 2-3 yearly intervals, and if necessary, a further application of **Traxx 2000 HS Wearcoat** be carried out to preserve the appearance and performance of the applied membrane depending on traffic loadings.

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

7.2 Warranty:

The **Chevaline Dexe Carpark System** may be warranted for a period of up to 10 years from the date the application is completed.

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 A yearly inspection of the **Chevaline Dexe Carpark System** is carried out and any damaged areas repaired.
- .4 Special conditions are 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.

Such a warranty is issued by the Certified Equus Applicator who does the work and is backed by the Manufacturer as to the fitness for the purpose of the materials supplied by them for the contract.

It should be noted that as the surface is a wearing surface, certain provisions regarding mechanical damage and maintenance re-coating will be incorporated within the warranty, depending entirely upon the declared intended use to which the surface is to be put, or may be issued as a mandatory Maintenance Statement attached to the warranty.

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