

Standard Specification for the application of the Matacryl Carpark Waterproofing System to concrete surfaces.

Project:
Prepared for:
Specification:
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1.0 PREAMBLE:

This specification is for the application of the **Matacryl Carpark System** to waterproof and protect concrete carpark decks. Designed for easy maintenance with an integrated non-skid surface profile for traffic, the **Matacryl Carpark System** also cures very quickly meaning minimal disruption and downtime for the building owner. The specification also deals with preparation of surfaces before the application of the **Matacryl Carpark System**.

The **Matacryl Carpark System** is a multi-layer application. It comprises of medium viscosity, urethane-modified, pre-reacted 100% solid liquid membrane resins based on acrylic monomers.

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 - 6.0 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 the 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 **Matacryl 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.

3.0 SURFACE PRETREATMENT:

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 **Matacryl Manual LM** resin in accordance with the Manufacturer's instructions and pour 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 150mm wide application of **Matacryl Manual** or **Matacryl Thix** resin applied at a spreading rate of 1kg/m². Embed 80mm 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 **Ready Rep Mortar** after priming with **Matacryl 108 H Primer**.

4.0 MATACRYL CARPARK SYSTEM APPLICATION:

All liquid components of the system (primer, bodycoat, wearcoat, topcoat) shall be mixed and catalysed with **Matacryl 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: (Concrete Surfaces)

Apply catalysed **Matacryl 108 H Primer** to achieve a spreading rate of 0.3 - 0.5 kg per m², depending on surface porosity, to obtain a continuous resin film. Allow to cure for 45 – 60 minutes, depending on site conditions and percentage (%) of Catalyst added.

4.2 Primer: (Metal or Plastic Surfaces)

Apply catalysed **Matacryl 107 CM Primer** to achieve a spreading rate of 0.2 kg per m² to obtain a continuous resin film. Allow to cure for 45 – 60 minutes, depending on site conditions and percentage (%) of Catalyst added.

4.3 Membrane Application:

Apply one (1) coat of suitably catalysed **Matacryl Manual** to the primed surfaces to achieve a spreading rate of 2 kg per m². 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.

4.4 Bonding Layer: (Turning or High Traffic Areas)

Apply one (1) coat of **Matacryl STC** (suitably catalysed) over turning and high-traffic areas to achieve a spreading rate of 0.2 kg per m². Allow to cure for 45 – 60 minutes, depending on site conditions and percentage (%) of Catalyst added.

4.5 Membrane Application: (Upstands, Sumps and Edges)

Apply one (1) coat of **Matacryl Thix** at a spreading rate of 2 kg per m². Use a coving trowel or similar to round out the transition between horizontal and vertical planes on upstands. Ensure there is sufficient material at this critical junction to create a fillet of 10mm x 10mm dimension to provide a bridge for the subsequent wear layer. The **Matacryl Thix** membrane shall be brought up 200 mm on horizontal/vertical transitions and turned down 150 mm on leading edges. Allow to cure for 45 – 60 minutes, depending on site conditions and percentage (%) of Catalyst added.

4.6 Wearcoat Application:

Mix **Matacryl 215 WL** with **SNL Powder** in a ratio of 1 to 1 by weight with catalyst as per mixing instructions. Pour onto substrate and spread out to 2.5 kg per m². Apply this coat by notched trowel or squeegee and then spike roll. Broadcast 0.7 – 1.2mm **Walton Park 18/36** aggregate into the wet resin at 3 - 4 kg per m² to excess. Allow 45 – 60 minutes to cure, depending on site conditions and % of Catalyst added. Sweep up and/or vacuum excess quartz and recycle for later use.

4.7 Topcoat Application:

Apply one (1) coat of suitably-catalysed **Matacryl STC** to all surfaces to achieve a spreading rate of 0.5 kg per m². Allow to cure for 45 – 60 minutes, depending on site conditions and percentage (%) of Catalyst added.

Apply a second coat of suitably-catalysed **Matacryl STC** to achieve a spreading rate of 0.3 kg per m². Allow to cure for 45 – 60 minutes, depending on site conditions and percentage (%) of Catalyst added.

4.8 Procedures:

Ensure that at all times all work is carried out in accordance with procedures published by **Equus Industries Ltd** for the **Matacryl Carpark System**.

4.9 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 concrete deck must be carried through the **Matacryl Carpark System**.

All construction and expansion joints in the concrete substrate shall be prepared and primed with **Matacryl 108 H Primer** (suitably catalysed) and must be filled with an oversized backing rod correctly placed and sealed with **Matacryl Manual 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 **Matacryl Carpark 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 supplied 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 **Matacryl Carpark System** may be warranted for a period of up to ten (10) years from the date the application is completed.

Such a 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 **Matacryl 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.

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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