

Chemical Resistant Epoxy Floor Coating System

Protecting concrete where chemicals are part of the process, not an accident.

Supply and apply a chemical-resistant epoxy floor coating system using MR. JO Protectokot - HB over a prepared and primed concrete substrate, to provide long-term protection against the specified chemical service environment.

Concrete does not resist acids. In process areas the floor is not a finish but the barrier between the chemical and the structure, and once breached the damage is structural. Two to three coats are applied over the approved primer, the number set by the aggressiveness of the service environment.

Standard Bill of Materials

Items 1-6 are the standard build-up; items 7 and 8 are specified where required. Clause references are set out in full on page 2.

#	Work Item	Description	MR. JO Product	UOM	Ref
1	Surface Preparation	Mechanically prepare to sound concrete, removing contamination absorbed into the slab.	Grinding / scarifying / shot blasting	Sq.m	A1 - A4
2	Concrete Repairs	Cut back chemically attacked concrete; repair cracks, pits and spalled edges flush.	<u>MR. JO Tecseal - CRP</u>	Kg	B1, B2
3	Crack Injection (where required)	Pressure-inject structural cracks; finish the repaired surface flush.	<u>MR. JO Inject - LVC</u>	Kg	B3.1 - B3.4
4	Primer	Seal the substrate and establish the bond; P50i on dry concrete, UPS where damp.	<u>MR. JO Eco Primer-P50i</u> / <u>MR. JO Primer UPS</u>	Sq.m	C1, C2
5	CR Screed (where required)	5 mm chemical-resistant epoxy screed rebuilding concrete lost to chemical attack.	<u>MR. JO Underlay - CMR</u>	Sq.m	D3
6	CR Floor Coating	Two to three coats forming the chemical-resistant barrier; three where exposure is sustained.	<u>MR. JO Protectokot - HB</u>	Sq.m	E5
7	Vertical Protection	Where specified: non-sag coating to bunds, kerbs, plinths and lower walls.	<u>MR. JO Protectokot - vHB</u>	Sq.m	E6
8	Coving & Line Marking	Optional: seamless coving at the wall junction; 50 / 75 / 100 mm lines.	<u>MR. JO Eco Underlay (tampable)</u> / <u>MR. JO Floorkot - YLW</u>	Rmt	F3.2 - F4.3

MR. JO Insight

"Chemical resistant" is meaningless without a named chemical, a concentration, a temperature and a contact duration. Splash and spill, continuous wetting and full immersion are three different engineering problems - declare the service environment and the system can be matched to it.

Typical Uses

Sector	Where This Floor Is Specified
Chemical Plants	Process floors, reactor areas, bunds and chemical handling zones
Process Areas	Dosing, mixing and transfer areas subject to splash and spill
Laboratories	Bench areas, wash-up and sample handling floors
Acid & Alkali Handling	Storage, decanting and battery areas requiring a chemical barrier

Reference - Standard BOQ Clauses

Full clause text from the MR. JO Standard BOQ Clause Library, for direct use in a project Bill of Quantities or tender specification.

A - Surface Preparation — Select one clause. A3 is normally appropriate on floors with chemical service history.

Ref	Typical Condition / Application	BOQ Description	UOM
A1	Sound concrete requiring normal preparation	Mechanically prepare the concrete substrate by diamond grinding to remove laitance, weak concrete and surface contamination, producing a clean, sound and open textured surface suitable for receiving the specified epoxy primer and flooring system. The prepared surface shall be cleaned and made ready to receive further epoxy treatment.	Sq.m
A2	Weak concrete requiring aggressive profiling	Mechanically prepare the concrete substrate by captive shot blasting or equivalent approved mechanical method to remove weak concrete, laitance and contaminants, producing a clean, sound and uniformly textured surface suitable for receiving the specified epoxy primer and flooring system.	Sq.m
A3	Existing floor having heavy contamination or existing coatings	Mechanically prepare the concrete substrate using suitable grinding, scarifying or other approved mechanical methods necessary to remove existing coatings, oil contamination and weak concrete to expose a sound substrate suitable for receiving the specified epoxy flooring system.	Sq.m

Ref	Typical Condition / Application	BOQ Description	UOM
A4	Where acid etching is specifically approved	Prepare the concrete surface by acid etching using a suitable acid solution followed by washing and neutralisation where required to produce a clean concrete surface suitable for receiving the specified epoxy primer and flooring system.	Sq.m

B - Concrete Repairs — Chemically attacked concrete must be cut back to sound material before repair.

Ref	Typical Condition / Application	BOQ Description	UOM
B1	Minor cracks, pits, honeycombs and surface defects	Repair minor cracks, pits, honeycombs and surface defects using <u>MR.JO Tecseal - CRP</u> , a solvent-free epoxy repair mortar. Repairs shall be completed flush with the surrounding concrete and made ready to receive the specified primer and flooring system.	Kg
B2	Damaged edges and local spalled concrete	Repair damaged concrete edges and localised spalled areas using <u>MR.JO Tecseal - CRP</u> to restore the original profile prior to installation of the flooring system.	Kg
B3.1	Structural cracks requiring epoxy injection	Drill holes and fix injection nipples at suitable spacing along the crack to facilitate pressure injection.	Nos.
B3.2	Structural cracks requiring epoxy injection	Seal the exposed crack surface using <u>MR.JO Tecseal - CRP</u> to prevent leakage of injection resin during the injection process.	Kg
B3.3	Structural cracks requiring epoxy injection	Supply and inject <u>MR.JO Inject - LVC</u> , a low-viscosity epoxy injection resin, under pressure until complete filling of the crack is achieved.	Kg
B3.4	Structural cracks requiring epoxy injection	Remove injection nipples and finish the repaired surface flush, leaving it ready to receive the specified epoxy flooring system.	Nos.

C - Primers — Select one clause based on substrate moisture condition.

Ref	Typical Condition / Application	BOQ Description	UOM
C1	Sound, dry concrete	Supply and apply <u>MR.JO Eco Primer - P50i</u> , a two-component solvent-free epoxy primer, over the prepared concrete substrate to seal the surface, improve adhesion and provide a suitable bonding layer for the specified epoxy flooring system.	Sq.m
C2	Damp concrete where drying is impractical	Supply and apply <u>MR.JO Primer - UPS</u> , a solvent-free moisture-tolerant epoxy primer, over the prepared concrete substrate to provide reliable adhesion and a suitable bonding layer for the specified epoxy flooring system.	Sq.m

D - Underlays & Screeds — Include where the concrete requires rebuilding in a chemical environment.

Ref	Typical Condition / Application	BOQ Description	UOM
D3	Chemical resistant floor requiring rebuilding	Supply and apply <u>MR. JO Underlay - CMR</u> as a 5 mm chemical-resistant epoxy screed to rebuild damaged concrete and provide a chemically resistant substrate ready to receive the specified Protectokot flooring system.	Sq.m

E - Topcoat — E5 is mandatory. Include E6 for bunds, kerbs, plinths and wall sections.

Ref	Typical Condition / Application	BOQ Description	UOM
E5	Chemical resistant floor coating	Supply and apply two to three coats of <u>MR. JO Protectokot - HB</u> over the approved primer to provide a seamless chemical-resistant epoxy coating suitable for the intended service environment.	Sq.m
E6	Vertical chemical resistant coating	Supply and apply two to three coats of <u>MR. JO Protectokot vHB</u> over the approved primer to provide a seamless non-sag chemical-resistant coating for vertical concrete or steel surfaces.	Sq.m

F - Finishing & Ancillary Works — Include as specified for the project.

Ref	Typical Condition / Application	BOQ Description	UOM
F3.2	General industrial, food processing and pharmaceutical areas	Supply and install a 50 mm x 50 mm seamless epoxy coving using <u>MR. JO Eco Underlay</u> applied at tappable consistency, integrally bonded between the floor and wall to provide a durable, hygienic and easy-to-clean transition.	Rmt
F3.3	Heavy-duty industrial and wet processing areas	Supply and install a 75 mm x 75 mm seamless epoxy coving using <u>MR. JO Eco Underlay</u> applied at tappable consistency, integrally bonded between the floor and wall to provide a robust, impact-resistant and hygienic floor-to-wall transition.	Rmt
F4.1	Standard pedestrian walkways, equipment zones and aisle marking (50 mm wide)	Supply and apply 50 mm wide epoxy line markings using <u>MR. JO Floorkot - YLW</u> over the completed epoxy flooring system in accordance with the approved layout and manufacturer's recommendations. The completed line markings shall provide a durable, abrasion-resistant and clearly visible traffic demarcation.	Rmt
F4.2	Forklift aisles, vehicle routes and safety demarcation (75 mm wide)	Supply and apply 75 mm wide epoxy line markings using <u>MR. JO Floorkot - YLW</u> over the completed epoxy flooring system in accordance with the approved layout and manufacturer's recommendations. The completed line markings shall provide a durable and highly visible traffic guidance system.	Rmt
F4.3	Loading bays, hazardous zones and special industrial demarcation (100 mm wide)	Supply and apply 100 mm wide epoxy line markings using <u>MR. JO Floorkot - YLW</u> over the completed epoxy flooring system in accordance with the approved layout and manufacturer's recommendations. The completed line markings shall provide durable visual segregation of work areas and traffic routes.	Rmt



Specification Notes

- For chemical exposure outside the published resistance matrix, elevated temperatures, immersion service or UV exposure, consult Ask MR. JO Technical Services.
- Where a seamless self-levelling finish is required in addition to chemical resistance, specify the 2 mm chemical resistant epoxy flooring system in place of this coating system.
- Drain surrounds, sumps, pits and bund terminations require project-specific detailing and should be referred to Ask MR. JO Technical Services.

Ask MR. JO

For help selecting a flooring system, adapting these clauses to your site conditions or developing a complete specification, ask MR. JO - we will help you choose based on what your floor is expected to do, not simply on product names, thickness or budget. Projects outside the scope of these standards should be referred to Ask MR. JO Technical Services.