

## 2 mm Chemical Resistant Epoxy Flooring System

**A seamless self-levelling floor for aggressive chemical environments.**

Supply and apply a 2 mm chemical-resistant self-levelling epoxy flooring system using MR. JO Protectokot - CRSL 2 over a prepared concrete substrate, to provide a seamless industrial floor suitable for aggressive chemical environments.

The floor here must do two things at once: resist sustained chemical attack, and be seamless and cleanable enough to survive audit and daily washdown. A coating satisfies the first; only a flooring system satisfies both. Where concrete has been lost, the screed beneath must itself be chemical resistant - a standard epoxy screed under a chemical-resistant flooring layer becomes the weak point of the system.

### 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, uncontaminated concrete; grinding or scarifying on floors with service history. | 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 Self-Levelling Flooring       | 2 mm chemical-resistant self-levelling epoxy laid as the seamless finished floor.                              | <u>MR. JO Protectokot - CRSL 2</u>                                   | Sq.m | E7          |
| 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

In an effluent or process area the failure almost never starts in the middle of the floor. It starts at a drain, a kerb, a bund edge or a floor-to-wall junction, where the barrier is interrupted. Specify the terminations with the same care as the field area.

## Typical Uses

| Sector                        | Where This Floor Is Specified                                               |
|-------------------------------|-----------------------------------------------------------------------------|
| <b>Chemical Manufacturing</b> | Reactor halls, dosing and transfer areas under sustained chemical exposure  |
| <b>Pharmaceutical Process</b> | Process suites combining chemical duty with washdown and audit requirements |
| <b>Effluent Treatment</b>     | ETP floors, bunds and channel surrounds exposed to aggressive effluent      |

## 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  |
|-----------|----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>A1</b> | 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 |
| <b>A2</b> | 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 |
| <b>A3</b> | 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  |
|-----------|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>A4</b> | 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  |
|-------------|----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>B1</b>   | 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   |
| <b>B2</b>   | 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   |
| <b>B3.1</b> | Structural cracks requiring epoxy injection        | Drill holes and fix injection nipples at suitable spacing along the crack to facilitate pressure injection.                                                                                                                                                         | Nos. |
| <b>B3.2</b> | 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   |
| <b>B3.3</b> | 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   |
| <b>B3.4</b> | 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  |
|-----------|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>C1</b> | 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 |
| <b>C2</b> | 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  |
|-----------|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>D3</b> | 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 — E7 is mandatory. Include E6 for bunds, kerbs, plinths and wall sections.**

| Ref       | Typical Condition / Application         | BOQ Description                                                                                                                                                                                 | UOM  |
|-----------|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>E7</b> | Chemical resistant self-levelling floor | Supply and apply <u>MR. JO Protectokot - CRSL 2</u> as a 2 mm chemical-resistant self-levelling epoxy flooring system over the approved primer.                                                 | Sq.m |
| <b>E6</b> | 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 |
|-------------|--------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| <b>F3.2</b> | 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 |
| <b>F3.3</b> | 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 |
| <b>F4.1</b> | 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 |
| <b>F4.2</b> | 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 |
| <b>F4.3</b> | 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

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- For chemical exposure outside the published resistance matrix, elevated temperatures, immersion service or UV exposure, consult Ask MR. JO Technical Services.
- For floor rebuilding beyond 5 mm in a chemical environment, consult Ask MR. JO Technical Services.
- Drain surrounds, sumps, pits and immersion conditions require project-specific detailing and should be referred to Ask MR. JO Technical Services.

## Ask MR. JO

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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.