

THIS METHOD STATEMENT COVERS PREPARATION AND APPLICATION OF A CAST-IN-PLACE REPAIR, WHERE THERE IS NO RESIDUAL CHLORIDE CONTAMINATION IN THE HOST CONCRETE.

METHOD STATEMENT: MasterEmaco S 466 - No Chlorides

1. GENERAL:

- 1.1. The area to be repaired should be marked on the drawings and on the structure, and subject to revision based on conditions found as breaking out proceeds.
- 1.2. All further repairs will be at the discretion of the Engineer and subject to remeasurement.
- 1.3. All deviations from the original Bill of Quantities or scope of works must be agreed in writing by the Engineer before reinstatement starts.

2. PREPARATION:

- 2.1. The edges of all repairs shall be cut by angle grinder or similar to produce a regular profile with a minimum depth of 20mm. No feather edges will be accepted in any repair work.
- 2.2. The predetermined areas shall be broken out to remove all substandard concrete.
- 2.3. Breaking out should be undertaken using high pressure water jetting or pointed mechanical chisels. The use of blunt scabbling hammers which can fracture aggregate, but leave it in place, are not permitted.
- 2.4. Breaking out shall continue until sound, dense concrete is encountered.
- 2.5. Exposed steel should be cleaned by high pressure water jetting, mechanical wire brush or grit blasting, and be washed down with potable water to remove any residual dust.
- 2.6. The prepared surface must be sound, dense, free of all oil, grease, loose and fractured aggregate or other contaminants that could impair adhesion.

3. COATING OF STEEL:

- 3.1. Where directed by the Engineer, the cleaned steel shall be given a continuous coating of **MasterEmaco 8100 AP**, a single component, active, zinc rich, epoxy primer and allowed to dry for at least 2 hours. If left exposed the **MasterEmaco 8100 AP** coated steel must be washed with potable water to remove any deposited contamination prior to encapsulation.

4. PRIMING / FORMWORK:

- 4.1. Formwork shall be erected, ensuring it is firmly in place, sealed to be “grout tight”, and to provide at least 20mm cover to steel.
- 4.2. Provision must be made for drainage outlets at the lowest points of the sealed formwork.
- 4.3. A 45° birds mouth shall be constructed at the top of the formwork to ensure ease of placement of the **MasterEmaco S 466**.
- 4.4. The shuttered repair shall be saturated for 3-4 hours with potable water prior to placement of **MasterEmaco S 466**.

5. TEMPERATURE CONDITIONS:

- 5.1. **MasterEmaco S 466** shall be used when the ambient temperature is between +5°C and 50°C. Chilled water shall be used to prevent mixed material temperatures exceeding 32°C.
- 5.2. Substrate temperatures should not be less than 5°C. In hot weather, areas to be repaired shall be shaded from direct sunlight.

6. MIXING:

- 6.1. The mixer shall be capable of imparting sufficient shear throughout the mix to ensure a homogenous, lump free consistency. Mixers such as slow speed drill and mortar mixing paddle or modified free fall mixers are suitable.
- 6.2. Ensure the mixing container is clean and dampened down prior to mixing.
- 6.3. Add sufficient water to achieve the required flow, then whilst the mixer is rotating slowly add the powder.
- 6.4. Mixing shall be for a minimum of 3 minutes during which time the remaining mix water may be added, if required, until a uniform free flowing consistency is achieved.
- 6.5. The maximum water addition is 3.5 litres always use the minimum amount of water to achieve the required flow.

7. APPLICATION:

- 7.1. Ensure all free water is drained from the formwork and the drain holes are plugged before mixing the **MasterEmaco S 466**.
- 7.2. The mixed **MasterEmaco S 466** shall be poured steadily and continuously, through the birds mouth opening at the top of the formwork. A slow steady pouring rate reduces the chances of air entrapment.
- 7.3. Alternatively, the **MasterEmaco S 466** shall be placed by pouring into a funnel attached to a flexible pipe of 30-50mm diameter, the pipe is initially placed near the bottom of the formwork. The pipe is then raised as the pour continues.
- 7.4. For large scale repairs of extended length, the **MasterEmaco S 466** shall be placed in layers, i.e. place from left to right in one layer and then repeated with the successive layers applying the **MasterEmaco S 466** wet on wet.

- 7.5. **MasterEmaco S 466** shall be placed continuously, minimising the amount of time between successive batches.
- 7.6. **MasterEmaco S 466** is self compacting and does not require external vibration. Tapping the formwork lightly with a hammer during placement will contribute towards effective consolidation of the material.

8. CURING:

- 8.1. Using the appropriate **MasterKure** curing compound, surfaces shall be sprayed immediately upon removal of formwork, extending at least 10cm onto the adjacent concrete around the periphery of the repair.
- 8.2. Protect from wind, rain and direct sunlight for 24 hours.

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