

## 6 WATER PROOFING

### 6.1 Description of work

- 6.1.1 Extent of water proofing work is shown on drawings.
- 6.1.2 Install slurry type water proofing to top surfaces of balcony slabs and external surfaces of underground concrete work.
- 6.1.3 Install crystalline type water proofing to underground water tanks and roof slabs in strict accordance with the approved manufacture's printed instructions.

### 6.2 Materials

- 6.2.1 Crystalline Type: Material used shall be a cementitious coating containing catalytic chemicals which migrate in to the concrete using moisture present in the concrete as the migrating medium, and which cause the moisture and the dehydrated cement in the concrete to react causing the growth of insoluble crystals of dendritic fibers in the void and capillary tracks of the concrete that allow passage of water, there by rendering the concrete it self water proof.
- 6.2.2 Acceptable products: Laticrete (*refer particular specifications*).

### 6.3 Storage of materials

- 6.3.1 General: All materials shall be stored in original undamaged containers with manufactures seals and labels intact. Material shall be stored off the ground in a dry enclosed area.

### 6.4 Surface preparation

- 6.4.1 General: All surfaces shall be examined for form tie holes and defects such as honeycombing, rock pockets, cracks, etc. These areas shall be repaired in accordance with these specifications and the manufactures printed instructions.
- 6.4.2 Concrete finish: concrete surfaces shall have an open capillary system to provide tooth and suctions shall be clean; free from scale, excess form oil, laitance, curing compounds and other foreign matter.
- 6.4.3 Smooth surfaces or surfaces covered with excess form oil or other contaminants shall be washed lightly sandblasted, water blasted, or acid-etched with muriatic acid, as required to provide a clean absorbent surfaces.
- 6.4.4 Horizontal surfaces shall not be troweled or power-troweled, and shall be left with a rough float finish or a broom finish. Vertical surfaces may have a sacked finish. Comply with manufactures specifications for requirements pertaining to minimum 'age' of concrete deck surface scheduled to receive water proofing.
- 6.4.5 Surface moisture: Water proofing shall be applied to 'green' concrete as soon as possible after forms have been stripped or to older pours which have been thoroughly moistened with clean water prior to application. Free water shall be removed prior to its application.
- 6.4.6 Mixing of crystalline water proofing compound: To comply with manufactures specification for 2-coat installation.

### 6.5 Application

- 6.5.1 General: Apply all materials under the direction of the manufacturer's representative.

- 6.5.2 Construction joints and surface defects: Comply with waterproofing material manufacturer's printed directions in the preparation, and treatment of construction joints and surface defects.
- 6.5.3 Surface application: After all repair, patching and sealing strip placement has been prepared in accordance with manufacturer's recommendations and approved by manufacturer's representative, treat concrete surface with first coat slurry mix of crystalline waterproofing compound.
- 6.5.4 Brushing: Use a short bristle or broom to work the slurry well into the concrete, filing all hairline cracks and surface pores.
- 6.5.5 Second coat: Apply second coat while first coat is still 'green' but after it has reached an initial set, all as recommended by the water proofing material manufacturer.

## 6.6 Curing

- 6.6.1 General: Curing shall begin as soon as the waterproofing materials have set up sufficiently so as not to be damaged by a fine spray. Treated surface shall be sprayed three times a day for a three-day period. Allow material to set 12 days before filling the structure with liquid
- 6.6.2 Protect treated surfaces from damage due to wind, sun, rain and temperatures below 35 degrees Fahrenheit. For a period of 48 hours after application, arrange protections to permit proper curing conditions for waterproofing material.
- 6.6.3 Clean up: Remove all surplus materials from the premises and leave all areas broom-clean. In the case of temporary protections remove all such items carefully to avoid damage to treated surfaces. Assemble all such materials and remove from premises followed by broom cleaning as noted.

## EMBEDDED DAMPPROOF MEMBRANE

### **6.7 General**

6.7.1 This section deals with laying of flexible sheet as damp proof membranes or has chemical or vapour barriers embedded in the fabric of the building. It does not deal with the weatherproof roof sheeting, or with vapour barriers.

### **6.8 Products**

6.8.1 Laticrete (*refer particular specifications*).

### **6.9 Workmanship**

6.9.1 Manufacturers Recommendations: to be strictly followed for all products and materials. Apply sheets to clean, dry surfaces with all joints sealed to give a completely water proof continuous membrane.

6.9.2 Polythene Sheet Under-Slab Dpm: lay a level bed of fine sand, not less than 13mm thick or as specified to receive membrane.

6.9.3 Polythene Sheet Dpm: ensure that sheets are clean and dry. Lay single layer loose on base, lap edges 150mm and seal with mastic or adhesive tape.

6.9.4 Pipe Etc: where pipe etc. pass through sheeting make junction completely watertight by forming collars fully bonded / sealed to both pipes and sheeting.

6.9.5 Project: finished sheeting adequately and prevent puncturing during following work. Sheet to be covered by permanent over laying construction as soon as possible.