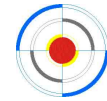


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CHEMY**

**New Era Construction Chemicals**



**ANALYSIS REPORT FOR  
CONSTRUCTION CHEMICAL AIDED REPAIRS  
TO HERITAGE STRUCTURE**



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## INTRODUCTION:

The proposals have been prepared keeping the following details into account.

- (a) Reduction of cementitious materials where ever possible.
- (b) Usage of materials should not damage the heritage value of the structure.
- (c) Hacking and chipping in a minimal way to avoid point load disturbances to the structure.

We have identified the following as major areas where treatment is required:

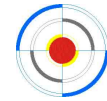
- (a) Major cracks – Wall
- (b) Minor cracks – Wall
- (c) Cracks – Floor
- (d) Roof tiled areas
- (e) Bonding for repair of the existing structures
- (f) Water proofing for sunkens

## MAJOR CRACKS – WALL:

### OPTION A – With Cement

- The cracks should be chipped to form a neat 'V' shaped groove and cleaned to be free of dust and loose particles.
- The opened groove should then be wetted thoroughly.
- Pressure grouting to be done with cement slurry admixed with **TEC<sup>R</sup> SWELL** @225 gms per bag of cement.
- Over the still wet substrate one bond coat of **TEC<sup>R</sup> BOND SBR** modified slurry preparation shall be applied. The slurry shall be prepared by mixing one part of **TEC<sup>R</sup> BOND SBR** with one part of cement.
- While the bond coat is still tacky, the grooves shall be filled with cement mortar 1:4 admixed with **TEC<sup>R</sup> SWELL** (@ 450gms per bag of cement), well compacted and then finished neat.
- Curing is vital for expansion of the filler material. The treatment should be cured adequately for a minimum period of 3 days.





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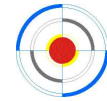
### OPTION B – With Lime

- The cracks should be chipped to form a neat 'V' shaped groove and cleaned to be free of dust and loose particles.
- The opened groove should then be wetted thoroughly.
- Pressure grouting to be done with cement slurry admixed with **LIME BASED EXPANSIVE ADDITIVES** @225 gms per 50 kgs of lime.
- Over the still wet substrate one bond coat of **TEC<sup>R</sup> BOND SBR** modified slurry preparation shall be applied. The slurry shall be prepared by mixing one part of **TEC<sup>R</sup> BOND SBR** with one part of water.
- While the bond coat is still tacky, the grooves shall be filled with **LIME MORTAR** admixed with **LIME BASED EXPANSIVE ADDITIVES** (@ 450gms per 200 kgs of mortar), well compacted and then finished neat.
- Curing is vital for expansion of the filler material. The treatment should be cured adequately for a minimum period of 3 days. Curing membrane **TEC<sup>R</sup> CURE WB** may be applied as an alternative to water curing.

### MINOR CRACKS – WALL:

- Routing out the cracks with a mechanically operated groove cutter to form a neat groove and cleaning to be free of dust and loose particles.
- The opened groove shall be wetted thoroughly using a bottle sprayer.
- **TEC<sup>R</sup> KRACK FILLER** (optimized with extra **LIME CONTENT**) shall be mixed as per the mix instructions for the product and then be applied on to the opened groove ensuring proper filling without air bubbles. A putty knife or a spatula may be used for the purpose.
- On setting the filled material may either protrude or sag depending on the depth of the crack being filled.
- In case the filler protrudes, the projection may be rubbed down using fine finish polishing stones.
- In case the filler sags, one more layer of **TEC<sup>R</sup> KRACK FILLER** may be applied as soon as the first layer sets.
- Curing is vital for expansion of the filler material. The treatment should be cured adequately for a minimum period of 3 days.





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### **CRACKS FLOOR:**

The above same treatments shall be adopted depending upon the wideness of the cracks.

### **ROOF TILED AREAS:**

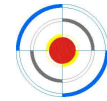
The areas where the tiles are good and water dampness is not found in the bottom, we can go for just filling the joints with **TEC<sup>R</sup> TILE 12**.

The areas where leakages are found shall be treated as follows:

### **WITH OUT REMOVING EXISTING TILES:**

- This system should be adapted only over good quality tile substrates firmly laid with adequate slopes and outflow pipes.
- It is also vital to ensure that weathering course laid beneath the tiles is of high quality, firm and sound at the time of providing the waterproofing treatment.
- The tile surface to be coated shall be cleaned to be free of dust, loosely adhering materials, cement droppings and fine dust.
- The tile joints shall be raked clean to remove loose mortar.
- Re-pointing shall be done using CM 1:4 admixed with **TEC<sup>R</sup> SWELL** (@ 450gms per bag of cement).
- The cleaned surface should be wetted but should be free of water puddles. The primer coat of **TEC<sup>R</sup> WAVE 3000** – High flexibility waterproofing membrane coating system shall be applied and be allowed to reach tack-free stage.
- Two top coats of **TEC<sup>R</sup> WAVE 3000** should be provided over the primer coat, all as per mix and application instructions for the product.
- The treated area should be adequately cured for a minimum period of 7 days.





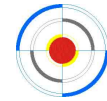
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*Please note only mild foot traffic may be allowed over the treated area. Pointed loads and dragging sharp objects may cause the film to tear. The color of the coating can either be in white color or in Terracotta color.*

### **AFTER REMOVING EXISTING TILES**

- The floor surface shall be cleaned to be free of dust and loose particles after removing the tiles.
- Over the floor two coats of **TEC<sup>R</sup> WAVE 2000** - flexible membrane waterproofing coating is to be applied strictly following mix and application instructions for the product.
- The concrete surface should be wetted but free of water puddles prior to application of **TEC<sup>R</sup> WAVE 2000**.
- While the second coat of **TEC<sup>R</sup> WAVE 2000** is still tacky, cement plastering in CM 1:4 admixed with **TEC<sup>R</sup>POROSEAL300** (@ 500gms per bag of cement) should be carried out and finished neatly.
- Pipe and trap joints shall be sealed with an appropriate sealing system depending on site conditions.
- The treated area should be cured adequately for a minimum period of 7 days.
- The tiles can be laid over the treated surface with **TEC<sup>R</sup> BOND 25**
- Tile joint grouting may be carried out with **TEC<sup>R</sup> TILE 12**- General purpose tile joint grout.





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### **BONDING FOR REPAIR OF THE EXISTING STRUCTURES:**

For repairing of the exiting works where ever small spillings are found **TEC<sup>R</sup> BOND EPO** shall be used for bonding of the structures.



### **WATER PROOFING FOR NEW SUNKEN PORTIONS:**

- The floor and wall surface shall be cleaned to be free of dust and loose particles.
- Over the walls and floor two coats of **REINFORCED TEC<sup>R</sup> WAVE 2000**- flexible membrane waterproofing coating is to be applied strictly following mix and application instructions for the product.
- The concrete surface should be wetted but free of water puddles prior to application of **TEC<sup>R</sup> WAVE 2000**.
- While the second coat of **TEC<sup>R</sup> WAVE 2000** is still tacky, cement plastering in CM 1:4 admixed with **TEC<sup>R</sup> POROSEAL 300**(@ 500gms per bag of cement) should be carried out and finished neatly.
- Pipe and trap joints shall be sealed with an appropriate sealing system depending on site conditions.
- The treated area should be cured adequately for a minimum period of 7 days.