TECHNICAL SPECIFICATION FOR VARIOUS WATERPROOFING TREATMENT

Detailing Treatment of Movement Joints (Expansion/Contraction/Sliding joints)

A. POLYSULPHIDE SEALANT WORK
1. Removing all dust, dirt etc. from the expansion joint and cleaning the surface thoroughly.
2. Preparation of the surface edge by necessary rendering with Polymer Mortar, if required.
3. Insertion of Backing material like Polystyrene Back up rod or Board / Thermocol.
4. Application of two coats of Sealant Primer on the concrete surface of the joint to be treated.
5. Filling the joint by Polysulphide Sealant Hind Sealant PS (Pour grade for horizontal joint & Gun grade for vertical joint) and tooling the same

B. BITUMENOUS SEALANT
1. Removing all dust, dirt etc. from the expansion joint and cleaning the surface thoroughly.
2. Preparation of the surface edge by necessary rendering with Polymer Mortar, if required.
3. Insertion of Backing material like Polystyrene Back up rod or Board / Thermocol.
4. Filling the joint by Bituminous Sealant Hind Sealant BP.

SKETCH

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Types of Treatment Available

A) Waterproofing for R.C.C structures.
   - Roof
   - Basement
   - Underground reservoir
   - Overhead reservoir
   - Toilet sunken slab
   - Swimming Pool

B) Restoration/Retrofitting of R.C.C structures.

C) Specialized Flooring.

Detailed Specification

Waterproofing Treatment of Roof Terrace:

1. Scrapping and cleaning the Roof Terrace surface thoroughly from dust, dirt cement slurry etc. by means of wire brush, chisels, scrappers, water etc.

2. Painting with acrylic polymer based water impervious slurry coating Hind Crete Plus WPM in two (2) coats with Glass fiber woven mesh reinforcement.

   Provision of protective overlay of average 40 mm thick Screed concrete of proportion (1 cement: 2 sand: 4 stone chips) over the entire chemically treated surface maintaining a slope towards the rain water outlet.

   OR

   Finishing with any other desired finish like terrazzo flooring/roof tiles/cota stone etc.

Alternative Method:

1. Providing and laying 3 mm thick Atectic Poly Propylene (APP) bituminous water proofing membrane Hind Hydro Proof with polyester reinforcement by Butane Torch and 100 mm lap over a coat of oil based/ water based Bituminous Primer.

   For non-accessible Roof: - Plain finish APP.
   For accessible Roof: - Mineral finish APP.

   Note: The mineral finish APP sheet is to be protected by a screed concrete for access to the roof.
WATERPROOFING TREATMENT OF ROOF

PARAPET WALL

CEMENT CONCRETE 1:2:4 (CEMENT: SAND: CHIPS) OVER "HIND CRETE PLUS WPM" APPLIED SURFACE

SPRING OF THE PARAPET WALL

CEMENT PLASTER (1: 4) 12MM (AV.) THK OVER "HIND CRETE PLUS WPM" APPLIED SURFACE

DRIP COURSE

"HIND CRETE PLUS WPM" TWO COATS OVER GLASS FIBRE WOOLEAN MESH (10 X 10 Count)
Waterproofing Treatment of Basement:

1. Drilling holes and fixing 18 mm O/D PVC Nozzles on wall and floor wherever required.
2. Injection of cement milk with Non-Shrink Polymer Grouting Compound **Hind Plast EGA** @ 250 gms per bag of cement through the Nozzles under pressure by pump.
3. Sealing the Nozzles with Quick Setting Compound after injection operation is over.
4. Application of two coats of Polymer Modified Cementitious Slurry Coating based on **Hind Crete Plus WPM** admixed with cement the entire surface of the floor and wall. (If the back filling is not done the coating is to be applied from outside over the wall surface)

**NOTE**: - Severely leaking points in the Basement may be required to be sealed by plugging compound like **Hind Plug S** or Polyurethane Grout **Hind Hydrafoam PU** for which the cost can be quoted as per site condition. This treatment can be taken up after construction.
Waterproofing Treatment of Underground Reservoir, Overhead Tank & Swimming Pool.

1. Drilling holes and fixing 18 mm O/D PVC Nozzles on wall and floor wherever required @ 1.00 m c/c distance.
2. Injection of cement milk with Non-Shrink Polymer Grouting Compound Hind Plast EGA @ 250 gms per bag of cement through the Nozzles under pressure by pump.
3. Sealing the Nozzles with Quick Setting Compound after injection operation is over.
4. Application of two coats of Polymer Modified Cementitious Slurry Coating based on Hind Crete Plus WPM admixed with cement the entire surface of the floor and wall.

Stone plastering/Tile Fixing of average 20 mm thickness (1:2:2) with cement sand and ¼ th stone aggregate admixed with integral waterproofing admixture Hind Proof No 1 to be done over the Chemical treated Surface. When the 2nd coat of Hind Crete Plus WPM is still green with neat cement finish.

Waterproofing Treatment of Sunken slab (Toilet & Kitchen)

1. Cleaning the R.C.C floor slab by wire brush, chisel to make it free from all loose material, depositions etc.
2. Application of 1:4 cement sand plaster over the brick wall below the floor level and above the sunken slab level. The brick wall to be provided with plain pointing with cement mortar before plastering. The floor wall junction to be rounded off with cement mortar.
3. Applying two coats of Hind Crete Plus WPM admixed with cement in the ratio 1:2 (1 part Hind Crete Plus WPM : 2 parts cement) reinforced with glass fiber woven mesh Hind Fiber Glass over the R.C.C sunken slab and wall upto a height of 200 mm above the desired finished floor level.
4. Ponding and testing the waterproofing treatment after 48 hours curing by sprinkling water.

NOTE: Special care should be taken at the junction points of waste lines with slab and sealing the same by polymer modified mortar. the entire work to be taken up after completion of all plumbing works.
SUNKEN SLAB WATERPROOFING WITH FIBRE GLASS WOVEN MESH

FOR TOILET & KITCHEN

12.5 MM THICK PLASTER

GLASS FIBER WOVEN MESH

TWO COATS OF "HIND CRETE PLUS WPM"

POLYMER MORTAR

TWO COATS OF 'HIND CRETE PLUS WPM'

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RESTORATION/RETROFITTING OF R.C.C STRUCTURES

Repair of spalled concrete in columns, beams and other R.C.C members

1. Chipping off the loose concrete around the spalled concrete area.

2. Cleaning the exposed reinforcement properly by means of wire brush/emery cloth or any other suitable method. If any reinforcement is found to be severely corroded, necessary reinforcement of suitable size to be tack welded to the existing reinforcement. After proper cleaning and derusting the reinforcement anticorrosive coating based on Hind Anti Rust/Hind Anti Rust EZ to be applied with brush.

3. Application of single coat of ‘Hind Styrene BR’ admixed with water and Cement in the ratio of 1:1:3 or Hind Bond EBA to act as a bond coat on the entire concrete & reinforcement surface before Polymer Concreting.

4. Providing suitable shuttering followed by placing of polymer concrete. Mix proportion of concrete to be as per design strength requirements i.e. M-20, M-25, M-30 etc. as the case may be. The said concrete is to be prepared by mixing 5Kg of ‘Hind Styrene BR’ per bag of cement to make it Polymer concrete. Water-Cement Ratio is to be properly controlled to get as slump of minimum 75mm approx.

NOTE: Suitable shuttering arrangement to be made ready so that polymer concreting can be done within 30 mins after the application of ‘Hind Styrene BR’ coating (being applied as bonding coat.)

Repairing of Honey combs on concrete structures with polymer

1. Chipping of the loose concrete from the honey comb area on the concrete surface.

2. Application of single coat of ‘Hind Styrene BR’ admixed with water and Cement in the ratio of 1:1:3 to act as a bond coat on the entire honey comb formed surface before repairing of the honey comb surface with Polymer Concrete/Overlay.

3. Application of Polymer Concrete/Overlay admixed with ‘Hind Styrene BR’ in the ratio of 10 parts by weight (Cement) : 15 parts by weight (Zone II Sand) : 30 parts by weight (10mm Nominal size Coarse Aggregate) : 4 parts by weight (Water) : 1 part by weight (Hind Styrene BR). Water-Cement Ratio is to be properly controlled to get as slump of minimum 50mm approx.

4. After application of the Polymer concrete/Overlay proper curing is to be done to achieve the desired strength.

NOTE: Polymer Concreting/Overlay to be done within 30 mins after the application of ‘Hind Styrene BR’ coating being applied as a bonding coat.

Repairing of honey comb with Epoxy mortar
1. Chipping of the loose concrete from the honey comb area on the concrete surface.

2. Application of single coat of “Hind ERS 21 P”- Solvent free low viscous epoxy primer over the properly cleaned honey comb surface, to act as a bond coat before repairing of the honey comb surface with “HIND ERS 2115” - High Strength Epoxy repair mortar.

3. Application of “HIND ERS 2115”- High Strength Epoxy Repair Mortar (as per premeasured pack supplied) over the ‘Hind ERS 21 P” applied honey comb surface. The application of Epoxy mortar is to be done when the bond coat applied surface becomes sticky and the entire operation is to be completed within 30-50 mins.

4. The epoxy mortar applied surface to be air cured.

NOTE: Epoxy Mortar to be done within 15-20 mins after the application of “Hind ERS 21P coating being applied as a bonding coat.

Repairing of wider cracks with epoxy system on concrete surface

1. Cutting V- grooves along the crack line of size suitable as per site condition and cleaning the same by means of wire brush to make it free from all loose particles, dust, laitance, etc.

2. Application of a bond coat of “Hind ERS 21P”- Solvent free low viscous epoxy primer

3. Filling the V-groove with “Hind ERS 2115-2180-2120” - High Strength Epoxy Repair Mortar and trowel of to smooth finished surface.

Repairing of cracks with low viscous epoxy injection grouting

1. Concrete surface along the length of the cracks shall be chipped off to remove all scums/lumps etc., raked properly, cleaned with wire brushed and washed with clean water.

2. Grooves (10mm-15mm wide and 10-12mm deep) shall be made by manual chipping along the entire length of cracks. All loose materials shall be removed by wire brushing and cleaned by water jetting thoroughly.

3. Holes shall be made in the concrete surface along the length of cracks as follows:
   a) For finer cracks (Less than 2mm). The hole size shall be 6 mm dia. X 300 mm deep at 300mm apart.
   b) For wider cracks (More than 2mm). The hole size shall be 12 mm dia. X 300 mm deep at 1000 mm apart.

4. Nozzles of suitable material & size shall be positioned in the holes and shall be fixed using Epoxy sealant “Hind Sealant E” – Two Component Epoxy Resin based Putty. The exposed grooves made along the crack length should also be sealed with the same epoxy sealant over a coat of primer Hind ERS 21 P.
5. After a day’s gap the cracks shall be cleaned with compressed air through embedded nozzles till all loose particles, dust etc. comes out of the nozzles.

6. Sealing of the cracks by injection grouting through the nozzles shall be undertaken after requisite time interval, as per the following procedure:-
   a) For both finer and wider cracks the grouting shall be done with ‘Hind ERS 21(LV)”-Low Viscous High Strength Grout, by injection operation through pumps.
   b) The grouting as mentioned above shall be done for one crack at a time and shall be continued till refusal through the adjacent nozzle. The grouting for vertical cracks in columns shall be started from the nozzles at lower most level only.

Remove the nozzles after the grout is set and seal the vacant place with Epoxy sealant “Hind Sealant E” – Two Component Epoxy Resin based Putty.

Application of epoxy bonding agent between old and new concrete

1. Cleaning the Old Concrete Surface by means of wire brush to make it free from all loose particles dust, laitance etc. before application of “Hind Bond EBA” – High Strength Epoxy Bonding Compound.

2. Application of single coat of “Hind Bond EBA” – High Strength Epoxy Bonding Compound over the properly cleaned old concrete surface, to act as a bond coat between old and new concrete.

3. When the surface of the old concrete becomes sticky, fresh concrete to be placed within an hour to ensure a monolithic bond between the old and new concrete.

NOTE: It has to be ensured that fresh concrete is placed, when the old concrete face on which the epoxy bonding is applied is tacky. If it gets dried up another coat of bonding agent may be applied to get best results.

Specialized Flooring

Epoxy Floor Coating/Self leveling Flooring

1. Preparation of surface by proper cleaning, grinding, chiseling from all depositions, cleaning any oily /greasy spots, checking all deboned patches, careful chipping of same and mending with cement concrete/epoxy mortar. (For sound floor surfaces cleaning the floor by soap washing mechanically)

2. Painting a coat of epoxy primer Hind Coat Prime.

3. Painting in two coats epoxy floor coating Hind Coat FC or laying self leveling flooring system Hind Selfloor 1000 for desired thickness (0.5 mm/1mm/1.5mm/2mm)