

Technical Specification of Residential Buildings for Waterproofing

General Requirements

- **Scope:** Waterproofing must be applied to all wet areas including bathrooms, kitchens, ext/Int. walls, balconies, terraces, parapet and coping, chajjas, basements, and roofs etc.
- **Standards:** Follow Bureau of Indian Standards (BIS) guidelines and specifications such as IS 3067 and IS 2645, for materials and application methods as per BOQ.

Wet Areas (Bathrooms, Toilets, Kitchens)

- **Vertical Surfaces:** Waterproofing should extend at least *300 mm above the finished floor level*. In shower zones, it must reach *1.8 to 2.1 meters* high.
- **Horizontal Surfaces:** Apply waterproofing membrane over the entire floor slab.
- **Materials:** Use Highly Elastomeric Aliphatic Polyurethane Based UV Stable Single Component Waterproofing Membrane or liquid-applied membranes.

External/Internal Walls and Basements

- **Treatment:** Apply waterproofing on the external/Internal face of basement walls and below-grade structures.
- **Drainage:** Ensure proper drainage systems like French drains to prevent hydrostatic pressure.

Terraces and Roofs

- **Slope:** Maintain a minimum slope of *1:100* to ensure water runoff.
- **Layers:**
 - Primer coat
 - Waterproofing membrane (PU coating)
 - Protective screed
 - Final finish (Reflective paint)
- **Expansion Joints:** Seal with elastomeric sealants and reinforce with waterproof tapes.

Material Specifications:-

- **Cementitious Coatings:** Must comply with IS 2645 for water-resistant admixtures/ As per BOQ
- **Liquid Membranes:** Should have elongation Percentage Elongation >700% Tensile Strength (N/mm²) as per >8 M.PA Volume Solid (ASTM C-836) at Leakage/ seepage areas.

Application Guidelines

- **Surface Preparation:** Clean, dry, and free of dust, oil, or laitance.
- **Priming:** Use compatible primers before membrane application.
- **Curing:** Allow proper curing time as per manufacturer's instructions.
- **Testing:** Conduct water ponding tests for 48 hours post-application.

Documentation and Quality Control

- Maintain records of:
 - Material batch numbers
 - Application dates
 - Site inspection reports
- Conduct third-party inspections if required.

- • MTC, Product data sheets & Method statement for waterproofing work should be supplied from original manufacturer/ supplier and must get it approved from Engineer-in-Charge before the execution of work.
- • At least Ten years performance guarantee from the date of final practical completion on requisite Non-Judicial Stamp Paper of Rs 100 has to be furnished by the main contractor.

GENERAL CIVIL WORKS: -

- The order of precedence shall be Item Description in BOQ, CPWD specification of nearest item and relevant IS specification.
- All concrete work shall be carried out as per latest CPWD specifications and relevant IS code.
- No materials will be supplied by POWERGRID. Item rates are inclusive of material cost.
- All non-schedule items shall be strictly as per item description of respective BOQ, technical specifications

(if any) and instruction of Engineer-in-Charge. CPWD specifications of nearest item shall also be applicable for all non-schedule items.

- Manufacturer's test certificate of the relevant batch of material procured shall also be submitted by the contractor.
- All bought out items shall be approved by Engineer in charge prior to its procurement. All material should be of 1st quality.