

## **Annexure- I**

### **General Terms and Conditions:**

#### **Painting:**

The work of painting, color washing shall be done according to IS: 2395 (1966) and 1477 (1959) and shall be to the entire satisfaction of the Engineer.

#### **1. Exterior painting:**

The surface shall be prepared as directed and by removing any existing fungus or mould growth shall be completely removed by thoroughly scraping and rubbing down with water jet, bristle/scrap with brush and sand paper then washing down with clean water and allowed to dry. The surface shall be brushed with a soft bristle brush to remove any dust particles 24 hours after the wash. All the cracks shall be properly defined with sharp edge tool, cleaned & filled the same & crack filling compound etc. complete.

Concrete and masonry surfaces shall be free from oil, grease, moss and other detrimental substances and shall be made clean by use of solvents, wire brushes or abrasive stones and the dust shall be brushed off. The surface, if found alkaline, shall be treated with a solution of 3% phosphoric acid and 2% zinc chloride in water and allowed to dry for not less than 24 hours. Aqueous solutions of muriatic acid or zinc sulphate shall not be used except if positive removal of all residues by repeated washing with water is practical and assured.

All the surfaces to be painted shall be examined to determine that they are in condition suitable for the reception of paint, including such surface preparation as is common and normally performed. They shall be clean and dry when paint is applied. All the dirt, rust, loose particles, grease oil and other detrimental substances shall be removed from all the surfaces, which are to be painted. In general, following surface preparation shall be followed for various surfaces.

In areas wherever the pipes, pipe coverings, conduits, hangers, supports, anchors are encountered these shall be painted in the same paint and colour, unless otherwise specified.

Hardware and accessories like lighting fixtures, grills shall be removed during painting operations and refixed after painting. Removal and re-fixing should be however done only on instructions from the IGMM. Except otherwise specified the Contractor shall make sure that all the surfaces shall be clean, smooth, dry and free dust and grit. All the work shall be done in a workmanlike manner, leaving the finished surfaces free from drops, ridges, waves, laps and brush marks.

Sufficient time shall be allowed between the applications of successive coats. Paint shall be stirred and kept uniformly consistent during continuous operation of painting.

All paints and constituents shall be delivered to worksite in original sealed containers bearing manufacturers labels, including complete directions of use, and date produced. Constituents and additives such as thinners and driers shall be only those recommended by paint manufacturer and shall be used in quantities recommended by him. To ensure proper workmanship, primer, undercoat and finish paint shall be obtained from one manufacturer as far as practicable.

Paints shall be well ground, shall not settle badly, cake or thicken in the containers, and shall be readily broken-up with a paddle to a smooth consistency and have easy brushing properties.

Major parts of the painting work shall be applied by brush applications except where spray techniques would accomplish better results or is most appropriate in the circumstances and shall be so decided accordingly. In case of painting on smooth surfaces particularly internal surfaces of building the final coat of paint shall be finished with roller for uniform finish and removal of brush marks.

No primer / paint shall be applied unless the surface is thoroughly cleaned and approved by IGMM. As far as practical, each coat or paint shall be applied as a continuous film of uniform thickness and free from pores. No portion shall have lesser thickness and free from pores. No portion shall have lesser thickness than that specified by the manufacturer. Similarly, the thickness shall not be more than that specified, which is likely to be detrimental to its appearance and life.

Each coat shall be in a proper state of cure or dryness before the application of the succeeding coat. Paint shall be considered dry when the additional coat can be applied without developing any detrimental film irregularities. Finish coats shall be applied only when the damaged or uneven coats are repaired. The paint shall not be thinned to cover greater area than specified by the manufacturer. No coating shall be applied during damp weather. Care shall be taken to prevent contamination of cleaned or partially cleaned surfaces and should such contamination occur, it shall be removed before proceeding further. Allowable drying time between the coats shall not be less than that recommended by the manufacturer and shall be longer if necessary upon climatic conditions such as temperature and humidity.

## **2. Painting for Interior surfaces:**

### **i. Preparation of surfaces:**

Old paint and neeru should be completely removed by scraping manually and using machine hand cutter till the original plastered surface to be exposed. After that, all loose particles should be removed with wire brush. Finally surface should be washed thoroughly with potable water and clean the surface from all impurities. Then the surface should be allowed to dry. Patch plastering should be done wherever it is required.

Apply two coats of Birla white wall care putty of about 3mm thickness as per manufacturer specification over the cleaned surface.

### **ii. Application of Wall Care Putty:**

The plastered surface after scrapping and patch plastering has to be brought to level by applying one coat of Birla putty MF to required thickness (not more than 3mm thickness). If more thickness is required to make the surface level in any areas, then the same has to be done in more than one coat of Birla Putty MF as per manufacturer specifications.

Then make the surface even & smooth with one or two coats of Birla Putty SF to required thickness (not more than 1.5mm thick). The unevenness on the surface may be removed by

gently levelling the surface with very fine water proof emery paper, not less than 500 number, to get a glossy white surface. The surface should be brought to proper line and level to such an extent that no undulations could be visible and all the edges and corners should be finished very sharp to look like a narrow hair line.

**iii. Preparation of paint:** The paint shall be prepared strictly according to the manufacturer's instructions and specifications.

**iv. Application of paint:**

Apply two coats of interior emulsion as per manufacturer's specification and colour/shade as approved by the IGM Mumbai. Paint shall be applied uniformly by using soft bristle brush and shall be finished with roller.

**3. Enamel painting:**

**A. Wood and Plastered surface:**

a). While preparing surface in old wood work, accumulated dirt, grime, mould due to dampness etc. shall be removed and the surface examined for defects. All projections such as glue or whitening spots shall be carefully removed with stopping knife and cleaned after which all knots shall be filled with knotting solution. Resinous or loose knots shall be removed and gaps filled with seasoned timber piece and made level with the rest of the surface.

b). Surface of previously painted wood work, if it is smooth and in good condition, shall be cleaned with white spirit or other detergent. Rub surfaces with abrasive paper, wash clean, remove with fresh water and allow the surface to dry. Defective and loose putty shall be replaced.

c). Where old painted surface has become badly blistered and cracked, the paint shall be completely removed either with blow lamp or with an approved quality paint remover.

d). In case of walls dados required to be painted with enamel paint, if the old paint is white or colour wash, distemper or oil bound distemper, the old coating shall be thoroughly scraped off till the original plaster surface is exposed. If old paint is oil paint and in good condition, surface shall be sand papered and cleaned.

e). Painting shall be carried out as much as possible in dry and warm weather. Two coats of paint shall be applied to the surface as per schedule of work.

**Application of paint:**

The enamel paint shall be of first quality unless otherwise specified. The painting work shall be carried out as per manufacturer's specification and as specified in 2-A (iii) above and the in coats specified under respective items.

## **B. Enamel painting to steel work:**

- a). The work shall generally be carried out as per I.S. 1477 (1959), wherever applicable and as directed by the Engineer. 45
- b). The surface shall be thoroughly cleaned of all scale, rust, dirt, old paint, grease and other imperfections by scrapping and brushing with steel wire brushes and if necessary, the surface shall be cleaned by chipping or any other best known methods, such as sand blasting and burning. The surface shall be made thoroughly dry.
- c). Apply a coat of anti-corrosive metal primer of approved make, if required.
- d). Apply a coat of putty to make the surface even and uniform.
- e). Apply first coat of ready mixed enamel paint of approved make, quality and shade. The first coat shall be a tone lighter when compared to the final approved shade.
- f). Apply finishing coat of approved shade as directed.

**Scaffolding for painting:** Unless otherwise instructed by the Engineer, single scaffolding having one sets of vertical supports of bamboo ( or props, if required) shall be provided for repair work. The supports shall be sound and strong, tied together by horizontal members over which scaffolding planks shall be fixed. Suitable double nylon net with a mesh size of 25mm shall be provided at 4 M. height from the ground level around the buildings up to a distance of minimum 3 M. from the edge of the building in all sides to catch any falling objects causing accidents and offer protection to vehicles parked and people around.

The work of scaffolding shall be deemed to be the part of the work of respective items under schedule and no extra payment in this regard under any circumstance shall be admissible.

The scaffolding thus erected shall have to be got approved from the Engineer or his representative before commencing the work or actual painting.

## **4. Polymer Modified Cement Mortar and Anti corrosive coating.**

- i) Break open the loose and damaged concrete. Remove loose rust from reinforcement by light tapping or hammering. Apply rust removing chemical as approved on exposed surfaces of reinforcement.
- ii) After 24 hours, apply first coat of bonding as approved, Cement slurry in the proportion 1 : 0.5 by weight to concrete area.
- iii) Before drying the bonding coat, place polymer modified cement mortar in the ratio 1 Kg : 5kg(Cement) : 15 kg(Quartz Sand) with controlled water @ 1 litre. Level the surface with trowel and finish the surface.

**Note:**

- Materials shall be stored in approved locations. The storage area shall be clean and free from fire hazards. Oily and paint stained rags shall be kept in covered metal containers, away from the paint store.
- Painting shall be done at times and sequences determined by the IGMM, and shall generally conform to the sequence of construction.
- Surfaces inaccessible after erection shall be painted when they are accessible.
- Any surface painted under this specification which becomes marred prior to acceptance shall be touched and finished to suit without additional charges.
- All misplaced paint and drippings shall be removed and cleaned from all surfaces.
- All surfaces, which do not require paint, shall be protected from drips and spray and the cost thereto shall be borne by the contractor.
- The primer shall be allowed to harden for a minimum period of 48 hours before application of the final paint. The periods between successive coats shall be the minimum (not less than 24 hours) or as recommended by the manufacturer. When oil paints are used, the minimum period between finish coats shall be four days or as specified by the manufacturer.
- Samples of all materials and other articles required for use on the work shall be got approved before the starting of work.
- All material and articles brought by the Contractor to the site of work for use shall confirm to the samples approved. Final decision to reject any material shall rest with the IGM Mumbai.
- IGMM reserves the right to retest the sample provided, the cost of retesting in NABL laboratory to be borne by the contractor.