

- 11.01.a White wash with lime on any surfaces (3 coats with brush) to give an even shade, including thoroughly brooming the surface to remove all dirt, dust, mortar drops and other foreign matter etc. complete.**
- 1.0 Materials :**
- 1.1 The clearcolle shall be made from glue and boiling water by mixing 1 Kg. of glue to every 15 litres of water. Mixture shall be suitably tinted where required for use under coloured distemper, if directed. Glue shall conform to IS : 852-1969 (Specifications for animal glue).**
- 1.2** Lime used shall be freshly burnt class 'C' Lime (fat lime) and white in colour conforming to IS : 712:1973. Water shall conform to M-1. Best quality of gum (D.D.L) of Pidilite Industries Ltd. shall be used in the preparation of white wash. Ultramarine blue or Indigo : They shall conform to IS : 55-1970 for paints and shall be used for preparation of white wash. Pigments : Mineral colours, not affected by lime shall be used in preparing colour wash.
- 2.0 Workmanship :**
- 2.1 Preparation of white wash solution : Surface already white washed or coloured :** The fat lime shall be slaked at site and shall be mixed and stirred with about five litres of water for 1 Kg. of unslaked lime to make the mixture creamy. This shall be allowed to stand for a period of 24 hours and then shall be screened through a clean coarse cloth. 4 Kg. of gum or glue of Pidilite Co. (D.D.L.) dissolved in hot water shall be added to each cubic meter of lime cream. Small quantity of ultramarine blue (upto 3 gms. per kg. of lime) shall also be added to the last two coats of white wash solution, if directed and the whole solution shall be stirred thoroughly before use.
- 2.2 Preparation of surface :**
- 2.2.1** The surface shall be thoroughly cleaned of all dust, dirt, mortar dropping and other foreign matter before white wash is to be applied.
- 2.2.2** The surface spoiled by smoke soot shall be scrapped with steel wire brushes or steel scrapers or shall be rubbed with over burnt surkhi or brick bats. The surface shall be then broomed to remove all dust and dirt and shall be washed with clean water.
- 2.2.3** Oil or grease spots shall be removed by suitable chemical. Smooth surfaces shall be rubbed with wire brushes.
- 2.2.4** All unsound portion of the surface plaster shall be removed to full depth of plaster in rectangular patches and plastered again after raking the masonry joints properly. Such portions shall be wetted and allowed to dry. Any crevices, at any level shall be cleaned and filled with the plaster mortar and cured as above. They shall then be given one coat of white wash.
- 2.2.5** All unnecessary nails shall be removed, the holes, cracks, patches etc. shall be made good with material similar in composition to the surface to be prepared.
- 2.3 Scaffolding :** Wherever scaffolding is necessary, it shall be erected in such a way that as far as possible no part of scaffolding shall rest against the surface to be white or colour washed. A properly secured, strong and well tied suspended platform (Zoola) may be used for white washing. Where ladders are used, pieces of old gunny bags shall be tied at top and bottom to prevent scratches to the floors and walls. For white washing of ceilings, proper stage scaffolding

shall be erected where necessary. Also, while painting the ceiling, the floor area shall be covered properly with plastic so that the flooring is not spoiled.

2.4 Application of white wash :

2.4.1 On the surface so prepared, white wash shall be applied with moon brush. The first stroke of the brush shall be from top to downwards, another from bottom to upwards over the first stroke and similarly one stroke from the right and another from the left over the first stroke of the brush before it dries. This will form one coat. Each coat shall be allowed to dry before next coat is applied. Number of coats as specified in the item shall be applied. It shall present smooth and uniform finish, free from brush marks and it should not come off easily when rubbed with a finger.

2.4.2 Splashing and droppings, if any on the doors and windows, ventilators, floors etc. shall be removed and the surface shall be cleaned.

2.4.3 Each coat shall be allowed to dry before next coat is applied. If additional coats are required then what have been specified and applied, the same shall be applied to obtain uniform and smooth finish. It shall be done at no extra cost. The finished dry surface shall not show any signs of cracking and peeling nor shall come off easily on the hand when rubbed.

2.4.4 Sample shall be approved by the Engineer-in-charge before execution of the work.

3.0 Mode of Measurements and Payment :

3.1 All the work shall be measured in the decimal system as under :

(a) Dimensions shall be measured to the nearest 0.01 m.

(b) Area in individual items shall be worked out to the nearest 0.01 m².

3.2 All works shall be measured in sq.mt. In jambs, soffits, sills etc. and for openings not exceeding 0.5 m² each in area, for ends of joists, posts, beams, girders, steps etc. not exceeding 0.5 m² each in area and for openings exceeding 0.5 m² and not exceeding 3.0 m² each in area, deductions and additions shall be made as under :-

- 1) No deductions shall be made for ends of joists, beams, posts, etc. and for openings not exceeding 0.5 m² each. No addition shall be made for reveals, jambs, soffits, sills etc. of these openings nor for finish around ends of joists, beams, posts etc.
- 2) Deductions for openings exceeding 0.5 m² but not exceeding 3.0 m² each shall be made as follows and no addition shall be made for reveals, jambs, soffits etc. of these openings :
 - (a) When both the faces of walls are provided with the same finish, deduction shall be made for one face only.
 - (b) When each face of wall is provided with a different finish, deduction shall be made for that side of frame for door, windows, etc. on which width of reveals is less than that of the other side. Where width of reveals on both faces of wall are equal, deduction of 50% of area of opening on each face shall be made from total area of finish.
 - (c) When only one face of wall is treated and the other face is not treated, full deduction shall be made if when width of reveal on the treated side is less than that on the untreated side, but if the width of reveals is equal or more than on the untreated side neither deductions nor additions to be made for reveals, jambs, soffits, sills etc.
- 3) In case of area of openings exceeding 3.0 m² each, deduction shall be made for openings but jambs, soffits shall be measured.

- 4) No deductions shall be made for attachment such as casing, conduits, pipe, electric wiring and the like.

3.2 Corrugated surfaces shall be measured flat as fixed and not girth. The quantities measured shall be increased by the following percentage and the resultant shall be included with the general areas:

(a) Corrugated steel sheets -----	14%
(b) Corrugated A.C. Sheets -----	20%
(c) Semi corrugated A.C. Sheets -----	10%
(d) Nainital pattern roof (Plain sheeting with rolls) ----	10%
(e) Nainital pattern roof (with corrugated sheets) -----	25%

3.3 Cornices and other wall features, when they are picked out in a different finish/colour shall be girthed and included in the general area.

3.4 The rate shall include the cost of all materials, labour, scaffolding, protective measures etc. required for the above specified operation, at all floors, at any height, in any position. Priming and Alkali resistant treatments, scrapping of surface washing etc. surface spoiled by smoke soot, removal of oil and grease spots, treatment for infection with efflorescence moulds, moss, fungi, algae and lichen and patch repairs to plaster wherever done shall not be paid extra. This shall also include conveyance, delivery, handling, unloading, storing work etc.

3.5 The rate shall be for an unit of one m².

11.01.b White washing with white cement on any surfaces (3 coats with brush), to give an even shade including thoroughly brooming the surface to remove all dirt, dust, mortar drops and other foreign matter etc. complete.

The relevant specifications of item no. 11.01.a shall be followed except that White cement conforming to M-4 shall be used instead of Lime. No glue or gum shall be added. 1 part of white cement shall be added with 10 parts of water or as per the manufacturer's specifications whichever is less.

11.01.c Colour washing with lime on any surfaces (3 coats), including priming coat of white wash to give even shade, including thoroughly brooming the surface to remove all dirt, dust, mortar drops and other foreign matter, etc. complete.

1.0 Materials :

1.1 Clear-colle : This shall be made from glue and boiling water by mixing 1 Kg. of glue to every 15 liters of water. The mixing shall be suitably tinted to match with colour of colour washing as directed. Glue shall conform to IS : 852-1969.

1.2 Lime : Lime used shall be freshly burnt class 'C' lime (fat lime) and white in colour conforming to IS : 712-1973.

1.3 Water : Water shall conform to M-1.

1.4 Gum : Best quality of gum (D.D.L) of Pidilite Industries Ltd. shall be used in the preparation of white or colour wash. The colour pigment of required tint and shade shall be mixed in lime cream. The mineral colour not affected by lime shall be used in preparing in the colour wash.

1.5 The relevant specifications for the material preparation, shall be as per item no. 11.01.a except that it shall be for colour wash.

2.0 Workmanship :

2.1 Sufficient quantity of colour wash enough for the complete job shall be prepared in one operation to avoid any difference in shade. The basic white wash solution shall be prepared in accordance with item 11.01.a. Mineral colours not affected by lime shall be added to the white wash solution. No colour wash shall be done until a sample of the colour has been approved. It shall be noted that small samples of colour appears lighter in shade than when the same shades are applied precisely to large surface. The colour shall be of even tint, over the whole surface. If it is patchy or otherwise badly applied, it shall be rejected. Preparation of the colour wash with pigment shall be as under:

(a) With Yellow and Red Ocher :

Solid lumps if any in the powder shall be crushed to powder and solution in water prepared and then added to white wash, sieving it through a coarse cloth, mixed evenly and thoroughly to white wash in small quantities till the required shade is obtained.

(b) With Blue Vitriol :

Fresh crystals of hydrous copper sulphate (i.e. blue vitriol) shall be ground to fine powder and dissolved in small quantity of water. Sufficient quantity of solution enough to produce the colour wash of required shade shall be strained through a clean cloth, the filtrate being mixed evenly and thoroughly to the white wash.

(c) Colour wash from other colouring pigment/ stainer shall be prepared in accordance with the instructions of the manufacture. Stainers used shall be of approved make like Asian, Berger or Nerolac.

2.2 Preparation of Surface :

2.2.1 The surface shall be prepared by removing mortar dropping and other foreign matter and thorough cleaning with wire or fibre brush or any other suitable means as directed by the Engineer-in-charge . All Loose pieces and scales shall be scrapped off and holes/crevices filled with mortar.

2.3 For **Scaffolding and Application of colour wash**, relevant specification of item no. 11.01.a above shall be followed. And in addition the colour wash shall be applied as under :

2.3.1 "Application of white wash or colour wash on undecorated surface" - After the surface has been prepared, the first primary coat shall be of white wash and subsequent coats (minimum two) shall be of colour wash and the entire surface shall represent a smooth and uniform finish. To start with, a patch of 0.1 m² on prepared surface shall be colour washed with first coat of white wash and subsequent coats of colour wash solution in full numbers of coats as described in the item and the shade so obtained shall be examined before the entire work of colour washing is taken up in hand. It shall be noted that small areas of colour wash will appear lighter in shade than when the same shade is applied to the large surface.

2.3.2 "Application of colour wash on decorated surfaces"- After the surface has been prepared, a coat of white wash shall be applied for the patches and repairs. Then one coat or more of colour wash shall be applied over the entire surface, such that the colour washed surface shall present a

uniform colour shade. No primary coat is needed for a decorated surface bearing colour of same shade. On surface requiring change of colour, after the surface has been prepared as described above, two coats of white wash shall be applied before application of specified number (minimum two) of coats of colour wash of the new shade.

2.4 **Protective measure :**

The surface of doors, windows, ventilators, floors, of furniture etc. and such other parts of the building not to be white/colour washed shall be protected from being splashed upon. Such surfaces shall be cleaned of white/colour wash splashed, if any, immediately after completing the painting, at no extra cost.

3.0 **Mode of Measurements and Payment :**

3.1 The relevant specifications of item No. 11.01.a shall be followed.

3.2 The rate shall be for an unit of one m².

J01 Providing and applying SUPER ACRYLIC EMULSION PAINT of Two or More coats of approved colour, shade of Asian / Berger / ICI /Nerolac on newly dry interior plastered surface including walls, ceiling, roof etc.at all heights/ all levels/ all surfaces to give an even shade including applying required coats (min two coats) of white cement based putty of Birla white after thoroughly brushing the surfaces free from mortar dropping and other foreign matter. Preparing the surface even and sand papered smooth, after applying every coat of putty complete, providing and applying priming coat as recommended by manufacturer is to be applied over prepared smooth surface (undulation free) etc. complete all as per specifications. Sample to be approved before starting of the work by EIC. The rate shall also include the cost of filler for filling the cracks on surface and Priming coat .

1.0 **Materials :**

1.1 Oil bound washable distemper and cement primer if on plastered surfaces and woodorite, if on wood surfaces, shall be of approved brand and manufacture. The distemper shall be of required colour and shade and the same shall conform to IS : 428-1969. Paint shall conform to M-44.

2.0 **Workmanship :**

2.1 **Scaffolding :**

Where scaffolding is required, it shall be erected in such a way that as far as possible, no part of scaffolding shall rest against the surface to be distempered. A properly secured strong and well tied suspended platform (Zoola) may be used for distempering. Where ladders are used, pieces of old gunny bags shall be tied at top and bottom to prevent scratches to the walls and floors. For distempering to ceiling, proper stage scaffolding shall be erected where necessary and the floor area shall be covered with plastic so that the flooring is not spoilt.

2.2 **Preparation of surface :**

The relevant specification of item no. 11.01.a shall be adopted and in addition,

2.2.1 The undecorated surface to be distempered shall be thoroughly brushed from dust, dirt, grease,

mortar dropping and other foreign matter and sand papered smooth. New plaster surface shall be allowed to dry for atleast 2 months before applications of distemper or one coat of white wash with white cement shall be done prior to painting with distemper.

2.2.2 All unnecessary nails, hooks etc. shall be removed. Pitting in plaster shall be made good with plaster again and papered with a fine grade sand paper and made smooth. A coat of distemper shall be applied over the patches. The surface shall be allowed to dry thoroughly before the regular coat of distemper is applied. The surface affected by moulds, moss, fungi, algae lichens, efflorescence etc. shall be treated in accordance with IS : 2395 (Part-1)-1966. Before applying distemper, any unevenness shall be made good by applying cement based putty on entire surface, including filling up the undulation and then sand papering the same after it has dried.

2.3 **Priming coat :**

2.3.1 A priming coat of cement primer of approved manufacture shall be applied over the papered surface in case of new work or undecorated surface. If the distemper priming is done after the plastered wall surface dries completely, the distemper primer shall be avoided.

2.3.2 **Application of primer and putty shall be done as under :**

The primer shall be applied with a brush on the clean, dry and smooth surface. Horizontal strokes shall be given first and vertical strokes shall be applied immediately afterwards. This entire operation will constitute one coat. The surface shall be finished as uniformly as possible leaving no brush marks. A coat of cement based putty (lapi) shall be applied to the entire surface. Putty shall be used of readymade or brought of the company like Birla white or equivalent as directed by the Engineer-in-charge. The second coat of primer and putty shall then be applied and it shall thereafter be allowed to dry for atleast 48 hours before oil bound distemper or paint is applied.

2.3.3 Oil bound distemper is not recommended to be applied within six months of the completion of wall plaster.

2.4. **Preparation of oil bound distemper :**

2.4.1 The distemper shall be diluted with mineral turpentine oil or any other prescribed thinner in a manner recommended by the manufacturer only. Sufficient quantity of distemper required for a day's work shall be prepared.

2.5 **Application of Distemper coat :**

2.5.1 On any surfaces, after the primer coat has dried for atleast 48 hours, the surface shall be lightly sand papered to make it smooth for receiving the distemper, taking care not to rub out the priming coat. All loose particles shall be dusted off after rubbing. Minimum two coats of distemper shall be applied with brushes in horizontal strokes followed immediately by vertical strokes which together shall constitute one coat. The subsequent coats shall be applied after a time interval of at least 24 hours between 2 consecutive coats to allow proper drying of the preceding coat. The finished surface shall be even and uniform without patches, brush marks, distemper drops etc.

2.5.2 Sufficient quantity of distemper shall be mixed to finish one room at a time. The application of a coat in each room shall be finished in one operation and no work shall be started in any room which cannot be completed on the same day.

2.5.3 15 cm. double bristled distemper brush shall be used. After a day's work, brushes shall be thoroughly washed in hot water with soap solution and hung down to dry. Old brushes which are dirty and caked with distemper shall not be used on the work.

2.6 **Protective measure :**

2.6.1 The surface of doors, windows, ventilators, floors, articles of furniture etc. and such other part of the buildings which are not to be distempered shall be protected from being splashed upon. Such surfaces shall be cleaned of distemper splashes, if any.

3.0 **Mode of Measurements and Payment :**

3.1 Priming coat of distemper primer, scraping of surface spoiled by smoke soot, removal of oil and grease spots, treatment for infection of efflorescence, mould, moss, fungi, algae and lichen and patch repairs to plaster shall be included in this item for which nothing extra shall be paid.

3.2 All the work shall be measured net in this item as in place subject to the following limits unless otherwise stated hereinafter :

(a) Dimensions shall be measured to the nearest 0.01 m.

(b) Area in individual items shall be worked out to the nearest 0.01 m².

All work shall be measured in m². No deductions shall be made for ends of joints, beams, posts etc. and openings, not exceeding 0.5 m². each and no addition shall be made for reveals, jambs, soffits, sills etc. of these openings nor for finish around ends of joints, beams posts etc.

3.3 Deductions of opening exceeding 0.5 m² but not exceeding 3.0 m² each shall be made as follows and net addition shall be made for reveals, jambs, soffits etc. of these openings :

(a) When both the faces of walls are provided with same finish, deductions shall be made for one face only.

(b) When each face of is provided with different finish, deduction shall be made for that side of frame for doors, windows etc. on which width of reveal is less than that of the other side but no deduction shall be made on the other side. Where the width of reveals on the both the faces of wall are equal, deduction of 50% of area of opening on each face shall be made from area of finish.

(c) When only one face of wall is treated and the other face is not treated, full deductions shall be made if the width of the reveal on treated side is less than that on untreated side but if the width of the reveal is equal or more than that on untreated side neither deductions nor additions to be made for reveals, jambs, soffits, sills etc.

3.4 In case of opening of area exceeding 3.0 m² each, deduction shall be made for openings but jambs, sills and soffits shall be measured.

3.5 No deductions shall be made for attachments such as casings, conduits, pipes, electric wiring and the like.

3.6 Corrugated surfaces shall be measured flat as fixed and not girth. The quantities measured shall be increased by the following percentage and the resultant shall be included with the general areas:

(a) Corrugated steel sheets	14%
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- | | |
|---|-----|
| (b) Corrugated A.C. Sheets | 20% |
| (c) Semi corrugated A.C. Sheets | 10% |
| (d) Nainital pattern roof (Plain sheeting with rolls) | 10% |
| (e) Nainital pattern roof (with corrugated sheets) | 25% |

3.7 Cornices and other wall features, when they are picked out in a different finish/colour shall be girthed and included in the general area.

3.8 Item includes removing nails, making good holes, cracks, patches with materials similar in composition of distemper.

3.9 The rate includes cost of all materials, labours, scaffolding, protective measures etc. involved in all the operations described above, carried out at all floor heights, in any position, at all levels. This shall also include conveyance, delivery, handling, unloading, storing work etc.

3.10 The rate shall be for an unit of one m².

11.02.b Distempering (3 coats) with water bound washable distemper of approved brand and manufacture and of required shade, on any surface to give an even shade, including a priming coat with alkali resistant primer and applying one coat of putty after thoroughly brushing the surface free from mortar dropping and other foreign matter and also including preparing the surface even and sand papered smooth etc. complete, as directed.

1.0 Materials :

1.1 Water bound washable distemper and primer shall be of approved brand and manufacture. Further the relevant specifications for workmanship and mode of measurements and payment, of item no. 11.02.a shall be followed except that water bound distemper diluted with water or any other prescribed thinner shall be used instead of oil bound distemper. It shall conform to M-44.7.(G).

11.03 Finishing wall with water proofing cement paint of approved shade, on any surface (3 coats) to give an approved brand or manufacture (Super Snowcem or equivalent) and of required even shade after thoroughly brushing the surface to remove all dirt and remaining all loose powdered materials.

1.0 Materials :

1.1 The water shall conform to M-1. Cement water proofing paint shall conform to IS : 5410-1969, M-44.8.(H) and shall be of approved shade.

2.0 Workmanship :

2.1 **Scaffolding :** The relevant specifications of item No. 11.01.a shall be followed.

2.2 Preparation of surface :

The relevant specifications of item no. 11.01.a shall be followed except that the work white wash, colour wash shall be substituted with water proofing cement paint. The surface shall be thoroughly wetted with clean water before cement water proofing paint is applied.

2.3 **Preparation of paint :** Portland cement paint shall be prepared by adding paint powder to water

and stirring to obtain a thick paste, which shall then be diluted to a brushable consistency. Generally, equal volumes of paint powder and water make a satisfactory paint. In all cases, the manufacture's instructions shall be followed. The paint shall be mixed in such quantities as can be used up within an hour of mixing as otherwise the mixture will set and thicken, affecting flowing and finish. The lids of cement paint drums shall be kept tightly shut when not in use.

2.4 **Application of Paint :**

2.4.1 No painting shall be done when the paint is likely to be exposed to a temperature of below 7°C within 48 hours after application.

2.4.2 When weather conditions are such as to cause damage, the work shall be carried out in shadow as far as possible. This helps the proper hardening of the paint film by keeping the surface moist for a longer period.

2.4.3 To maintain the uniform mixture and to prevent segregation, the paint shall be stirred frequently in the bucket.

2.4.4 For undecorated surfaces, the surface shall be treated with minimum two coats of water proof cement paint. Not less than 24 hours shall be allowed between two consecutive coats. Next coat shall not be started until the proceeding coat has become sufficiently hard to resist marking by the brush being used. In hot dry weather, the preceding coat shall be slightly moistened before applying the subsequent coat.

2.4.5 The finished surface shall be even and uniform in shade, without patches, brush marks, paint drops etc.

2.4.6 The cement paint shall be applied with a brush with relatively short stiff hog or fibre bristles. The paint shall be brushed in uniform thickness and shall be free from excessively heavy brush marks. The lumps shall be well brushed out.

2.4.7 Water proof cement paint shall not be applied on surfaces already treated with white wash, colour wash, distemper dry or oil bound varnishes, paint etc. It shall not be applied on gypsum, wood and metal surfaces.

2.5 **Curing :** Painted surfaces shall be sprinkled with water two or three times a day. This shall be done between coats and for atleast two days following the final coat. The curing shall be started as soon as the paint has hardened so as not to be damaged by the sprinkling of water say about 12 hours after the application.

2.6 **Protection measures** shall be taken as per item No. 11.02.a para 2.6.

3.0 **Mode of Measurements and Payment :**

3.1 The relevant specifications of item No. 11.01.a shall be followed.

3.2 The rate shall be for an unit of one m².

J02 Providing & applying Acrylic external Emulsion paint of Asian /ICI / Burger (Weather coat) having protection against fungule growth and UV degradation as per approved make in minimum three coats (1 coat of exterior grade primer and 3 coats of paint) to give an even shade with brush on exterior sand faced plastered surfaces/ mala plastered surfaces/

textured surface or any other surfaces including ceiling, roof at all heights including scaffolding thoroughly brushing the surfaces with sand paper to make it free from mortar dropping and other foreign matter etc. complete as per the manufacture's specification and up to the satisfaction of Engineer in charge. The rate shall also include the cost of filler for cracks on the surfaces. Note The quoted Rate shall be inclusive of minimum 1 coat of exterior grade cement based putty on finish surface (if required) and coat of exterior grade primer). Paint coefficient of 1.00 for all the surfaces including sand face plaster /rough surface.

1.0 Materials: Water shall conform to M-1 and acrylic paint shall conform to its supplier's specification

2.0 Workmanship:

2.1 General

2.1.1 The materials required for work of painting work shall be obtained directly from approved manufacturers or approved dealer and brought to the site in maker's drums, cage etc. with seal unbroken.

2.1.2 All materials not in actual use shall be kept properly protected, lid of containers shall be kept closed and surface of paint in open or partially open containers covered with a thin layer of water to prevent formation of skin. The materials, which have become stale or flat due to improper and long storage shall not be used. The paint shall be stirred thoroughly in its container before pouring into small containers. While applying also, the paint shall be continuously stirred in smaller container. No left over paint shall be put back into stock tins when not in use. The paint shall be stirred thoroughly in its container before pouring into small containers.

2.1.3 If for any reasons, thinning is necessary, water shall be added as per supplier's instructions

2.1.4 The surface to be painted shall be thoroughly cleaned and dusted. All rust, dirt and grease shall be thoroughly removed before painting is started. No painting on exterior or other exposed parts of the work shall be carried out in wet, damp or otherwise unfavourable weather and all the surfaces shall be thoroughly dry before painting work is started.

2.2 Scaffolding: The relevant specification in item 11.01.a para 2.3 shall be followed.

2.2 Preparation of surface:

2.2.2 All unnecessary nails, hooks etc. shall be removed. Pitting in plaster shall be made good with plaster again and papered with a fine grade sand paper and made smooth. The surface affected by moulds, moss, fungi, algae lichens, efflorescence etc. shall be treated in accordance with IS : 2395 (Part-1)-1966.

2.3 Preparation of Mix: This shall be done as per the manufacture's instructions. The thinning of emulsion is to be done with water and not with turpentine. The quantity of thinner to be added to shall be as per manufacturer's instructions.

2.4 Application:

2.4.1 Before pouring into small containers for use of applying, the paint shall be stirred thoroughly in

its container. Also, the paint shall be continuously stirred in the smaller container, so that its consistency is kept uniform.

2.4.2 The paint shall be laid on evenly and smoothly by means of crossing and laying off. The crossing and laying off consists of covering the area over with paint, brushing the surface hard for the first time over and then brushing alternately in opposite directions two or three times and then finally brushing lightly in direction at right angles to the same. In this process, no brush marks shall be left after the laying off is finished. The full process of crossing and laying off will constitute one coat. No hair marks from the brush or clogging of paint puddles in the corners of panels, angles of moldings etc. shall be left on the work.

2.4.3 On the newly plastered surface, the first coat shall be applied with 100% dilution and second and third coat shall be applied with 40 % dilution or as per the supplier's instructions. The second or subsequent coat shall not be started until the preceding coat has become sufficiently hard to resist marking of the brush being used.

2.5 **Precautions:**

(a) Old brushes if they are to be used with paints, shall be completely dried of turpentine or oil paint by washing in warm soap water. Brushes shall be quickly washed in water immediately after use and shall be kept immersed in water during break periods to prevent the paint from hardening on the brush.

(b) In the preparation of walls for plastic emulsion painting, no oil base putties shall be used in filling cracks, holes etc.

(c) Splashes on floors etc. shall be cleaned out without delay, as they will be difficult to remove after hardening.

(d) Washing of surfaces treated with emulsion paint shall not be done within 3 to 4 weeks of application.

2.6 **Protective measure:**

The surface of doors, windows, ventilators, floors, of furniture etc. and such other parts of the building not to be white/colour washed shall be protected from being splashed upon. Such surfaces shall be cleaned of white/colour wash splashed, if any, immediately after completing the painting, at no extra cost.

3.0 **Mode of Measurements and Payment:**

3.1 The relevant specifications of item No. 11.01.a shall be followed.

3.2 The rate shall be for an unit of one m².

11.04.a Providing & applying two coats with brush, of Heritage surface texture - Flaked, of desired shade of Bakelite Hylam Ltd., on interior surfaces at all heights to give an even shade including thoroughly brushing the surface free from water mortar dropping and other foreign matter and sand paper smooth. The paint shall be applied on mala plaster, after applying a coat of primer and putty.

1.0 Materials : Water shall conform to M-1. The Heritage surface texture - Flaked shall conform to M-44C.

2.0 Workmanship : The relevant specification of item no. 11.09 shall be followed except that Heritage surface texture - Flaked shall be applied on any interior surfaces.

- 2.1 **Scaffolding :** The relevant specifications of item No. 11.01.a para 2.3 shall be followed.
- 2.2 **Preparation of surface :** The relevant specifications of item No. 11.02.a, para 2.2 shall be followed.
- 2.3 **Preparation of Mix :** This shall be done as per the manufacture's instructions. The thinning, if required shall be done as per the Manufacturer's instructions. The quantity of thinner to be added to shall also be as per manufacturer's instructions.
- 2.4 **Application :**
- 2.5 **Protective measures :** The relevant specifications of item no. 11.01.b para 2.4 shall be followed.
- 3.0 **Mode of Measurements and Payment :**
- 3.1 The relevant specifications of item No. 11.01.a shall be followed.
- 3.2 The rate shall be for an unit of one m².
- 11.04.b **Providing & applying two coats with brush, of Heritage surface texture - Lacquered, of desired shade of Bakelite Hylam Ltd., on interior surfaces, at all heights to give an even shade including thoroughly brushing the surface free from water mortar dropping and other foreign matter and sand paper smooth. The paint shall be applied over mala finish plaster, after applying a coat of primer and putty.**
- 1.0 **Materials :** Water shall conform to M-1. The Heritage surface texture - Lacquered shall conform to M-44C.
- 2.0 **Workmanship :**
- The relevant specification of item no. 11.09 shall be followed except that Heritage surface texture - Lacquered shall be applied on any interior surfaces.
- 2.1 **Scaffolding :** The relevant specifications of item No. 11.01.a para 2.3 shall be followed.
- 2.2 **Preparation of surface :** The relevant specifications of item No. 11.02.a, para 2.2 shall be followed.
- 2.3 **Preparation of Mix :**
- This shall be done as per the manufacture's instructions. The thinning, if required shall be done as per the Manufacturer's instructions. The quantity of thinner to be added to shall also be as per manufacturer's instructions.
- 2.4 **Application :**
- 2.5 **Protective measures :** The relevant specifications of item No. 11.01.b para 2.4 shall be followed.

3.0 Mode of Measurements and Payment :

3.1 The relevant specifications of item No. 11.01.a shall be followed.

3.2 The rate shall be for an unit of one m².

11.04.c Providing & applying two coats with brush, of Heritage surface texture - Granuled, of desired shade of Bakelite Hylam Ltd., on interior surfaces, at all heights to give an even shade including thoroughly brushing the surface free from water mortar dropping and other foreign matter and sand paper smooth. The paint shall be applied over mala finish plaster, after applying a coat of primer and putty.

1.0 Materials : Water shall conform to M-1. The Heritage surface texture - Granuled shall conform to M-44C.

2.0 Workmanship : The relevant specification of item no. 11.09 shall be followed except that Heritage surface texture - Granuled shall be applied on any interior surfaces.

2.1 Scaffolding : The relevant specifications of item No. 11.01.a para 2.3 shall be followed.

2.2 Preparation of surface : The relevant specifications of item No. 11.02.a, para 2.2 shall be followed.

2.3 Preparation of Mix : This shall be done as per the manufacture's instructions. The thinning, if required shall be done as per the Manufacturer's instructions. The quantity of thinner to be added to shall also be as per manufacturer's instructions.

2.4 Application :

2.5 Protective measures : The relevant specifications of item No. 11.01.b para 2.4 shall be followed.

3.0 Mode of Measurements and Payment :

3.1 The relevant specifications of item No. 11.01.a shall be followed.

3.2 The rate shall be for an unit of one m².

11.04.d Providing & applying two coats with brush, of Heritage surface texture - Granite flakes, of desired shade of Bakelite Hylam Ltd., on interior surfaces, at all heights to give an even shade including thoroughly brushing the surface free from water mortar dropping and other foreign matter and sand paper smooth. The paint shall be applied on mala finish plaster, after applying a coat of primer and putty.

1.0 Materials: Water shall conform to M-1. The Heritage surface texture- Granite flakes shall conform to M-44C.

2.0 Workmanship : The relevant specification of item no. 11.09 shall be followed except that Heritage surface texture - Granite flakes shall be applied on any interior surfaces.

- 2.1 **Scaffolding :** The relevant specifications of item No. 11.01.a para 2.3 shall be followed.
- 2.2 **Preparation of surface :** The relevant specifications of item No. 11.02.a, para 2.2 shall be followed.
- 2.3 **Preparation of Mix :** This shall be done as per the manufacture's instructions. The thinning, if required shall be done as per the Manufacturer's instructions. The quantity of thinner to be added to shall also be as per manufacturer's instructions.
- 2.4 **Application :**
- 2.5 **Protective measures :** The relevant specifications of item No. 11.01.b para 2.4 shall be followed.
- 3.0 Mode of Measurements and Payment :**
- 3.1 The relevant specifications of item No. 11.01.a shall be followed.
- 3.2 The rate shall be for an unit of one m².
- 11.05.a Providing & applying two coats with brush, of Heritage surface texture - Flaked, of desired shade of Bakelite Hylam Ltd., on exterior surfaces, at all heights to give an even shade, including thoroughly brushing the surface free from mortar droppings and other foreign matter and sand papered smooth. The paint shall be applied on sand-faced smooth level plaster, after applying a coat of primer and putty.**
- 1.0 Materials :** Water shall conform to M-1. The Heritage surface texture - Flaked shall conform to M-44C.
- 2.0 Workmanship :** The relevant specification of item no. 11.09 shall be followed except that Heritage surface texture - Flaked shall be applied on any exterior surfaces.
- 2.1 **Scaffolding :** The relevant specifications of item No. 11.01.a para 2.3 shall be followed.
- 2.2 **Preparation of surface :** The relevant specifications of item No. 11.02.a, para 2.2 shall be followed.
- 2.3 **Preparation of Mix :** This shall be done as per the manufacture's instructions. The thinning if required shall be done as per the Manufacturer's instructions. The quantity of thinner to be added to shall also be as per manufacturer's instructions.
- 2.4 **Application :**
- 2.5 **Protective measures :** The relevant specifications of item No. 11.01.b para 2.4 shall be followed.
- 3.0 Mode of Measurements and Payment :**
- 3.1 The relevant specifications of item No. 11.01.a shall be followed.
- 3.2 The rate shall be for an unit of one m².

- 11.05.b Providing & applying two coats with brush, of Heritage surface texture - Lacquered, of desired shade of Bakelite Hylam Ltd., on exterior surfaces, at all heights to give an even shade, including thoroughly brushing the surface free from mortar droppings and other foreign matter and sand papered smooth. The paint shall be applied on mala finish plaster, after applying a coat of primer and putty.**
- 1.0 Materials :** Water shall conform to M-1. The Heritage surface texture - Lacquered shall conform to M-44C.
- 2.0 Workmanship :** The relevant specification of item no. 11.09 shall be followed except that Heritage surface texture - Lacquered shall be applied on any exterior surfaces.
- 2.1 Scaffolding :** The relevant specifications of item No. 11.01.a para 2.3 shall be followed.
- 2.2 Preparation of surface :** The relevant specifications of item No. 11.02.a, para 2.2 shall be followed.
- 2.3 Preparation of Mix :** This shall be done as per the manufacture's instructions. The thinning if required shall be done as per the Manufacturer's instructions. The quantity of thinner to be added to shall also be as per manufacturer's instructions.
- 2.4 Application :**
- 2.5 Protective measures :** The relevant specifications of item No. 11.01.b para 2.4 shall be followed.
- 3.0 Mode of Measurements and Payment :**
- 3.1** The relevant specifications of item No. 11.01.a shall be followed.
- 3.2** The rate shall be for an unit of one m².
- 11.05.c Providing & applying two coats with brush, of Heritage surface texture - Granuled, of desired shade of Bakelite Hylam Ltd., on exterior surfaces, at all heights to give an even shade, including thoroughly brushing the surface free from mortar droppings and other foreign matter and sand papered smooth. The paint shall be applied on mala finish plaster, after applying a coat of primer and putty.**
- 1.0 Materials :** Water shall conform to M-1. The Heritage surface texture - Granuled shall conform to M-44C.
- 2.0 Workmanship :** The relevant specification of item no. 11.09 shall be followed except that Heritage surface texture - Granuled shall be applied on any exterior surfaces.
- 2.1 Scaffolding :** The relevant specifications of item No. 11.01.a para 2.3 shall be followed.
- 2.2 Preparation of surface :** The relevant specifications of item No. 11.02.a, para 2.2 shall be followed.
- 2.3 Preparation of Mix :** This shall be done as per the manufacture's instructions. The thinning

if required shall be done as per the Manufacturer's instructions. The quantity of thinner to be added to shall also be as per manufacturer's instructions.

2.4 **Application :**

2.5 **Protective measures :** The relevant specifications of item No. 11.01.b para 2.4 shall be followed.

3.0 **Mode of Measurements and Payment :**

3.1 The relevant specifications of item No. 11.01.a shall be followed.

3.2 The rate shall be for an unit of one m².

11.05.d **Providing & applying two coats with brush, of Heritage surface texture - Granite flakes, of desired shade of Bakelite Hylam Ltd., on exterior surfaces, at all heights to give an even shade, including thoroughly brushing the surface free from mortar droppings and other foreign matter and sand papered smooth. The paint shall be applied over mala finish plaster, after applying a coat of primer and putty.**

1.0 **Materials :** Water shall conform to M-1. The Heritage surface texture - Granite flakes shall conform to M-44C.

2.0 **Workmanship :** The relevant specification of item no. 11.09 shall be followed except that Heritage surface texture - Granite flakes shall be applied on any exterior surfaces.

2.1 **Scaffolding :** The relevant specifications of item No. 11.01.a para 2.3 shall be followed.

2.2 **Preparation of surface :** The relevant specifications of item No. 11.02.a, para 2.2 shall be followed.

2.3 **Preparation of Mix :** This shall be done as per the manufacture's instructions. The thinning if required shall be done as per the Manufacturer's instructions. The quantity of thinner to be added to shall also be as per manufacturer's instructions.

2.4 **Application :**

2.5 **Protective measures :** The relevant specifications of item No. 11.01.b para 2.4 shall be followed.

3.0 **Mode of Measurements and Payment :**

3.1 The relevant specifications of item No. 11.01.a shall be followed.

3.2 The rate shall be for an unit of one m².

11.06 **Providing & applying in one coat with brush, Spectrum Textured wall finish, of desired shade of Spectrum Paints Pvt. Ltd., on any surfaces, at all heights to give an even shade, including thoroughly brushing the surface free from mortar droppings and other foreign matter and sand papered smooth. The paint shall be applied on smooth mala plaster. (There is no use of applying a coat of primer and putty.)**

- 1.0 Materials :** Water shall conform to M-1. The Spectrum textured wall finishes shall conform to the relevant I.S.
- 2.0 Workmanship :** The relevant specification of item no. 11.09 shall be followed except that Spectrum textured wall finish shall be applied on any surfaces.
- 2.1 Scaffolding :** The relevant specifications of item No. 11.01.a para 2.3 shall be followed.
- 2.2 Preparation of surface :** The relevant specifications of item No. 11.02.a, para 2.2 shall be followed.
- 2.3 Preparation of Mix :** This shall be done as per the manufacture's instructions. The thinning if required shall be done as per the Manufacturer's instructions. The quantity of thinner to be added to shall also be as per manufacturer's instructions.
- 2.4 Application :** Spectrum wall finish is suitable for direct application to any surface like plastered, sandstone, plywood, etc. Roller finishes can be applied directly on bricks too.
- This finish is applied in a single coat through the trained applicators of the company, who are attached with the dealers of the product.
- 2.5 Protective measures :** The relevant specifications of item No. 11.01.b para 2.4 shall be followed.
- 3.0 Mode of Measurements and Payment :**
- 3.1** The relevant specifications of item No. 11.01.a shall be followed.
- 3.2** The rate shall be for an unit of one m².
- 11.07 Providing & applying three coats (first two coats are with brush and final coat is with roller) of plastic emulsion paint of desired shade, of approved make, brand and manufacture, on any surfaces, at all heights, to give an even shade, including thoroughly brushing the surface free from mortar droppings and other foreign matter and sand papered smooth. The paint shall be applied after applying a coat of primer and putty.**
- 1.0 Materials :** Water shall conform to M-1. The plastic emulsion shall conform to IS : 5411-1969(Part-1).
- 2.0 Workmanship :** The relevant specification of item no. 11.09 shall be followed except that plastic emulsion paint shall be applied on any surfaces. For flat and pearl luster (semi gloss) paint of same specification shall be followed except that the type of paint shall be changed as per the direction of Engineer-in-charge, to give the desired finish.
- 2.1 Scaffolding :** The relevant specifications of item No. 11.01.a para 2.3 shall be followed.
- 2.2 Preparation of surface :** The relevant specifications of item No. 11.02.a, para 2.2 shall be followed.
- 2.3 Preparation of Mix :** This shall be done as per the manufacture's instructions. The thinning of

emulsion is to be done with water and not with turpentine. The quantity of thinner to be added to shall be as per manufacturer's instructions.

2.4 **Application :**

2.4.1 Before pouring into small containers for use of applying, the paint shall be stirred thoroughly in its container. Also, the paint shall be continuously stirred in the smaller container, so that its consistency is kept uniform.

2.4.2 The paint shall be laid on evenly and smoothly by means of crossing and laying off. The crossing and laying off consists of covering the area over with paint, brushing the surface hard for the first time over and then brushing alternately in opposite directions two or three times and then finally brushing lightly in direction at right angles to the same. In this process, no brush marks shall be left after the laying off is finished. The full process of crossing and laying off will constitute one coat. No hair marks from the brush or clogging of paint puddles in the corners of panels, angles of moldings etc. shall be left on the work.

2.4.3 The paint shall be applied with brush for first two coats and final coat shall be done with roller only. The surface shall be treated with minimum one coat of alkali resistant primer and putty as specified in relevant specification of workmanship of item no.11.02.a. The second or subsequent coat shall not be started until the preceding coat has become sufficiently hard to resist marking of the brush being used.

2.4.4 The surface on finishing shall present a flat velvety smooth/pearl luster (semi gloss) finish, as specified in the item. It shall be even and uniform in shade without patches, brush marks, paint drops etc.

2.5 **Precautions :**

(a) Old brushes if they are to be used with emulsions paints, shall be completely dried of turpentine or oil paint by washing in warm soap water. Brushes shall be quickly washed in water immediately after use and shall be kept immersed in water during break periods to prevent the paint from hardening on the brush.

(b) In the preparation of walls for plastic emulsion painting, no oil base putties shall be used in filling cracks, holes etc.

(c) Splashes on floors etc. shall be cleaned out without delay as they will be difficult to remove after hardening.

(d) Washing of surfaces treated with emulsion paint shall not be done within 3 to 4 weeks of application.

2.6 **Protective measures :** The relevant specifications of item No. 11.01.b para 2.4 shall be followed.

3.0 **Mode of Measurements and Payment :**

3.1 The relevant specifications of item No. 11.01.a shall be followed.

3.2 The rate shall be for an unit of one m².

11.08.a Applying priming coat of yellow zinc chromate, over new steel and other metal surfaces after and including preparing the surface by thoroughly cleaning oil, grease, dirt and other foreign matter and secured with brushes, fine steel wood scrapes and sand paper, with ready mixed priming paint, brushing with red lead.

- 1.0 Materials :** The ready mixed primer, brushing red lead shall conform to IS : 102-1962.
- 1.2 The thinner (linseed oil) shall conform to IS : 75-1973, if, for any reason, thinning is necessary. In case of ready mix paint, the brand of thinner recommended by manufacturer shall be used.
- 2.0 Workmanship :**
- 2.1 Preparation of surfaces :** The surfaces to be painted shall be cleaned of all rust, scale, dirt and other foreign matter sticking to it with wire brushes, steel wool, scrapers, sand paper etc. This surface shall then be wiped finally with mineral turpentine which shall also removed grease and perspiration of hand marks. The surface shall then be allowed to dry.
- 2.2 Application of primer :**
- 2.2.1 After the preparation of the surface, the priming coat shall be applied immediately. The brushing operations are to be adjusted to the spreading capacity advised by the manufacturer of the particular primer. The paint shall be applied evenly and smoothly by means of crossing and laying off. The crossing and laying off consists of covering the area over with paint, brushing alternately in opposite directions, two or three times and then finally brushing lightly in a direction at right angles to the same. In this process, no brush marks shall be left after the laying off is finished. The full process of crossing and laying off will constitute one coat.
- 2.2.2 During painting, every time after the priming coat has been worked out of the brush bristles or after the brush has been unloaded of the primer, the bristles of the brush shall be opened up by striking the brush against portion of the unpainted surface with the end of the bristles, held at right angles to the surface, so that bristles thereafter will collect the correct amount of paint when dipped again into a paint container. The primary coat shall be allowed to dry completely before painting is started.
- 2.2.3 No hair marks from the brush or clogging of paint puddles in the corner or panels angles of mouldings etc. shall be left on the work.
- 2.2.4 Special care shall be taken while painting over bolts, nuts, rivets overlaps etc.
- 2.2.5 The container when not in use shall be kept close and free from air so that paint does not get thickened and also shall be kept guarded from dust.
- 3.0 Mode of Measurements and Payment :**
- 3.1 The new steel and other metal surface shall be measured under this item.
- 3.2 All the work shall be measured net, in the decimal system as executed, subject to the following limits unless otherwise stated herein after :
 (a) Dimensions shall be measured to the nearest 0.01 m.
 (b) Areas shall be worked out to the nearest 0.01 m².
- 3.3 No deductions shall be made for openings not exceeding 0.5 m² each and no addition shall be made for painting to beading, mouldings, edges, jambs, soffit etc. of such opening.
- 3.4 **In case of fabricated structural steel and iron work, primer coat of oil paint shall be included with fabrication.** In case of trusses, if measured in m², compound girders, stanchions,

lattices, girder and similar work, actual area shall be measured in m^2 and no extra shall be paid for painting on bolts, heads, nuts, washers etc. No addition shall be made to the weight calculated for the purpose of measurements of steel and iron works for paint applied on shop or at site.

3.5 The different surfaces shall be grouped into one general item, areas of uneven surface being converted into equivalent plain areas in accordance with the relevant I.S. code for payment.

3.6 The rate shall include the cost of all materials, labour, scaffolding, protective measures etc. required for the above specified operation, at all floors, at any height, in any position. Scrapping of surface, washing etc. of surfaces spoiled by smoke, soot, removal of oil and grease spots, treatment for infection with efflorescence, moulds, moss, fungi, algae and lichen shall not be paid extra. This shall also include conveyance, delivery, handling, unloading, storing work etc.

3.6 The rate shall be for an unit of one m^2 .

11.08.b Applying priming coat over new wood and wood based surfaces after and including preparing the surface by thoroughly cleaning oil, dirt, grease, dust and other foreign matter, sand papering and knotting, ready mixed paint brushing wood primer pink etc. complete.

1.0 Materials: The ready mixed paint, brushing wood primer pink like wooderite of Asian paints or equivalent, shall conform to IS : 3536-1966.

2.0 Workmanship :

2.1 Preparation of surfaces :

2.1.1 All wood work shall be dry and free from any foreign matter incidental to building operations. Nails shall be punched well below the surface to provide a firm key for painting. Mouldings shall be carefully smoothened with abrasive paper and projecting fibers shall be removed. Flat portion shall be smoothened off with abrasive paper used across the grain prior to painting and with the grain prior to staining, if the wood is to be left in its natural colour. Wood work which is to be stained may be smoothened by scraping instead of by glass papering if so required.

2.1.2 Any knots, resinous or streaks or bluish sap wood that are not large enough to justify cutting out shall be treated with two coats of pure shellac knotting applied thinly and extended about 25 mm. beyond the actual area requiring treatment.

2.2 Application of primer :

2.2.1 The relevant specifications of item no. 11.08.a shall be followed for application of primer.

3.0 Mode of Measurements and Payment :

3.1 The relevant specifications of item no. 11.08.a shall be followed except that work done on new or other wood and wood based surfaces shall be paid under this item.

3.2 The rate shall be for an unit of one m^2 .

11.08.c Applying priming coat over new wood and wood based surface after and including preparing the surface by thoroughly cleaning oil, grease, dirt and other foreign matter

sand papering and knotting, ready mixed paint brushing priming for enamel.

1.0 Materials : The ready mixed paint for brushing priming for enamel, on new or other wood/woodbased surfaces shall conform to IS : 106-1962.

2.0 Workmanship : The relevant specifications of item no.11.08.b shall be followed except that ready mixed paint brushing priming for enamel shall be used instead of ready mixed paint brushing wood primer pink.

3.0 Mode of Measurements and Payment :

3.1 The relevant specifications of item no. 11.08.a shall be followed.

3.2 The rate shall be for an unit of one m².

11.09 Painting three coats (excluding priming coat) on new steel and other metal surfaces with enamel paint - Glossy, Flat, Pearl lustre and Matt as desired, brushing, to give an even shade, including cleaning the surface of all dirt, dust and other foreign matter.

1.0 Materials : The enamel paint shall conform to M-44B.

2.0 Workmanship :

2.1 General

2.1.1 The materials required for work of painting work shall be obtained directly from approved manufacturers or approved dealer and brought to the site in maker's drums, cage etc. with seal unbroken.

2.1.2 All materials not in actual use shall be kept properly protected, lid of containers shall be kept closed and surface of paint in open or partially open containers covered with a thin layer of turpentine to prevent formation of skin. The materials which have become stale or flat due to improper and long storage shall not be used. The paint shall be stirred thoroughly in its container before pouring into small containers. While applying also, the paint shall be continuously stirred in smaller container. No left over paint shall be put back into stock tins when not in use. The paint shall be stirred thoroughly in its container before pouring into small containers.

2.1.3 If for any reasons, thinning is necessary, the brand of thinner recommended by the manufacturer shall be used.

2.1.4 The surface to be painted shall be thoroughly cleaned and dusted. All rust, dirt and grease shall be thoroughly removed before painting is started. No painting on exterior or other exposed parts of the work shall be carried out in wet, damp or otherwise unfavourable weather and all the surfaces shall be thoroughly dry before painting work is started.

2.1.5 For Glossy, Flat, Pearl lustre and Matt finish, painting of same specification shall be followed except that the type of paint shall be changed as per the direction of Engineer- in-charge, to give the desired finish.

2.2 Application :

- 2.2.1 Brushing operation are to be adjusted to the spreading capacity advised by the manufacturer of particular paint. The paint shall be applied evenly and smoothly by means of crossing and laying off. The crossing and laying off consists of covering the area over with paint, brushing the surface hard for the first time over and then brushing alternately in opposite directions two or three times and then finally brushing lightly in direction at right angles to the same. In this process, no brush marks shall be left after the laying off is finished. The full process of crossing and laying off will constitute one coat.
- 2.2.2 Each coat shall be allowed to dry completely and lightly rubbed with very fine grade of sand paper and loose particles brushed off before next coat is applied. Each coat shall vary slightly in shade and shall be got approved from Engineer-in-charge before next coat is started.
- 2.2.3 Each coat shall be lightly rubbed down with sand paper of fine pumice stone and cleaned off dust before the next coat is applied. No hair marks from the brush or clogging of paint puddles in the corners of panels angles of mouldings etc. shall be left on the work.
- 2.2.4 Special care shall be taken while painting over bolts, nuts, rivets, overlaps etc.
- 2.2.5 Approved best quality brushes shall be used.
- 3.0 Mode of Measurements and Payment :**
- 3.1 The relevant specifications of item no. 11.08.a shall be followed for mode of measurements and payment. The rate is excluding priming coat.
- 3.2 The rate shall be for an unit of one m².
- 11.10 Providing and applying three coats (first two coats by brush and final coat by roller) of Luster Paint of desired shade and approved make such as Asian, Burger, ICI or equivalent on all heights & levels, on any surfaces. The rate shall be including scaffolding, thoroughly brushing the surfaces to free them from mortar dropping, dirt and remaining loose powdered materials. Rates shall be inclusive of applying required no of coats of solvent base /water base primer & ready made cement based putty of Birla or equivalent as approved by Architect. sample to be got approved before start of work.**
- 1.0 Materials :** Glossy, Flat, Pearl Lustre and Matt enamel paint shall conform to relevant IS.
- 2.0 Workmanship :** The relevant specifications of item no. 11.08 and 11.09 shall be followed.
- 3.0 Mode of Measurements and Payment :**
- 3.1 The relevant specifications of item no. 11.09 shall be followed.
- 3.2 The rate shall be for an unit of one m².
- 11.11 Polishing with french polish on new wood and wood based surface to give an even surface, including cleaning the surface of all dirt, dust and sand papered smooth and including a coat of wood filler.**
- 1.0 Material :** The french polish of required tint and shade shall be prepared with the below mentioned ingredients and other necessary materials (i) Denatured spirit of approved quality (ii) Chadras, (iii) Shellac (iv) Pigment. The french polish so prepared shall conform to IS : 348-

1968 and M-45.

2.0 Workmanship :

2.1 Preparation of surface :

2.1.1 All unevenness shall be rubbed down smooth with sand paper and the surface shall be well dusted. The pores in the wood shall be filled up with a filler made of paste of whiting chalk in water or methylated spirit (with suitable pigment like burnt sienna or umber if required), otherwise the French polish will get absorbed and a good gloss will be difficult to obtain.

2.1.2 In case a surface is to be repolished, the old polish shall be thoroughly scrapped off by very fine sand paper and if required shall be washed off by luke warm water mixed with caustic soda powder to remove stains.

2.2 Application :

2.2.1 A polishing pad of soft woolen cloth/absorbent cotton covered by a fine cloth shall be used to apply the polish. The pad shall be moistened with polish and rubbed in quick light strokes along the grain, overlapping the former stroke thus, applying the polish sparingly but uniformly over the entire area to give an even surface. A trace of linseed oil on the face of the pad may be added which shall facilitate this operation. The surface shall be allowed to dry and the remaining coats applied in the same way. To finish off, the pad shall be covered with a fresh piece of clean fine cloth, slightly dampened with methylated spirit and rubbed lightly and quickly with circular motions. The finished surfaces shall present a uniform texture and high gloss.

3.0 Mode of Measurements and Payment :

3.1 The relevant specifications of item no. 11.08.a shall be followed for mode of measurements and payment.

3.2 The rate includes cost of wood filler etc. complete.

3.3 The rate shall be for an unit of one. m².

11.12 Applying wax polish on new wood work and wood based surfaces with bee's wax polish in proportion 2:1.5 :1:0.5 (2 Bees Wax : 1.5 linseed oil : 1 Turpentine oil : 0.5 Varnish by weight) to give an even surface, including cleaning the surface off all dirt, dust and sand papered smooth etc. complete.

1.0 Materials : Bee's Wax shall conform to IS : 1504 1968 linseed oil shall conform to IS : 75-1967. Turpentine shall conform to IS : 83-1950. Varnish shall conform to IS : 337-1952. Wax polish shall conform to M-45A.

2.0 Workmanship :

2.1 Preparation of bees wax :

2.1.1 Incase of bee's wax, it shall be prepared locally with following specifications :

2.1.2 Pure bee's wax free paraffin or bee's adulterants shall be used. The polish shall be prepared from mixture of bees wax, linseed oil, turpentine and varnish in proportion 2 : 1.5 : 1 : 0.5 by weight.

The bee's wax and boiled linseed oil shall be heated over a slow fire. When the wax is completely dissolved the mixture shall be cooled till it is just warm and turpentine and varnish shall be added to it in the required proportions and entire mixture shall be well stirred.

2.0 Preparation of surface :

2.2.1 The surface to be waxed shall be prepared to produce a smooth dry, neat surface, previous coat of paint or stain if any, shall be allowed to dry and be rubbed down, lightly wiped off and allowed to dry. All dust and dirt shall be removed from the surface to be waxed, and also from the neighborhood. Damp atmosphere and draughts shall be avoided. For waxing, normal dry day shall be chosen.

2.3 Application :

2.3.1 The wax shall be applied evenly with clean soft pad of cotton cloth in such a way that the surface is completely and fully covered. The surface shall then be rubbed continuously for half an hour. After well rubbing in one coat of wax polish, the work shall be covered with dust proof sheet (cloth for preventing dust falling on the work. Subsequent coat shall be applied after the surface is quite dry and shall be rubbed off with soft flannel until the surface has assumed a uniform gloss and in dry showing no sign of sickness.

2.3.2 The final wax polish depends largely on the amount of rubbing which shall be continuous and with uniform pressure with frequent changes in the direction.

3.0 Mode of Measurements and Payment :

3.1 The relevant specifications of item no. 11.08.a shall be followed.

3.2 The rate shall be for an unit of one m².

11.13 Applying melamine polish of approved make as per manufacturer's specification and as per shade approved by the Engineer-in-charge for polished door and window. The final coat should be spray by gun with pressure as per requirement.

1.0 Material : The melamine polish shall be of best quality and make as approved quality such as Asian or equivalent and shall conform to M-45B.

2.0 Workmanship :

2.1 The relevant specification of item no. 11.11 shall be followed for preparation of surface. The melamine polish shall be applied on doors and windows or any woodwork or wood based surfaces with the help of spray gun. The work shall be carried out as per instruction of Engineer-in-charge .

3.0 Mode of measurement and payment :

3.1 The relevant specification of item no. 11.11 shall be followed except the work of melamine polish shall be paid under these item.

3.2 The rate shall be for an unit of one m².

11.14 Applying Varnish of approved make, on new wood and wood based surface to give an

even surface, including cleaning the surface of all dirt, dust and sand papered smooth and including a coat of wood filler.

1.0 Material : Varnish for the finishing coat shall be of superior quality spar copal or as stipulated in the item and for under coat it shall be flatting varnish of the same approved manufacturer.

2.0 Workmanship :

2.1 Preparation of surface :

2.1.1 New wood work shall be finished smooth with a carpenter's plane. Knots shall be cut to a slight depth, cracks and holes shall be cleaned of dust and then filled with approved quality wood putty. The surface shall then be rubbed down perfectly smooth with medium and fine grained sand paper and wiped clean and dry.

2.1.2 Sizing or transparent wood filler from the same manufacturer, shall then be applied with a brush or rag and allowed to dry. Finally it shall be rubbed with fine sand paper or emery paper. This will seal the pores in the wood and prevent absorption of oil in the varnish.

2.2 Application :

2.2.1 An under coat of flatting varnish shall be applied. It shall dry hard and brittle and when rubbed down shall produce a smooth surface, enhancing the gloss of the finished varnish.

2.2.2 Varnish shall be applied liberally with a full brush and spread evenly with short light strokes to avoid frothing. Rubbing down with fine sand paper and flatting the surface shall be done after each coat except the final coat. The surface shall be allowed to dry and the finished surface shall present an uniform, fine glossy surface free from streaks, blisters etc. Special fine haired varnishing brushes only, shall be used for the work.

3.0 Mode of Measurement and Payment :

3.1 The relevant specification of item no. 11.11 shall be followed except the work of varnishing shall be paid under these item.

3.2 The rate shall be for an unit of one m².

11.15 Polishing with Acrylic polish of superior quality, of approved make and brand such as Acrypol N83 or equivalent, on new wood and wood based surface to give an even surface, including cleaning the surface of all dirt, dust and sand papered smooth and including a coat of wood filler.

1.0 Materials : Acrylic polish shall conform to M-45C.

2.0 Workmanship :

2.1 Preparation of surface :

2.1.1 Prepare the surface by proper sanding, filling and priming as per the conventional method in polishing wood surfaces.

2.1.2 In case, surface previously polished with french polish is to be repolished, the surface is sandpapered with emery paper no. 80 along the grains, thoroughly. Wipe off the loose dust completely and then clean the surface with a cloth pad filled with thinner N 83.

2.2 Application :

2.2.1 Apply 2 or 3 even coats rubbing well into the grains. For extra tough and durable coating, apply 4 to 5 coats.

2.2.2 In case dilution is required, use thinner N 83 for the same.

3.0 Mode of Measurements and Payment :

3.1 The relevant specification of item no. 11.11 shall be followed except the work of polishing with acrylic polish shall be paid under these item.

3.2 The rate shall be for an unit of one m².

11.16 Providing and applying Silicone paint over exposed concrete and brick surfaces and plastered surfaces, as directed with a minimum 5 years guarantee on stamp paper to the employer directly. (The Contractor should specify the % concentration of silicone while quoting the rate.)

a. Solvent based

b. Water based

1.0 Materials: Silicone paint shall be of approved quality like Wacker, GE silicon, Pidilite, Dow Corning, or equivalent (water repellent paint) as approved by the Architect and Engineer-in-charge. It shall conform to M-74.

2.0 Workmanship:

2.1 The silicone paint shall be diluted with water/solvent (benzene or toluene) in proportion as per manufacturer's specifications; The paint shall be sprayed with spray gun as directed. As far as possible ready mix paint shall be used.

2.2 Concentration of silicon content shall be in proportion so that after the application, surface is clear and as it is. The sample shall be approved by architect. Normally 5% concentration is sufficient for not to have change in parent color.

2.3 Before applying silicon paint, the brick surfaces should be thoroughly cleaned of dust, dirt, concrete slurry or any other foreign material or efflorescence from within the brick if any, using method like pressurized water jets or rubbing with gunny bags and soft brush etc. as approved by the EIC. Pressurized water jet shall be applied in such a way that the surface on which it is applied does not get damaged.

2.4 Before applying the specified coats of silicon paint the efflorescence of the exposed brick work should be removed in the following manner:

- 1) Apply solution of - mixer of liquid ammonia and soft water (1:6) + mixer of teapol and water (1:6) on brick surface using brush.
- 2) After required / specified time interval the surface treated as mentioned in 1 above should be washed with soft water using brush or spray.

2.5.1.1.1 The concrete surfaces should also be thoroughly cleaned of dust, dirt, rust, concrete slurry or any other foreign material using appropriate method so as not to damage the RCC work, as approved by the EIC.

2.6 Rate shall be inclusive of moping, cleaning, masking the door windows/floor/plants etc during and after the execution for protection

2.5 A guarantee bond on appropriate stamp paper, shall be given by the Contractor to the Client in the manner form prescribed below:

FORM OF GUARANTEE BOND

"I/We(Contractor) hereby guarantee that work will remain unaffected and will not be in any way damaged by water or any other humid conditions, for a period of 5 years after completion of the work of Silicone painting as per the terms and conditions of the contract and Contractor hereby indemnifies and agrees to save the Institute from any loss and or damage that might be caused on account of exposure to water and hereby Guarantees to make good any loss or damages suffered by the Institute and further guarantee to redo the affected work without claiming any extra cost."

2.5 This guarantee shall remain force for the period of 5 years from the completion of the work under the contract and it shall remain binding to the Contractor for period of 5 years.

3.0 Mode of Measurements and Payment:

3.1 The relevant manufacturer's specification followed.

3.2 The deposit at the rate of 50% of the cost of this item from the running and final bills shall be recovered and retained for the first one year after completion of the work and 10% of shall be retained for the balance of defects liability period and shall be refunded only after the completion of the defects liability period.

3.3 The rate shall be for a unit of one m².

11.17 Providing & applying three coats (first two coats are with brush and final coat is with roller) of Polyurethane paint of desired shade, of approved make such as MRF Durodec or equivalent, on any surfaces, at all heights to give an even shade, including thoroughly brushing the surface free from mortar droppings and other foreign matter and sand papered smooth. The paint shall be applied after applying a coat of primer and putty.

1.0 Materials : Water shall conform to M-1. The Polyurethane paint shall conform to M-44D.

2.0 Workmanship : As with conventional paints, polyurethane coating system shall also be applied in three coat build-up. The relevant specifications of item no. 11.01 for preparation of surface shall be followed. In case of application to interiors, one coat of penetrating primer, transparent shall be applied by brush and subsequently, putty if necessary and lastly two coats of finish paint by brush/roller. On exteriors, putty shall be avoided. The manufacturer's instructions shall be followed.

3.0 Mode of Measurements and Payment :

3.1 The relevant specifications of 11.01.a shall be followed.

- 3.2 The rate shall include the cost of all materials, labour, scaffolding, protective measures etc. required for the above specified operation, at all floors, at any height, in any position.
- 3.3 The rate shall be for an unit of one m².
- 11.18 Providing & applying two coats with brush, of Armor Quartz from Jenson & Nicholson (I) Ltd., on exterior surfaces, at all heights to give an even shade, including thoroughly brushing the surface free from mortar droppings and other foreign matter and sand papered smooth.**
- 1.0 Materials :** Armor Quartz shall conform to M-44E.
- 2.0 Workmanship :**
- 2.1 Preparation of surface :**
- 2.1.1 Rub the surface to be painted with sandpaper or wire brush to free it from loose particles, mortar droppings etc. In case, the surface is previously painted, remove the peeling paint and render the surface, smooth and even.
- 2.2 Application :**
- 2.2.1 On the prepared surface apply one coat of Robbiacem super cement paint, as a base coat. Thereafter, apply the final coat of armor quartz, with a flat brush, well moistened, before use. In case of repainting a surface, a base coat of armor quartz, diluted with water in ratio 1:1, shall be applied before the final coat of armor quartz. Whenever, the paint requires to be thinned, it shall be thinned with 5-10% of water by volume.
- 3.0 Mode of Measurements and Payment :**
- 3.1 The relevant specifications of 11.01.a shall be followed.
- 3.2 The rate shall include the cost of all materials, labour, scaffolding, protective measures etc. required for the above specified operation, at all floors, at any height, in any position.
- 3.3 The rate shall be for an unit of one m².
- 11.19 Powder coating with Powder paints such as Hawcoplast or equivalent, as approved by the Engineer-in-charge, on all metal surfaces, including all operations required for satisfactory work.**
- 1.0 Materials :** Powder paints shall conform to M-91.
- 2.0 Workmanship :**
- 2.1 Powder coating shall be provided using powder paints, with an Electrostatic spray gun or by Fluidized bed, as per the manufacturer's instructions. The work shall be carried out in the best workman-like manner.

3.0 Mode of Measurements and Payment :

3.1 The relevant specifications of item no. 11.08.a shall be followed.

3.2 The rate shall be for an unit of one m².

11.20 Providing and applying two coats with brush, of Sandtex matt paint from Snowcem or equivalent on exterior surfaces, at all heights to give even shades, including thoroughly brushing the surface free from mortar dropping and other foreign matter and sand papered smooth etc. complete.

The relevant specification of item no. 11.03 shall be followed except that sandtex matt paint shall be used instead of cement paint.