

- 9.01.a Precast terrazzo (Marble/Mosaic) tiles 20 mm. thick with white, black or white and black marble chips of size upto 6 mm., laid in floors, treads of steps and landing, at all heights and floors, on bed of 35 mm. average thickness of lime mortar 1:1.5 (1 lime putty : 1.5 fine sand) or CM 1:6, joined with neat cement slurry mixed with pigment to match the shade of the tiles including rubbing and polishing complete, with precast tiles of : Light shades, using white cement.**
- 1.0 Materials :** Water shall conform to M-1. Cement shall conform to M-3. Lime mortar shall conform to M-10. Cement mortar shall conform to M-11. The precast terrazzo tiles of 20 mm. thick shall be of light shade using white cement and shall conform to M-47.
- 2.0 Workmanship :**
- 2.1 The work shall be carried out as per IS : 1443-1972.
- 2.2 Bedding :**
- 2.2.1 Before spreading the mortar, the sub-base of the floor shall be cleaned of all dirt, scum and loose materials and then shall be well wetted without forming any pools of water on the surface.
- 2.2.2 In case of R.C.C floors, the top shall be left a little rough, all points of level for the finished surface shall be marked out. The lime mortar of proportion 1:1.5 (lime putty : 1.5 fine sand) or cement mortar of proportion 1:6, as directed, shall be then evenly and smoothly spread over the base. Bedding layer of mortar shall be not less than 25 mm. and average thickness of the bedding shall be 35 mm.
- 2.3 Laying :**
- 2.3.1 Before laying the terrazzo (Marble/Mosaic) tiles, the tiles shall be thoroughly wetted with water. Neat cement grout of required consistency at 4.4 Kg. cement/m² shall be spread on the mortar bed. The tiles shall be laid on the neat cement float and shall be evenly and firmly bedded to the required level and slope. There shall be no hollows left. The joints shall be of uniform thickness and in straight line as per the pattern.
- 2.3.2 The surface of flooring shall be checked frequently with a straight edge atleast two meters long so as to obtain a true surface with required slope.
- 2.3.3 While laying, any chiselling which may be required for making the skirting or dado flush with the plaster and/or other finishes shall be done. Necessary grooves of required size in cm., between plaster and/or other finishes, dado or skirting (if required) shall be provided. Forming machine-cut/rounded edges, gutters, sills, platforms, channels, curbing, etc. if any, if required, shall be provided as per the drawing and design.
- 2.3.4 In places where full tiles cannot be fixed, the tiles shall be cut to the size and smoothened at edge to give straight and true joints.
- 2.3.5 After the tiles have been laid, the surplus cement slurry and the joints shall be cleaned and washed fairly deep before the cement hardens.
- 2.3.6 The day after tiles have been laid, the joints shall be cleaned of all grey cement grout with a wire brush to a depth of about 5 mm. and then grouted with white cement, with or without pigment to match the shade of the topping of tiles. The same cement slurry shall then be spread over the

whole surface, laid, in a thin coat to protect the surface from abrasive damage and to fill pin holes that may exist on the surface.

2.3.7 All necessary slopes, gradients and levels shall be truly maintained as required and directed by the Engineer-in-charge.

2.4 **Curing :** The flooring shall be kept wet with damp sand or water for seven days. It shall be kept undisturbed atleast for 14 days. The grinding shall normally be commenced after 14 days.

2.5 **Polishing :**

2.5.1 After the tiles are properly cured, first grinding shall be done with carborundum of 48 to 60 grade grit fitted in the machine. Water shall be properly used during grinding. When the chips show up and the floor has been uniformly rubbed, it shall be cleaned with water, baring all pin holes. It shall then be covered with a thin coat of white cement mixed with or without pigments to match the colour of the topping of the tiles. Pin holes if any, shall be filled. This grout shall be kept moist for a week. Thereafter, second grinding shall be started with carborundum of 120 grit. Grouting and curing shall follow again. Final grinding shall be done when other works are finished. The machine shall be fitted with carborundum of grit 220 to 350, and grinding shall be started using water in abundance. The floor shall then be washed with clean water. Oxalic acid powder shall then be dusted at 33 grams per square meter on the surface and the surface shall be rubbed with a machine fitted with hessian bobs or rubbed hard with a pad of woolen rags. The floor shall then be washed clean and dried with a soft cloth or linen. The finished floor shall not sound hollow when tapped with a mallet.

2.5.2 If any tile is disturbed or damaged it shall be refitted or replaced, properly jointed and polished.

2.5.3 Testing of the tiles shall be carried out by the Contractor at his own cost as per I.S. requirement for all the mentioned tests.

3.0 **Mode of Measurements and Payment :**

3.1 Terrazzo tiles flooring shall be measured in m² for visible area of work done.

3.2 No deductions shall be made nor extra paid for any opening in the floor area upto 0.1 m². Nothing extra shall be paid for use of cut tiles or for laying the floors at different levels in the same room or court yard. Mosaic tiles laid in floor borders and bands etc. shall be measured in the same item and nothing extra shall be payable on account of these or similar bands formed of half or multiples of half size standard tiles/ or other uncut tiles.

3.3 The treads of stairs and steps paved with tiles without nosing shall also be measured under this item.

3.4 The rate shall include the cost of all materials (inclusive of all taxes, levies, and delivery at site), labour & sundry involved in all the operations, at all floors, at any height and level, as described above. It shall also include for breakage and wastage. Floating materials and margin of profit shall also be included. All material samples shall be got approved by the Engineer-in-charge before placing orders.

3.5 No extra shall be paid for any small quantities like narrow widths, mitred & returned ends, rounds & cutting, fixing and making good upto & around pipes, fittings and fixtures etc.

- 3.6 The rate shall include for fixing the flooring in composite pattern as per the drawings, using different materials and sizes. The measurements of the different materials shall be taken category-wise separately and paid accordingly.
- 3.7 The basic rate, if at all provided or agreed upon includes cost of material, all taxes, levies & cost of delivery at site.
- 3.8 The rate shall be for an unit of one m².
- 9.01.b Precast terrazzo (Marble/Mosaic) tiles 20 mm. thick with white, black or white and black marble chips of size upto 6 mm. in skirting and risers of steps, not exceeding 30 cm. in height, on 10 mm. thick cement plaster 1:3 (1 cement : 3 coarse sand), jointed with neat cement slurry, including rubbing and polishing complete, with tiles of light shades using white cement.**
- 1.0 Materials :** Water shall conform to M-1. Cement Mortar shall conform to M-11. The precast terrazzo (Marble/Mosaic) tiles of light shades using white cement, 20 mm. thick shall conform to M-47.
- 2.0 Workmanship :**
- 2.1 Laying :** The work shall be carried out for skirting, risers of steps & stairs and dado. Before fixing precast terrazzo (Mosaic/Marble) tiles of the shade and size as specified, the surface shall be prepared by heavy scraping, raking joints etc. to the required line, level and plumb. The surface shall be thoroughly wetted before commencing the laying work. Thereafter, about 10 mm. thick backing of cement mortar in specified proportion shall be applied on the surface, in true line and level, generally as per specification of the relevant plaster item. (Section 7.00)
- 2.2 Fixing :** The back of each tile to be fixed shall be smeared with cement paste of matching colour and the mosaic tiles shall then be gently tapped against the surface, with a wooden mallet. The skirting shall be done only after the flooring is completed. Any pipes coming out of the wall through the dado or skirting shall only be at the intersections of the horizontal and vertical joints. The tiles shall not have staggered joints. The joints shall be true to entire line both ways and vertical joints shall be in line with joints of flooring. Tiles shall be fixed as close as possible to the adjoining tiles and any difference in the thickness of the mosaic tiles shall be evened out in the cement paste so that all the tiles faces are set in conformity with one another. The skirting shall project uniformly and not more than 6 mm. thickness beyond the finished surface above. Top of skirting or dado shall be truly horizontal. The risers of steps, skirting or dado shall rest on top of treads of flooring wherever required. The tiles shall be cut (sawn) and thin edges smoothened before use.
- 2.3.3** The rate shall include for any chiselling which may be required for making the skirting or dado flush with the plaster and/or other finishes. It shall include for a groove of required size in cm., between plaster and/or other finishes, dado or skirting (if required). It shall also include for forming machine-cut/rounded edges, gutters, channels, curbing etc. if required.
- 2.3 Curing :** Curing shall be done for 7 days continuously.
- 2.4 Finishing :** Skirting and dado shall be hand polished to have an even smooth and shining surface. In case of skirting only, 10 mm. x 10 mm. groove shall be provided at the junction of cement plaster and cement tiles.

3.0 Mode of Measurements and Payment :

- 3.1 The terrazzo tiles with light shade using white cement base shall be paid under this item. The length shall be measured along finished surface of the riser, skirting or dado, correct to a centimeter height measured from finished or treads or floor to the top (under side of treads in case of steps)
- 3.2 The rate shall include the cost of all materials (inclusive of all taxes, levies, and delivery at site), labour & sundry involved in all the operations, at all floors, at any height and level, as described above. It shall also include for breakage and wastage. Floating materials and margin of profit shall also be included. All material samples shall be got approved by the Engineer-in-charge before placing orders.
- 3.3 No extra shall be paid for any small quantities like narrow widths, mitred & returned ends, rounds & cutting, fixing and making good upto & around pipes, fittings and fixtures etc.
- 3.4 The rate shall include for fixing in composite pattern as per the drawings, using different materials and sizes. The measurements of the different materials shall be taken category-wise separately and paid accordingly.
- 3.5 The basic rate, if at all provided or agreed upon includes cost of material, all taxes, levies & cost of delivery at site.
- 3.6 The rate shall be for an unit of one m².

9.02.a Providing & laying precast grey mosaic tiles flooring / all floors using hydraulically pressed tiles of 300mmX300mmX25mm thick as confirming to IS 1237 using terrazzo tiles of approved shapes and colours & skirting (to be measured in m².) in composite pattern, if any, best quality obtained from approved manufacturer, of desired shade of grey colour using 100% grey cement, marble chips or equivalent, in grading no. 0, 1 & 2, in desired proportion, laid over an average 35 mm. thick cement mortar 1:6 bedding, topped with cement slurry, including closed joints, pointing, curing, machine polishing to obtain highly smooth polished surface and cleaning floor with oxalic acid to obtain stain free finish etc complete as per specifications and directions of engineer-in-charge.

1.0 Materials : Water shall conform to M-1. Cement Mortar shall conform to M-11. The Mosaic tiles shall be of silver grey shade and shall conform to M-47. The size of mosaic tiles shall be 30 cm. x 30 cm. x 25 mm. and the chips of grading no. 4 and 5 shall be used in the tiles.

2.0 Workmanship : The relevant specification of item.no. 9.01.a & 9.01.b shall be followed except that the tiles shall be laid on cement mortar bedding, average 35 mm. thick in CM 1:6. Waxing will not be permitted.

3.0 Mode of Measurements and Payment : The relevant specification of item.no. 9.01.a & b shall be followed.

9.02.b Providing and laying 30 x 30 cm. of 25 mm. thick mosaic tiles flooring and skirting (to be measured in m².) in composite pattern, if any, best quality, approved manufacturer, white/coloured tiles of desired shade, made from approved source first quality Chhota Udaipur (Gujarat) marble chips or equivalent, in grading no. 4 & 5, in desired proportion, laid over an average 35 mm. thick cement mortar 1:6 bedding, topped with cement slurry,

including closed joints, pointing, curing, machine polishing and washing, as directed. (Waxing will not be permitted.)

The relevant specification of item.no. 9.02.a shall be followed except that white/coloured tiles of desired shade shall be laid on cement mortar bedding, average 35 mm. thick in CM 1:6. Waxing will not be permitted.

- 9.02.c Providing & laying 30 x 30 cm. and 25 mm. thick grey mosaic tiles flooring & skirting (to be measured in m².) in composite pattern, if any, best quality, approved manufacturer, of desired shade of grey colour, made from approved source, such as kankroli (Gujarat) marble chips or equivalent, in grading no. 0, 1 & 2, in desired proportion, laid over an average 35 mm. thick cement mortar 1:6 bedding, topped with cement slurry, including closed joints, pointing, curing, machine polishing and washing, as directed.**

The relevant specification of item no. 9.02.a shall be followed except that plain cement tiles, of desired shade of grey are to be used as specified in item and the size of the tile shall be as mentioned in the item and the bedding thickness shall be 35 mm.

- 9.03.a Providing and laying first quality glazed tiles of approved size, make and colour as per design. The tiles shall be fixed, after applying cement slurry (3.3 kg. cement / sqm), with 1:1 cement mortar in dado on minimum 12 mm thick wired plaster in CM 1:4 in line level & as per drawing. Joints shall be filled with specified colour pigment & white cement including curing, polishing and cleaning with mild oxalic acid etc. complete, as shown and specified, for flooring, dado or channel work etc. complete, as directed by Architects and Engineer-in-charge.**

- 1.0 Materials :** Water shall conform to M-1. Cement mortar shall conform to M-11. White and coloured glazed tiles shall conform to M-55 and 55A and make such as Johnson and Johnson, Somany or equivalent, first quality.

2.0 Workmanship:

2.1 Wired Plaster:

- 2.1.1** The sub-base/wall shall be cleaned, wetted. The plaster in the proportion of 1:4 cement sand mortar as per the relevant specification of wired plaster shall be applied. The plaster shall be cured for 7 days. After curing, The string marking of the glazed tiles with blue or white lime shall be done on the wall after wired plaster is completed as per drawing in such a way that opposite walls shall be mirror image. The outlets for plumbing shall be marked as per drawing and plumbing work shall be carried out accordingly and tested for pressure as instructed by engineer –in-charge. The tiles shall be fixed after testing the water supply lines and laying the electrical conduits and boxes.

2.2 Fixing tiles:

- 2.2.1** The tiles before laying shall be soaked in water for atleast two hours. Neat grey cement slurry at 3.3 Kg. Cement/m² of honey-like consistency shall be spread over the wired plaster as directed. Cement sand mortar of 1:1(cement : fine sand) shall be evenly spread behind the tiles and thereafter tiles shall be well pressed and gently tapped with a wooden mallet till they are properly bedded and in level with the adjoining tiles. The edges of the tiles shall be smeared with neat cement slurry. There shall be no hollows in bed or joints. The joints between the tiles shall be as thin as possible in straight line or as per pattern.

- 2.2.2 The tiles shall not have straight /staggered joints. Where full size tiles cannot be fixed, they shall be cut (Sawn) to the required size and the edges rubbed smooth to ensure straight and true joints.. After the tiles are laid, the joints shall be cleaned of grey cement grout with a wire brush to a depth of about 5 mm. and then grouted with white cement with or without pigment to match the shade of the topping of tiles. The same cement slurry shall then be spread over the whole surface in a thin coat to protect the surface from abrasive damage and to fill up pin holes that may exist on the surface. White cement with or without matching pigment shall be used for pointing the joints. After fixing the tile finally in an even plane the dado shall be kept wet and allowed to cure undisturbed for 7 days.
- 2.2.3 While laying, any chiselling which may be required for making the skirting or dado flush with the plaster and/or other finishes shall be done. Necessary grooves of required size in cm., between plaster and/or other finishes, dado or skirting (if required) shall be provided. Forming machine-cut/rounded edges, gutters, sills, platforms, channels, curbing, etc. if any, if required shall be provided as per the drawing and design.
- 2.2.4 All necessary slopes, gradients and levels shall be truly maintained as required and directed by the Engineer-in-charge.
- 2.3 Cleaning:**
- 2.3.1 The surplus cement grout that may have come out of the joints shall be cleared off before it sets. Once the floor has set, it shall be carefully washed and cleaned by oxalic acid and dried. Proper precautions and measures shall be taken to ensure that the tiles are not damaged in any way till the completion of the construction.
- 2.3.2 If any tile is disturbed or damaged it shall be refitted or replaced, properly jointed and polished.
- 3.0 Mode of Measurements and Payment:**
- 3.1 The work done shall be measured in m². for the visible area of work done in floor . The length and width of the flooring shall be measured between the faces of skirting or dados or plastered face of walls as the case may be. The paving under dado or skirting shall not be measured. No deduction shall be made nor extra paid for any opening in the floor of area upto 0.1 m². Nothing extra shall be paid for laying the floors at different levels in the same room. The dado will be measured from the finish floor level to the top of tile fixed.
- 3.2 **The rate shall include the cost of wired plaster** and all materials (inclusive of all taxes, levies, and delivery at site), labour & sundry involved in all the operations, curing etc complete ,at all floors, at any height and level, as described above. It shall also include for breakage and wastage. Floating materials and margin of profit shall also be included. All material samples shall be got approved by the Engineer-in-charge before placing orders.
- 3.3 No extra shall be paid for any small quantities like narrow widths, mitred & returned ends, rounds & cutting, fixing and making good upto & around pipes, fittings and fixtures etc.
- 3.4 The rate shall include for fixing the dado in composite pattern as per the drawings, using different materials and sizes. The measurements of the different materials shall be taken category-wise separately and paid accordingly.
- 3.5 The basic rate, if at all provided or agreed upon includes cost of material, all taxes, levies & cost of delivery at site.

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

9.03.b - do - as item no. 9.03.a but size of glazed tiles, 4" x 8".

The relevant specifications of item no. 9.03.a shall be followed using glazed tiles of size 4" x 8" instead of 4" x 4".

9.03.c - do - as item no. 9.03.a but size of glazed tiles, 6" x 6".

The relevant specifications of item no. 9.03.a shall be followed using glazed tiles of size 6" x 6" instead of 4" x 4".

9.03.d - do - as item no. 9.03.a but size of glazed tiles, 6" x 8".

The relevant specifications of item no. 9.03.a shall be followed using glazed tiles of size 6" x 8" instead of 4" x 4".

9.04.a Providing & laying in position, ceramic tiles of any size of approved make & colour, of first quality, as per design, set in cement slurry or 1:1 cement sand mortar on wall with wired plaster, over a minimum 12 mm. thick cement mortar 1:3 bedding or wired plaster on walls and laid to proper slope and level. Joints shall be filled with self matching colour (white cement plus pigment). Curing & cleaning with mild oxalic acid etc. complete to be done for flooring, dado or channel work, as directed by the Engineer-in-charge.

1.0 Materials : Water shall conform to M-1. Cement mortar shall conform to M-11. Ceramic tiles shall conform to M-56 and shall be of the make as specified in the item.

The relevant specification of item no. 9.03.a and 7.09 shall be followed except that ceramic tiles shall be used instead of glaze tile and sand stone, respectively. The ceramic tiles shall be of first quality and make as specified in the item. The ceramic tiles shall be of Spartek, Naveen, Regency or Bell make. The pigment used for mixing with white cement for pointing shall be of Rainbow Tile Mate from 'Roffe' or equivalent, conforming to M-63.

9.04.b - do - as item no. 9.04.a but size of ceramic tiles, 8" x 8".

The relevant specifications of item no. 9.04.a shall be followed using ceramic tiles of size 8" x 8" instead of 8" x 4".

9.04.c - do - as item no. 9.04.a but size of ceramic tiles, 8" x 12".

The relevant specifications of item no. 9.04.a shall be followed using ceramic tiles of size 8" x 12" instead of 8" x 4".

9.04.d - do - as item no. 9.04.a but size of ceramic tiles, 12" x 12".

The relevant specifications of item no. 9.04.a shall be followed using ceramic tiles of size 12" x 12" instead of 8" x 4".

9.04.e - do - as item no. 9.04.a but size of ceramic tiles, 12" x 16".

The relevant specifications of item no. 9.04.a shall be followed using ceramic tiles of size 12" x

16" instead of 8" x 4".

- I04 Providing and laying average 25mm (20mm-30 mm)thick hand dressed green polished kota stone of approved quality, selected and sorted for uniform colour in floor, otta, dado, platform, racks and skirting etc. of required sizes upto 600 mm as per design in normal pattern (straight or staggered joint with square or rectangular shaped stone) and residue as per drawing including 1:6 (1 cement : 6 sand) cement mortar bedding of average 35 to 50mm thickness jointed with grey cement and colour pigment in proportion to match the shade of kota stone. Rubbing and polishing to be done with 2 coats of 60, 120 grades of emery, balckchapadi and gutka for special polish after it polishing to be done with 220, 320, 400, 600 grades of emery till mirror/ semimirror finish is achieved. Curing, daily moping with water & kerosene as directed for at least 15 days after final polishing etc. complete upto the satisfaction of the Architect or Engineer-in-charge. (NO WAXING WILL BE PERMITTED).**
- 1.0 Materials :** Water shall conform M-1. Lime mortar shall conform to M-10. Cement mortar shall conform to M-11. Polished kotah shall conform to M-49 and shall be of reasonably uniform colour.
- 2.0 Workmanship :**
- 2.1** Each slab shall be cut to the required size and shape and fine chisel, dressed at all the edges. The sides thus dressed shall have full contact if laid along a straight edge. The sides shall be table rubbed /or rubbed in MS channel with coarse sand, before paving. All angles and edges of the slabs shall be truly square and free from chipping and shall give a plane surface. The thickness of the slab shall be 25 mm. (average) as specified in the item but not less than 20 mm. at any place of the slab.
- 2.2 Bedding** for the kotah slab flooring shall be of cement mortar 1:4 (1 cement : 4 coarse sand) or lime mortar 1:1.5 of average thickness **40** mm. as given in the description of the item. Sub grade shall be cleaned, wetted and mopped. Mortar of the specified mix and thickness shall be then be spread on an area sufficient to receive one kotah slab. The slab shall be washed clean before laying. It shall be laid on top pressed, tapped gently to bring it in level with the other slabs. It shall then be lifted and laid aside. Top surface of the mortar shall then be corrected by adding fresh mortar at hollows or depressions. The mortar shall then be allowed to harden a bit. Over this surface, cement slurry of honey-like consistency shall be applied. The slab shall then be gently placed in position and tapped with wooden mallet till it is properly padded in level with and close to the adjoining slab. The joint shall be as fine as possible. The slabs fixed in the floor adjoining the wall shall enter not less than 10 mm. under the plaster, skirting or dado. The junction between the wall and floor shall be finished neatly. The finished surface shall be true to levels and slopes, as directed.
- 2.3** While laying, any chiselling which may be required for making the skirting or dado flush with the plaster and/or other finishes shall be done. Necessary grooves of required size in cm., between plaster and/or other finishes, dado or skirting (if required) shall be provided. Forming machine-cut/rounded edges, gutters, sills, platforms, channels, curbing, etc. if any, if required, shall be provided as per the drawing and design.
- 2.4** In places where full tiles cannot be fixed, the tiles shall be cut to the size and smoothened at edge to give straight and true joints.
- 2.5** All necessary slopes, gradients and levels shall be truly maintained as required and directed by

the Engineer-in-charge.

2.6 The floor shall be kept wet for a minimum period of 7 days, so that bedding and joints set properly.

2.7 **Polishing** shall be normally commenced after 14 days of laying the slab. First polishing shall be done with carborundum of 60 - 120 grade grit fitted in the heavy machine and then second polishing shall be done with carborundum of 220 to 350 grade grit fitted in the heavy machine. Water shall be properly used during polishing. The flooring shall then be washed clean with water and oxalic acid. As directed by the Engineer-in-charge and as specified in the item, no waxing will be permitted.

2.8 If any tile is disturbed or damaged it shall be refitted or replaced, properly jointed and polished.

2.8 The holes required for Nahni traps, pipes any other fittings shall be made without any extra cost.

3.0 **Mode of Measurements and Payment :**

3.1 Kotah slab flooring shall be measured in m² for visible area of work done.

3.2 No deductions shall be made nor extra paid for any opening in the floor area upto 0.1 m². Nothing extra shall be paid for use of cut tiles or for laying the floors at different levels in the same room or court yard. Kotah slabs laid in floor borders and bands etc. shall be measured in the same item and nothing extra shall be payable on account of these or similar bands formed of half or multiples of half size standard tiles/or other uncut tiles.

3.3 The treads of stairs and steps paved with tiles without nosing shall also be measured under this item.

3.4 The rate shall include the cost of all materials (inclusive of all taxes, levies, and delivery at site), labour & sundry involved in all the operations, at all floors, at any height and level, as described above. It shall also include for breakage and wastage. Floating materials and margin of profit shall also be included. All material samples shall be got approved by the Engineer-in-charge before placing orders.

3.5 No extra shall be paid for any small quantities like narrow widths, mitred & returned ends, rounds & cutting, fixing and making good upto & around pipes, fittings and fixtures etc.

3.6 The rate shall include for fixing the flooring in composite pattern as per the drawings, using different materials and sizes. The measurements of the different materials shall be taken category-wise separately and paid accordingly.

3.7 The basic rate, if at all provided or agreed upon includes cost of material, all taxes, levies & cost of delivery at site.

3.8 The risers of steps, skirting or dado shall be measured in m². Length shall be measured along the finished faces of risers, skirting or dado. Height shall be measured from finished level of treads or floor to top. Lining of pillars shall be measured under this item.

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

I05 Providing and laying average 25mm (20mm-30 mm) thick hand dressed single side green polished kota stone of approved quality, selected and sorted for uniform colour in floor,

otta, dado, steps, jambs, platform, racks and skirting etc. of required sizes above 600 mm and upto 2000 mm as per design in normal pattern (straight or staggered joint with square or rectangular shaped stone) and residue as per drawing including 1:6 (1 cement : 6 sand) cement mortar bedding of average 20mm thickness jointed with grey cement and color pigment as specified. Rubbing and polishing to be done with 2 coats of 60, 120 grades of emery, balckchapadi and gutka for special polish after it polishing to be done with 220, 320, 400, 600 grades of emery till mirror/ semimirror finish is achieved. Curing, daily moping with water & kerosene as directed for at least 15 days after final polishing or upto the satisfaction of the Architect or Engineer-in-charge etc. complete. Prepolishing to be done as specified and instructed by Architect/ EIC. (NO WAXING WILL BE PERMITTED).

Relevant specification of item no. I04 to be followed except slab size of stone to be used to achieve 600X2000mm clear size and fixed / laid in floor, otta, dado, steps, jambs, platforms, racks, skirting, sills, chajjas, jambs, lintels, parapet, etc., all as shown in the drawings.

9.05.b Kotah slab of 30 mm thk (polished, green colour) flooring over 35 mm. (average) thick base of cement mortar 1:6 (1 cement : 6 coarse sand) or lime mortar 1:1.5, laid and jointed with grey cement slurry, including rubbing and polishing complete

1.0 Materials & Workmanship : The relevant specifications of item no. 9.05.a shall be followed except that the thickness of the slab shall be 30 mm.

2.0 Mode of Measurements and Payment : The relevant specifications of item no. 9.05.a shall be followed. The rate shall be for an unit of one m².

9.06.a Providing and laying average 25mm (20 to 30 mm) thick hand dressed green polished kotah stone of approved quality, selected and sorted for uniform colour & texture, in floor, otta and skirting etc. of required sizes upto 600 X 600 mm as per design in normal pattern (square or rectangular) and residue as per drawing, including 1:6 (1 cement : 6 sand) cement mortar bedding of average 40mm thickness, jointed with grey cement and colour pigment as specified. Polishing (final polishing with oxalic acid & jute datta) shall be done to achieve semi mirror finish surfaces by using different grades of Emery from 40 no (one coat) 60 no (two coats) 120 no , 220 no synthetic emery, 320 no emery and buffing with tin oxide ,curing, daily moping with water & kerosene as directed for at least 15 days after final polishing or upto the satisfaction of the Architect or Engineer-in-charge etc. complete for all floors / all levels. (NO WAXING WILL BE PERMITTED).

1.0 Materials & Workmanship : The relevant specifications of item no. 9.05.a shall be followed except that the work shall be carried out in normal pattern (square or rectangular) as per drawing and as directed by the Engineer-in-charge.

Waxing shall not be permitted.

2.0 Mode of Measurements and Payment :

2.1 The relevant specifications of item no. 9.05.a shall be followed.

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

9.06.b Providing & laying average 25 mm. thick hand dressed/machine cut green polished kotah

of approved quality, selected and sorted for uniform colour, in floor, otta etc., in required sizes upto 60 cm Hand dressed/machine cut and as per design with diagonal pattern as per drawing, including cement mortar 1:6 bedding of 35 mm thk., joints & pointing as specified, three or more coats of polishing (with oxalic acid) upto mirror finish surfaces with different grades of Emery, curing, daily moping with water & kerosene as directed for atleast 15 days or upto the satisfaction of the Engineer-in-charges etc. complete, with selected brown kotah to form bands etc. complete. (NO WAXING WILL BE PERMITTED).

1.0 Materials & Workmanship: The relevant specifications of item no. 9.05.a shall be followed except that the size of shall be upto 60 cm. only. Waxing shall not be permitted. The flooring shall be carried out in diagonal pattern, with or without bands of selected brown kotah etc. as per detailed drawings and as directed by the Engineer-in-charge.

2.0 Mode of Measurements and Payment: The relevant specifications of item no. 9.05.a shall be followed. The rate shall be for an unit of one m².

9.07.a Providing & laying 25 mm. Thick hand dressed/machine cut green polished kotah of approved quality, selected and sorted for uniform colour, in floor, otta, sill, dado etc., in required sizes above 60 cm and upto 90 cm, in normal pattern and as per design and drawing, including cement mortar 1:6 bedding of required thickness, joints & pointing as specified, three or more coats of polishing (with oxalic acid) upto mirror finish surfaces with different grades of Emery, curing, daily moping with water & kerosene as directed for atleast 15 days or upto the satisfaction of the Engineer-in-charges etc. complete. (NO WAXING WILL BE PERMITTED).

1.0 Materials & Workmanship: The relevant specifications of item no. 9.05.a shall be followed except that the size of the kotah shall be above 60 cm. Waxing shall not be permitted. The flooring shall be laid in normal pattern, with or without bends of selected brown kotah etc., as per the details.

2.0 Mode of Measurements and Payment: The relevant specifications of item no. 9.05.a shall be followed. The rate shall be for an unit of one m².

9.07.b Providing & laying average 25 mm. thick hand dressed/machine cut green polished kotah of approved quality, selected and sorted for uniform colour, in floor, otta, sill, dado etc., in required sizes above 60 cm and upto 90 cm. in diagonal pattern and as per design and drawing, including cement mortar 1:6 bedding of required thickness, joints & pointing as specified, three or more coats of polishing (with oxalic acid) upto mirror finish surfaces with different grades of Emery, curing, daily mopping with water & kerosene as directed for atleast 15 days or upto the satisfaction of the Engineer-in-charges etc. complete. (NO WAXING WILL BE PERMITTED).

1.0 Materials & Workmanship : The relevant specifications of item no. 9.05.a shall be followed except that the size of the kotah shall be above 60 cm. only. Waxing shall not be permitted. The flooring shall be laid in diagonal pattern, with or without bends of selected brown kotah etc. as per the details.

2.0 Mode of Measurements and Payment : The relevant specifications of item no. 9.05.a shall be followed. The rate shall be for an unit of one m².

- 9.08.a** Providing & laying average 25 mm. thick hand dressed/machine cut brown polished kotah of approved quality, selected and sorted for uniform colour, in floor, otta, sill, dado etc. in required sizes upto 60 cm. and as per design and drawings, to form bands within mosaic/green kotah or any other flooring, including cement mortar 1:6 bedding of required thickness, joints & pointing as specified, three or more coats of polishing (with oxalic acid) upto mirror finish surfaces with different grades of Emery, curing, daily moping with water & kerosene as directed for atleast 15 days or upto the satisfaction of the Engineer-in-charges etc. complete. (NO WAXING WILL BE PERMITTED).
- 1.0** **Materials & Workmanship :** The relevant specifications of item no. 9.05.a shall be followed except that the kotah shall be of brown colour. The size of the kotah shall be upto 60 cm. only. Waxing shall not be permitted.
- 2.0** **Mode of Measurements and Payment :** The relevant specifications of item no. 9.05.a shall be followed. The rate shall be for an unit of one m².
- 9.08.b** Providing & laying average 25 mm. Thick hand dressed/machine cut brown polished kotah of approved quality, selected and sorted for uniform colour, in floor, otta, sill, dado etc., in required sizes above 60 cm. and upto 90 cm. as per design and drawing, to form bands within mosaic/green kotah or any other flooring, including cement mortar 1:6 bedding of required thickness, joints & pointing as specified, three or more coats of polishing (with oxalic acid) upto mirror finish surfaces with different grades of Emery, curing, daily mopping with water & kerosene as directed for atleast 15 days or upto the satisfaction of the Engineer-in-charge etc. complete. (NO WAXING WILL BE PERMITTED).
- 1.0** **Materials & Workmanship :** The relevant specifications of item no. 9.05.a shall be followed except that the kotah shall be of brown colour and its size shall be above 60 cm. Waxing shall not be permitted.
- 2.0** **Mode of Measurements and Payment :** The relevant specifications of item no. 9.05.a shall be followed. The rate shall be for an unit of one m².
- 9.09** Providing & laying average 25 mm thick machine cut green rough kotah stone of approved quality, selected and sorted for uniform colour & texture, in floor, otta, sill, skirting, tread, riser etc., in required sizes upto 600 X 600mm and as per design and drawings (with or without grooves 10mmX10mm) or to form bands within Dholpur/sand stone or any other flooring, including cement mortar 1:6 bedding of required thickness average 40 mm, joints, pointing and making grooves including filling with CM 1:2 as specified, curing up to the satisfaction of the Architect & Engineer-in-charges etc. complete for all floors / all levels. (NO WAXING WILL BE PERMITTED).
- 1.0** **Materials and Workmanship :** Water shall conform to M-1. Cement shall conform to M-11 and Rough kotah shall conform to M-48. The relevant specifications of item no. 9.05.a shall be followed except that Rough kotah shall be used and the size of the kotah shall be upto 60 cm. only. Waxing shall not be permitted.
- 2.0** **Mode of Measurements and Payment :** The relevant specifications of item no. 9.05.a shall be followed. The rate shall be for an unit of one m².
- 9.10.a** Providing & fixing green double polished kotah of average 25 mm. thick of uniform size

and colour for platforms, staircases, sinks, shelves, morry etc. in floor, dado or facia etc. upto 1.0 m. long, including necessary machine-cut edges (uniform thickness) rounded edges, necessary cement mortar bedding in CM 1:2 of required thickness. Cement joints and pointing as specified with polishing (with oxalic acid), curing, daily mopping with water and kerosene as directed for atleast 15 days or upto the satisfaction of the Engineer-in-charge etc. complete.

1.0 Materials & Workmanship : The relevant specifications of item no. 9.05.a shall be followed except that the thickness of kotah shall be 25 mm. and the kotah shall be double polished. The size of the kotah shall be upto 1.0 m. only. Waxing shall not be permitted. The polishing shall be done manually instead of machine polishing and bedding shall be in CM 1:2.

2.0 Mode of Measurements and Payment : The relevant specifications of item no. 9.05.a shall be followed. The rate shall be for an unit of one m².

9.10.b Providing & fixing 25 mm thick green double polished green kotah stone of uniform size and colour in floor, dado or facia etc. of platforms, staircases, sinks, shelves, morry etc. from 1.00 m. to 1.5 m. length (finish) to maximum width of 450mm, including necessary machine-cut edges (uniform thickness) rounded edges. kotah stone shall be laid over 1:2 (1 cement : 2 sand) cement mortar bedding of required thickness. Cement & color pigment joints and pointing shall be done as specified with semi mirror polishing ,cleaning (with oxalic acid), curing, daily mopping with water and kerosene as directed for at least 15 days, all as per specifications and direction Engineer-in-charge etc. complete for all floors / all levels. (NO WAXING WILL BE PERMITTED).

1.0 Materials & Workmanship : The relevant specifications of item no. 9.10.a shall be followed. The size of the kotah shall be from 1.0 meter to 1.5 m. long only. Waxing shall not be permitted. The polishing shall be done manually instead of machine polishing.

2.0 Mode of Measurements and Payment : The relevant specifications of item no. 9.10.a shall be followed. The rate shall be for an unit of one m².

9.10.c Providing & fixing 25 mm thick green double polished or both side polished green kotah stone of uniform size and colour in floor, dado or facia etc. of platforms, staircases, sinks, shelves, morry etc. from 1.00 m. to 1.5 m. length (finish) upto maximum width of 600mm, including necessary machine-cut edges (uniform thickness) rounded edges. kotah stone shall be laid over 1:2 (1 cement : 2 sand) cement mortar bedding of required thickness. Cement & color pigment joints and pointing shall be done as specified with semi mirror polishing , cleaning (with oxalic acid), curing, daily mopping with water and kerosene as directed for atleast 15 days or upto the satisfaction of the Architect & Engineer-in-charge etc. complete for all floors / all levels. (NO WAXING WILL BE PERMITTED).

Other relevant specifications of item no. 9.10.b shall be followed.

106 Providing roughened strip 2.5 cm wide to form antiskid surface on floors & steps as per design including forming straight deep curved gishi (groove) 6 mm wide & 4 mm deep on two sides of the roughened area, chiseling, polishing the edges, sides and bottom of gishis etc. complete as per sample approved by Architect/ EIC.

1.0 Workmanship : The roughened strip 2.5 cm. wide shall be provided as and where directed. The roughening shall be carried out by providing two curved grooves on either side of

roughened strip provided with machine.

2.0 Mode of Measurements and Payment : The length of the tread on which strip is made shall be measured. The rate shall be for an unit of one meter.

9.12.a Indian Patent :
Providing and laying 40 mm. thick cement concrete flooring for I.P.S 1:2:4 (for Indian Patent) (1 cement : 2 coarse: sand : 4 graded aggregate 20 mm. nominal size), laid in one layer finished with a Trowel finish, including curing etc. complete.

1.0 Materials : Water shall conform to M-1. Cement shall conform to M-3. Sand shall conform to M-6. Aggregate 20 mm. nominal size shall conform to M-12. Cement concrete 1:2:4 proportion measured by volume shall conform to relevant specification of ordinary grade 1:2:4 concrete.

2.0 Workmanship :

2.1 Preparation of Surface: Before the operation for laying the topping is started, the surface of the base concrete shall be thoroughly cleaned of all dirt, loose particles, caked mortar droppings and laitance, if any, by scrubbing with coir or steel wire brush. Where the concrete has hardened so much that roughening of surface by wire brush is not possible, the surface shall be roughened by chipping or hacking at close intervals. The surface shall then be cleaned with water and kept wet for 12 hours and surplus water shall be removed by mopping before the topping is laid.

2.2 Laying:

2.2.1 The screed strips shall be fixed over the base concrete dividing it into suitable panels. Before placing the concrete for topping, neat cement slurry shall be thoroughly brushed into the prepared surface of the base concrete just ahead of the finish. Concrete of specified proportion and thickness shall be laid in alternate panels to required level and slope and thoroughly tamped and cement concrete 1:2:4 shall conform to relevant specifications of section 2.00.

2.2.2. The cement concrete flooring of 40 mm. thick (Average) is to be laid as per the site condition. The concrete shall be mixed in a mechanical mixer at the work. Hand mixed may however be allowed for smaller quantities of work and in case of failure of machines or as permitted by the Engineer-in-charge. It shall carried be out on a water tight platform and care shall be taken to ensure that mixing is continued until the mass is uniform in colour and consistency. However, in such cases 10% more cement than otherwise required shall have to be used without any extra cost. The mechanical mixing shall be done for a period of 1.5 to 2 minutes. The quantity of water shall be just sufficient to produce a dense concrete of required workability for the purpose. Flooring of specified thickness shall be laid in accordance with approved pattern or as directed. Finishing operation shall start shortly after the cessation of beating and shall be spread over a period of one to six hours depending upon the temperature and atmospheric conditions. The surface shall be left for some time till moisture disappears from it. Fresh quantity of cement shall be mixed with water to form a thick slurry and spread over the surface while the concrete is still green. Use of dry cement or cement and sand mixture sprinkled on this surface to stiffen the concrete or absorb excessive moisture shall not be permitted. The cement slurry shall then be properly pressed twice by means of iron floats, once, when the slurry is applied and the second time when cement starts setting and is to be finished smooth. The surface shall be marked with string or B.R.C. fabric jali to make the surface non-slippery as and when directed. The junction of floors with wall plaster, dado or skirting shall be rounded off where so required upto 25 mm. radius. Flooring in lavatories and bath rooms shall be laid after fixing of water closet and squatting pans and floor traps which shall be plugged while laying the floors and opened after

the floors are completed. Any damage, done to water supply or sanitary fittings during execution of work shall be made good.

2.2.3 After the final set, the concrete shall be kept continuously wet, if required by ponding, for a period of not less than 7 days from the date of placement.

2.2.4 The form work shall be provided if necessary as directed by Engineer-in-charge. Concreting shall be done as per alternate bay method with necessary centering either by mastic or cement mortar as directed.

2.3 Finishing the Surface: After the concrete has been fully compacted it shall be finished by trowelling or floating with neat cement rendering. Finishing operations shall start shortly after the compaction of concrete and the surface shall be trowelled three times at intervals so as to produce an uniform and hard surface. The satisfactory resistance of floor to wear and tear, depends largely upon the care with which trowelling is carried out. The time interval allowed between successive trowelling is very important. Immediately after placing cement rendering, only just sufficient trowelling shall be done to give a level surface. Excessive trowelling in the earlier stages shall be avoided as this tends to bring a layer in cement to the surface. Sometime, after the first trowelling, the duration depending upon the temperature and atmospheric conditions and the rate of setting of the cement used, the surface shall be retrowelled to close any pores in the surface and to bring to surface and to scrape off any excess water in concrete or any laitance. No dry cement shall be used directly on the surface to absorb moisture or to stiffen the mix. The final trowelling shall be done well before the concrete has become too hard but at such a time that considerable pressure is required to make any impression on the surface.

If directed by the Engineer-in-charge, approved mineral pigment shall be added to the rendering to give desired colour and shade to the flooring at no extra cost.

When 1:2:4 mix is specified the topping shall be rendered with 1:1:2, (1 part cement mortar with a suitable mineral pigment (if directed), 1 part sand and 2 parts grit - 6 mm. and down size), instead of cement only. If specified in the schedule of quantities, the flooring shall be machine polished as per Engineer- in-charge's instructions.

Wherever the patent flooring is used as a finishing on roof, the joints shall be filled with an approved bitumastic filler in a workman-like manner.

Ironite Topping: Instead of finishing the top with rendering coat of 1:1 cement mortar, the top shall be finished with ironite topping. Unless, otherwise specified, one part of ironite and four parts of ordinary cement by weight shall be mixed dry thoroughly. This dry mixture shall be mixed with grit 6 mm. (1/4") and down size or as otherwise directed in the ratio of 1:2 by volume and well turned over. Just enough water shall be added to this dry mix and mixed thoroughly well and laid to uniform thickness of 12 mm. and compacted. After the initial set has started the surface shall be finished as directed.

3.0 Mode of Measurements and Payment :

3.1 The rate shall include the cost of all materials and labour involved in all the operations described above. No deduction shall be made or extra paid for any opening upto 0.1 m² in area, in the floor, nothing extra shall be paid for laying the floor at different levels in the same room or the courtyard.

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

- 9.12.b Providing and laying cement concrete pavement 50 mm. thick I.P.S (Indian Patent) 1:2:4 (1 cement : 2 coarse sand : 4 graded aggregate 20 mm. nominal size), laid in one layer finished with floating coat of neat cement.**
- 1.0 Materials & Workmanship :** The relevant specifications of item no. 9.12.a shall be followed except that the thickness of concrete flooring shall be 50 mm.
- 2.0 Mode of Measurements and Payment :** The relevant specifications of item no. 9.12.a shall be followed. The rate shall be for an unit of one m².
- 9.13.a Providing and laying cement concrete pavement 50 mm. thick I.P.S (Indian Patent) 1:2:4 (1 cement : 2 coarse sand : 4 graded aggregate 20 mm. nominal size), laid in one layer finished with trowel finish with using 1:1 cement mortar for filling the minor holes etc. complete. The rate shall inclusive of providing and fixing 6mm thk. glass strips. Panel shall be caste in alternate panel of size not exceeding 2m x 1.5m for all floors / all levels including curing etc. complete as per the specifications and direction of Engineer - in - charge.**
- 1.0 Materials & Workmanship :** The relevant specifications of item no. 9.12.a shall be followed except that the thickness of concrete flooring shall vary from 25 mm. to 50 mm. and the topping shall be rendered giving a broom finish, in the proportion specified in the item.
- 2.0 Mode of Measurements and Payment :**
- 2.1** The relevant specifications of item no. 9.12.a shall be followed except that thickness shall be measured correct upto 1 mm. Flooring laid in borders, margins and treads of steps, shall be measured under this item or flooring, in respect of its width.
- 2.2** The rate shall be for an unit of one sqm.
- 9.13.b Cement concrete pavement 50 mm. thick with 1:2:4 (1 cement : 2 coarse sand : 4 aggregate 20 mm. nominal size), including giving fluted finish with a floating coat of 1:1:2 cement mortar using grit, complete.**
- 1.0 Materials & Workmanship :** The relevant specifications of item no. 9.12.a shall be followed except that the thickness of concrete flooring 50 mm. and the topping shall be rendered giving a fluted finish, in the proportion specified in the item.
- 2.0 Mode of Measurements and Payment :**
- 2.1** The relevant specifications of item no. 9.12.a shall be followed except that thickness shall be measured correct upto 1 mm. Flooring laid in borders, margins and treads of steps, shall be measured under item or flooring, in respect of its width.
- 2.2** The rate shall be for an unit of one sqm.
- 9.13.c Cement concrete pavement 100 mm thk with 1:2:4 (1 cement : 2 coarse sand : 4 aggregate 20 mm. nominal size), including giving broom finish with a floating coat of 1:1:2 cement mortar using grit, complete.**
- 1.0 Materials & Workmanship :** The relevant specifications of item no. 9.12.a shall be followed except that the thickness of concrete flooring 100 mm thk. and the topping shall be rendered giving a broom finish, in the proportion specified in the item.

2.0 Mode of Measurements and Payment :

2.1 The relevant specifications of item no. 9.12.a shall be followed except that thickness shall be measured correct upto 1 mm. Flooring laid in borders, margins and treads of steps, shall be measured under item or flooring, in respect of its width.

2.2 The rate shall be for an unit of one m³

9.13.d Cement concrete pavement 100 mm thk with 1:2:4 (1 cement : 2 coarse sand : 4 aggregate 20 mm. nominal size), including giving fluted finish with a floating coat of 1:1:2 cement mortar using grit, complete.

1.0 Materials & Workmanship : The relevant specifications of item no. 9.12.a shall be followed except that the thickness of concrete flooring 100 mm thk. and the topping shall be rendered giving a fluted finish, in the proportion specified in the item.

2.0 Mode of Measurements and Payment :

2.1 The relevant specifications of item no. 9.12.a shall be followed except that thickness shall be measured correct upto 1 mm. Flooring laid in borders, margins and treads of steps, shall be measured under item or flooring, in respect of its width.

2.2 The rate shall be for an unit of one m³

H02 Providing & laying china mosaic flooring for plain and curved surfaces at floor, dado, otta etc. comprising of 20 to 25 mm size broken pieces of ceramic/ glazed tiles laid over 1:6 cement mortar bedding including applying cement slurry at the rate of 2.75 kg per sqm on plain or sloped surfaces and filling joints with white cement at all floors / at all levels/ at all heights. The flooring/ dado shall be tampered with wooden rammer not exceeding 2 Kg in weight to bring the mortar up to the surface including rounding of the junctions and extending them upto 15 cm along the parapet wall. The rate shall include any type of bands, vata, any colour, any pattern or design as per drawing, curing, cleaning with water and oxalic acid etc. complete as sample approved EIC. (Only plan area shall be measured . The Vata upto 150mm height shall also be mesuered under this item).

The relevant specification of item no. 9.03.a shall be followed except that broken pieces of **glazed tiles** are to be used on floor/dado. The broken pieces shall be of china of approved colour, size and manufacturer. The broken china pieces are laid manually as close as possible over the specified bedding, which shall be laid to the required slope and gradient. The floor shall not be polished but cleaned with water & **mild oxalic acid**.

9.15.a Providing & laying approved quality white (light and/or dark green Ambaji or of approved origin) marble 20 mm. thick, as per design and in required sizes and shapes (size not exceeding 0.6 x 0.6 m.), including necessary white cement mortar bedding of 1:3 proportion and white cement pointing in joints, polishing, curing etc. complete. (Only finished marble work shall be measured). The work will be carried out in diagonal pattern with motifs as per detailed drawings and direction.

1.0 Materials : Water shall conform to M-1. Lime mortar shall conform to M-10. Cement mortar shall conform to M-11. Marble slab 20 mm. thick shall conform to M-51.

Marble slabs shall be of the best Indian marble of white or other approved colour as specified in the item. They shall be hard, dense, uniform and homogeneous in texture. They shall have

crystalline grain and shall be free from defects and cracks. The surface shall be machine polished to an even and perfectly plane surface and edges shall be machine-cut, true to square. The rear face shall be rough enough to provide a key for the mortar.

No slab shall be thinner than the specified thickness at its thinnest part. The sizes of the slabs shall be as specified in the respective items.

2.0 Workmanship :

2.1 **Dressing of slabs :** Every shall be cut to the required size and fine chiselled, dressed to give a smooth and even surface on all sides, to the full depth. A straight edge laid along the sides of the slab shall be fully in contact with it. Chisel dressing shall also be done on the top surface to remove any waviness. The sides and top surface of the marble slabs shall be machine rubbed or table rubbed with coarse sand before using. All angles and edges of slabs shall be truly square and free from chipping.

2.2 The thickness of the slab shall be 20 mm. The allowable tolerance shall be 2 mm. The tolerance shall be 15 mm. in length and breadth.

2.3 **Bedding :** Bedding of marble slabs shall either be in lime mortar 1:1.5 (1 lime putty : 1.5 coarse sand) or cement mortar 1:3 (1 cement : 3 coarse sand) of average thickness 20 mm. as given in description of the item. Minimum thickness at any place shall not be less than 10 mm.

2.4 **Laying :** The surface of sub grade shall be cleaned, wetted and mopped. Mortar of specified mix and thickness shall then be spread on an area sufficient to receive one marble slab. The slab shall be washed clean before laying. It shall be laid on top, pressed and tapped gently to bring it in level with other slabs. It shall then be lifted and laid aside. The top surface of the mortar shall then be corrected by adding fresh mortar at hollows or depressions. The mortar shall then be allowed to harden and over this surface, cement slurry of honey-like consistency at 4.4 Kg.cement/m² is spread. The edges of slabs already paved shall be buttered with grey cement. The slab shall then be gently placed in position and tapped with wooden mallet till it is properly bedded in level with and close to the adjoining slab. The joints shall be as fine as possible. Surplus cement on the surface of the slabs shall be removed. The slab fixed in the floor adjoining the walls shall enter not less than 10 mm. under the plaster, skirting or dado. The junction between the walls and floors shall be finished neatly. The finished surface shall be true to level and slopes as directed.

2.5 **Curing :** The floor shall be cured for a minimum period of seven days.

2.6 **Polishing and finishing :** Unevenness at the meeting edges of slab shall be removed by fine chiselling. Finishing etc. shall be done as per relevant specifications of item no. 9.01.a of terrazzo tiles flooring except that cement slurry with/or without pigments shall be applied on the surface before each polishing.

3.0 Mode of Measurements and Payment :

3.1 Marble flooring with various kinds of marble shall be measured in m². The length and breadth shall be measured between the finished face of skirting or dado or wall plaster. No deduction shall be made nor extra shall be paid for any openings in the floor of area upto 0.05 m². Nothing extra shall be paid for laying at different levels in the same room. Treads and steps of stairs paved with marble slabs shall also be measured under this flooring.

- 3.2 The rate shall be considered as per the relevant specifications of item no. 9.01.a. The rate shall be for an unit of one m².
- 9.15.b Providing & laying approved quality green (dark green Baroda or of approved origin) marble 20 mm. thick, as per design and in required sizes and shapes (size not exceeding 0.6 m. x 0.6 m.), including necessary cement mortar bedding of 1:3 proportion and white cement pointing in joints, polishing, curing etc. complete. (Only finished marble work shall be measured). The work will be carried out in diagonal pattern with motives and to form bands as per detailed drawings and direction.**
- 1.0 Materials, Workmanship, Mode of Measurement :** The relevant specification of item no. 9.15.a shall be followed same except that green marble shall be used, as specified in the item.
- 9.15.c Providing & laying best quality blended marble tile/slab from Carara, Marbella or equivalent, as approved by the Engineer-in-charge, as per design and in required size, shape, finish and colour, including necessary cement mortar bedding of 1:3 proportion and cement pointing in joints, with or without necessary matching pigments, curing etc. complete. (Only finished work shall be measured).**
- 1.0 Materials :** Water shall conform to M-1. Cement mortar shall conform to M-11. Blended Marble slab/tile shall conform to M-51A.
- 2.0 Workmanship :** The relevant specification of item no. 9.15.a above, shall be followed and alternately, it can be laid with latex based glues available, manufactured by Roffe, MC Bauchemie and/or equivalent, just as in case of ceramic tiles, (relevant specifications of item no. 9.04).
- 3.0 Mode of Measurements and Payment :** The relevant specifications of item no. 9.15.a shall be followed, same.
- 9.16 Extra for providing special mirror finish polish on kotah and marble flooring using 500 to 2000 grit emery, polishing in six stages and final finishing with 2000 grit, tin oxide and felt pads. All work to be carried out with polishing machine with vibration free rubber lined mounting wheels.**
- The relevant specification of polishing of item no. 9.01.a shall be followed except that the mirror polished finish shall be obtained as specified in the item, using the specified emery.
- 9.17.a Providing & laying, hand dressed/machine cut single polished red "Dholpur" 25 to 35 mm. thick in flooring, in required size as per design and drawing in cement mortar 1:4 bedding of required thickness, pointing in joints, curing etc. complete. The rate shall also include for polishing with different grade of emery, daily mopping with water etc. complete.**
- 1.0 Material :** Dholpur shall conform to M-50 and shall be single polished red Dholpur (sandstone) of 40 mm. thickness. The relevant specification of item no. 9.05.a shall be followed same except that the proportion of mortar bed shall be in CM 1:4 instead of CM 1:6.
- 2.0 Mode of Measurement & Payment :** The rate shall be paid on m². basis for visible work done, alongwith the relevant specifications of item no. 9.05.a.

- 9.17.b Providing & laying, dressed single polished pinkish white "Dholpur" 25 to 35 mm. thick in flooring as per design and drawing, in mortar 1:4 bedding and joints, curing etc. complete. The rate should also include for polishing with different grades of emery, daily mopping with water etc. complete.**

The relevant specification of item no.9.17.a shall be followed same except that pinkish White Dholpur (sandstone, Bansipahadpur origin) shall be used.

- 9.18 Providing and fixing in position, 25 to 38 mm. thick acid and alkali resisting Red Mandana stone of approved size and shape, for flooring, skirting and dado, including two coats of acid and alkali preventive primer, fixing on average 37 mm. thick cement mortar bedding 1:3 (1 part of cement and 3 part of coarse sand) with acid proof powder, keeping the joints 6 mm. to 10 mm. wide all around and filling the same with epoxy resin and hardener, including hand/machine polishing, wax polishing etc. complete, as directed.**

The relevant specification of item no. 9.05.a shall be followed same except that Red mandana stone shall be used instead of kotah as specified in the item. Approved quality of acid and alkali preventing primer shall be applied uniformly in two coats over the slab or concrete surface on which the flooring is to be laid. Acid-alkali proof powder shall be mixed with cement as per the manufacturer's specifications, to prepare the cement mortar for bedding. The cement-powder mix and sand shall be mixed in the proportion of 1:3 and the mortar shall be prepared. The stones of desired size shall be laid on the mortar bed of thickness 37 mm. for flooring and 15-20 mm. for dado/skirting, in proper line and level with joints of even thickness of 6 to 10 mm., all around.

The joints shall then be raked to 12 to 19 mm. deep and filled with epoxy based resin. The resin shall be mixed with quick drier and acid-alkali proof powder. The stones shall be either hand polished or machine polished and cleaned with oxalic acid and then wax polished.

- 9.19 Providing & laying, hand dressed or machine cut single polished Jesalmer yellow, 40 mm. thick in flooring as per design and drawing, in mortar 1:4 bedding and joints, curing etc. complete. The rate should also include for polishing with different grades of emery, daily moping with water etc. complete.**

The relevant specification of item no.9.05.a shall be followed same except that Jesalmer yellow shall be used.

- 9.20 Providing & laying approved quality mirror finished light and/or dark grey, black or brown granite of approved shade, thickness 16 mm. to 20 mm., as per design and in any size and shapes, including necessary cement mortar bedding in 1:2. (Only finished granite work shall be measured).**

The relevant specification of item no. 9.15.a except that light and/or dark grey, brown or black granite shall be used instead of marble as specified in item. The finishing shall be mirror finish. The bedding shall be in CM 1:2 with grey cement. Granite shall conform to M-52.

- 9.21 Providing and laying chequered terrazzo tiles 25 mm. thick with marble chips of sizes upto 6 mm., for floors, on 25 mm. thick bed of lime mortar 1:1.5 (1 lime putty : 1.5 coarse sand) or CM 1:6, jointed with neat cement slurry mixed with pigment to match the shade of the tiles, including rubbing and polishing etc. complete. (Dark shade tiles using ordinary cement) as approved by Engineer in-charge.**

CW 9	Paving & Floor Finishing Works
1.0	Materials & Workmanship : The relevant specifications of item no. 9.01.a shall be followed except that chequered tiles or dark shade tile using ordinary cement shall be used.
2.0	Mode of Measurements and Payment : The relevant specifications of item no. 9.01.a shall be followed. The rate shall be for an unit of one m ² .
9.22	Providing and fixing cobbler stone manufactured by Designer Paving and tiles Pvt. Ltd., Bangalore or equivalent, as per design and drawing, sample to be approved by the Engineer-in-charge and site engineer. The rate shall be inclusive of the following. 1) Preparing the subgrade by compacting natural earth available on site using a road roller, vibrator plate compactor. 2) Preparing a sub-base 15 cm. thick, using a layer of gravel and earth and compacting the same as above. Proper slope and drainage to be ensured in the sub-base before laying the paving tiles. 3) The paving tiles should be laid properly on the prepared sub-base as per manufacturer's specification and as per Engineer-in-charge's instruction. The relevant specifications of roadwork shall be used for preparing the subgrade. The relevant specifications of item no. 9.05.a shall be followed for laying cobbler stones.
9.23	Providing and laying brick-on-edge flooring, laid dry, grouted with CM 1:6 (1 cement : 6 coarse sand), including finishing the joints flush, curing etc. complete.
1.0	Materials : Water shall conform to M-1. Cement mortar shall conform to M-11. Burnt brick shall conform to M-15.
2.0	Workmanship :
2.1	The flooring shall be laid on concrete sub-grade where so provided. The slope in the floor shall be provided in the sub-grade. Where sub-grade is not provided, the earth below shall be properly slopped, watered, rammed and consolidated. Before laying the flooring, it shall be moistened. Plinth masonry offsets shall be depressed so as to allow the sub-grade concrete to rest on it.
2.2	Laying : The brick shall be laid in plain, diagonal, herring bond or any other pattern as directed by the Engineer-in-charge. The brick shall be dry, laid properly and set home by gentle tapping. On completion of a portion of flooring, the vertical joints shall be grouted with CM 1:6 and all joints shall be finished flush. The joints shall be as fine as possible and not exceeding 5 mm. thickness. These joints shall be filled with cement mortar 1:6.
2.3	Curing : The brick paving shall be cured for 7 days.
3.0	Mode of Measurements and Payment :
3.1	The length and breadth shall be measured correct to a centimeter between skirting, dado or wall plaster. No deductions shall be made nor extra paid for any opening upto 0.1 m ² in area in the floor. Nothing extra shall be paid for laying the floors at different levels in the same room or courtyard.
3.2	The rate shall be for an unit of one m ² .
9.24	Providing and fixing cast-iron tile grating of size 300 x 300 or 300 x 1500 mm., in line, level
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and slope, as per the details and instruction of the Engineer-in-charge over an avg. 37 mm. thick bedding of cement concrete 1:2:4 (1 part cement, 2 part sand, 4 parts aggregate, 12 mm. and down size), including filling the gratings of the tiles with 1:1 cement mortar, joints with cement paste, including hand/machine polish, cleaning, etc. all complete, as directed.

1.0 Material : The cast iron tiles shall be true to shape, smooth as per the drawing and as approved by the Engineer-in-charge. They shall be sound and nicely cast and shall be free from cracks, laps, pinholes or other imperfection and shall be neatly dressed and carefully fitted. A tolerance upto 2mm in thickness and 1mm. In length shall be allowed.

2.0 Workmanship :

2.1 The bedding of cement concrete 1:2:4 shall be laid over the moistened sub-grade as per the relevant specifications of bedding of item no. 9.12.a, and shall be 37 mm. thick.

2.2 The cast-iron tiles shall be laid as per the instructions of the Engineer-in-charge, in a workman-like manner.

3.0 Mode of Measurements and Payment : The grating shall be measured in m². of the visible work done.

9.25 Providing and fixing 20 mm. thick marble slab partitions, in walls in CM 1:2, including making zaris 25 mm. deep, fixing and making good all around, complete as directed.

1.0 Materials :

Water shall conform to M-1. Cement mortar shall conform to M-11. Marble slab 20 mm. thick shall conform to M-51.

Marble slabs shall be of the best Indian marble of white or other approved colour as specified in the item. They shall be hard, dense, uniform and homogeneous in texture. They shall have crystalline grain and free from defects and cracks. The surface shall be machine polished to an even and perfectly plane surface on both sides and edges machine cut true to square or any other shape desired.

No slab shall be thinner than the specified thickness at its thinnest part. The sizes of the slabs shall be as specified in the respective items.

2.0 Workmanship :

2.1 Dressing of slabs : Every shall be cut to required size and fine chisel dressed to give a smooth and even surface on all sides to the full depth. Chisel dressing shall also be done on both the surfaces to remove any waviness. The sides and top and bottom surfaces of marble slabs shall be machine rubbed or table rubbed with coarse sand before using. All angles and edges of slabs shall be true, square and free from chipping.

2.2 The thickness of shall be 20 mm. The allowable tolerance shall be 2 mm. allowable. The tolerance shall be 15 mm. in length and breadth.

2.3 Fixing : A minimum 25 mm. deep zari shall be made in the wall where the partition is to be fitted. The thickness of the zari will be slightly more than the thickness of the marble slab. The

zari shall be cleaned and well watered before grouting in the CM 1:2. The marble slab shall then be pushed in firmly in true plumb. All the excess mortar shall be pressed into the sides as much as possible before flushing the junction. After the mortar has hardened a little, the joint at the junction of the wall and marble slab shall be raked and pointed with white or pigmented neat cement slurry, to match the colour of the partition slab.

2.4 **Curing** : Curing shall be done for atleast 7 days.

2.5 **Polishing** : Hand polishing shall be done after the curing period to give a good polished appearance.

3.0 **Mode of Measurements and Payment** :

3.1 The rate shall be for an unit of m². and clear visible area shall be measured.

3.2 The rate shall include for all materials, labour and sundry involved in operation of the above specified item.

9.26 **Providing & laying SHON tiles flooring or cladding for plain and curved surfaces (one or more colours, as directed), laid over cement mortar bedding of 1:3 proportion, to plain and/or slopes. The tiles tampered to bring mortar cream up to surface, including rounding of junctions and extending them upto 15 cm. along the wall, including bands in different colour, any pattern or design as per drawing and direction, including curing, cleaning with water and oxalic acid etc. complete.**

The relevant specification of item no. 9.03.a shall be followed except that shon tiles are to be used. The shon tiles shall be of approved colour, size and manufacturer and the floor shall not be polished but cleaned with water & mild hydrochloric acid.

101 Providing and laying vitrified tile (Matt/ Glossy) flooring / skirting (Tile size of 600 x 600mm of 9-10mm Thick thickness as per manufacturer) of Johnson/ Euro/ Asian/ Restile/ Nitco makes of any colour with water absorption's less than 0.08% using approved quality vitrified ceramic tiles conforming to IS:15622-2006, group B-II having straight cut edges for paper joints of approved size and thickness in all colours, shades and approved make, laying the tiles over a bed of 20mm thick cement mortar 1:3 with cement slurry @ 3.3 kg / sqm., including grouting the joints with white cement and matching pigments etc., finishing to required level, curing etc. as per manufacturer's specifications, drawings etc. at all heights /all floors / all levels etc all as per specifications. Flooring shall be protected by plastic sheet or plaster of Paris until the handling over the site and shall be cleaned at the time of handling over the site.

(Note: Rate for skirting to include providing 6 x 10mm neat groove on top i.e. at junctions of plaster & skirting).

1.0 **Materials** : The vitrified floor tiles shall conform to M-57. Cement mortar shall conform to M-11.

2.0 **Workmanship** : The relevant specification of item no. 9.03.a shall be followed except the work shall be for vitrified floor tiles. The joints shall be filled with white cement **and** matching pigments or equivalent grouting materials, as per sample approved.

3.0 **Mode of Measurements and Payment** : The relevant specification of item no. 9.03.a shall be

followed.

- 3.1 Rate shall be inclusive for the protection of the tile by laying plastic sheet or Plaster of Paris until the handing over. The plastic sheet & Plaster of Paris shall be removed & flooring shall be cleaned at the time of handing over the site.
- 3.2 The rate shall be for a unit of m² and clear visible area shall be measured.
- 3.3 The rate shall include for all materials, labour and sundry involved in operation of the above specified.

102 Providing and laying vitrified tile (Matt / Glossy) for dado using Johnson/ Euro/ Asian/ Restile/ Nitco makes of any colour (Tile size of 600 x 600mm of 9-10mm Thick, thickness as per manufacturer) with water absorption's less than 0.08% using approved quality vitrified ceramic tiles conforming to IS:15622, group B-II of specified sizes (of approved make and finish) and approved colour with straight edge laid with a gap of and over 5-8mm thick BAL-CEM Adhesive (gold star) of M/s. Bal-Endura Adhesives Ltd., and joints grouted using the mixture of Bal-grout and Bal-GT1 of approved shade / colour having paper joint and finishing to required level, etc., complete all as per specifications and as directed by Engineer-in-charge at all levels for:

Note: Rate for skirting to include providing 6 x 10mm neat groove on top i.e. at junctions of plaster & skirting..

- 1.0 Materials :** The vitrified floor tiles shall conform to M-57. Cement mortar shall conform to M-11.
- 2.0 Workmanship :** The relevant specification of item no. 9.04.a shall be followed except the work shall be for vitrified tiles. The joints shall be filled with white cement **BAL polymer based cement grout** or equivalent grouting materials, as per sample approved.
- 3.0 Mode of Measurements and Payment :** The relevant specification of item no. 9.03.a .shall be followed.
- 3.1 Rate shall be inclusive for the protection of the tile by laying plastic sheet or Plaster of Paris until the handing over. The plastic sheet or Plaster of Paris shall be removed & flooring shall be cleaned at the time of handing over the sheets.
- 9.28 Providing and laying in position grill having thickness upto 50 mm. made out of sandstone like Bansipahadpur, Hindon or Karoli, having colour pink, white or red as specified, having size not more than 1.5 m. x 0.6 m., of any pattern and design as approved by the Engineer-in-charge. The same shall be fixed with white cement, Araldite and coloured pigment in required proportion with necessary scaffolding and finishing at all heights with necessary scaffolding etc. complete.**
- 1.0 Materials :** Sandstone grills shall conform to M-89. Dholpur (Sandstone) shall conform to M-50. Cement mortar shall conform to M-11.

The grill having a size not more than 1.5 m. to 0.6 m. shall be carved from sandstone upto 50 mm. thick. The grill shall have uniform colour and thickness. The carving shall be done as per detailed design, drawing and direction of the Engineer-in-charge. The sandstone shall be like Bansipahadpur, Hindon or Karoli red as approved by the Engineer-in-charge.

2.0 Workmanship and Mode of Measurements and Payment : The relevant specification of item no. 2.09.d.1 shall be followed except that white cement shall be used instead of grey cement. The grill shall be fixed in position by using white cement, colour pigment and araldite in required proportion.

The engraving shall be done on approved in design of approved pattern. The work shall be done in best workman-like manner and very neatly.

This includes necessary scaffolding, finishing at all heights required for satisfactory completion of work.

The rate shall be for an unit of one m². of actual area of grill provided without any tolerance.

9.29 Providing and laying PVC/Vinyl flooring using Wonderfloor vinyl flooring, Indag vinyl floor tiles or equivalent, as approved by the Engineer-in-charge, in desired pattern and design, in required shade and finish, with proper rubber based adhesive solution, such as Dunlop S-758 or equivalent. The rate includes making seamless joints and cleaning the flooring etc. complete, as directed.

1.0 Material : PVC/Vinyl flooring/floor tiles shall conform to M-53. The adhesive solution shall be rubber based, such as Dunlop S-758 or equivalent.

2.0 Workmanship :

2.1 The sub-grade shall be even, hard, cleaned and well dried, before the commencement of laying, so as to provide good adhesion. Incase the subgrade is not properly levelled or even, a bedding in CM 1:3 shall be provided for the tiles, 12 mm. thick. The bedding mortar shall be well cured and thoroughly dried and then cleaned well for good adhesion.

2.2 A coat of approved base binding agent, a rubber based adhesive solution of thickness as specified by the Manufacturer, shall then be spread evenly over the bedding/subgrade. The tiles/roll shall be then fixed to the floor, in the pattern and colour arrangement indicated in the drawing or as instructed by the Engineer-in-charge. The joints shall be jointed with the same adhesive solution. After allowing it to become sufficiently dry, the tiles/roll shall be pressed down with even pressure until it adheres well to the bed material. During application of pressure, if the adhesive solution rises from the joints, it shall be removed. Thermo welding with vinyl chord or cold sealant welding ensures seamless waterproof surface. The flooring shall be laid in accordance with approved manufacturer's directions.

2.3 The floor shall be cleaned with the tile finish wax and polished with muslin cloth, to the satisfaction of the Engineer-in-charge. The flooring shall be inspected after 30 days for any adjustments, repairs or replacement.

3.0 Mode of Measurements and Payment :

3.1 The clear visible area of work done, flooring, skirting and dado, shall be measured and paid. The rate shall include all materials, labour, tools and equipments required for satisfactory completion of the item.

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

9.30 Providing and laying, Sintered tiles from Kera or equivalent, as approved by the Engineer-in-charge, in desired pattern and design, in required size and shade, including bedding of CM 1:3 or bitumen as the requirement is, pointing, jointing, cleaning etc. complete, as directed.

1.0 Material : Sintered tiles shall conform to M-61. Cement mortar shall conform to M-11. Bitumen shall be as per the tile manufacturer's instruction.

2.0 Workmanship : Over a clean, dry and levelled surface, provide 16 to 20 mm. thick bedding of CM 1:3 mix, in case the tiles are to be laid in laboratory buildings, on heavy duty factory floors, work shops or in dado. Over this the tiles are laid with a closed joint or joint of 1 to 2 mm. In case, the tiles are to be laid in battery rooms, water and effluent treatment plants, chemical storage tanks. acid pits etc., then 2 coats of bitumen primer shall be provided as a bedding, over which 6 mm. thick bitumen mastic mortar bedding, topped with 6 mm. thick acid resistant silicate mortar bedding is provided. Over this the tiles are laid leaving a minimum joint of 5 mm. between the tiles.

Pointing shall be done, flush in neat cement slurry, in case the bedding is of CM 1:3 and using resin based Epoxy mortar/CNSL, resin mortar/sulphur mortar as per the requirement.

3.0 Mode of Measurements and Payment : The clear visible area of work done shall be measured and paid. The rate shall be for an unit of one m².

L07 Providing and laying shot blasted interlocking paver blocks flooring using approved shape, size and colours with required combination of colours of blocks having 60mm thickness made out of cement concrete with Grey cement base (OPC) close jointed, grade not less than M30 grade as per manufacturer catalogue, manufactured by M/s.Super / Vyara / Alcock / Sabar / Nitco make over bed of 75 mm thick river sand to a tight pattern, laid to proper line and level including bedding down the completed surface with a power operated mechanical plate vibrator, finishing by brushing clean dry sand over the surface to fill all the joints thoroughly including fixing the edge restraint laying blocks etc., complete all as per manufacturers specifications and directions of Engineer in charge etc. complete all as per specifications. Note The quoted rate should be inclusive of cost of paver blocks, sand and labour etc. The arrangement of pattern of blocks shall be as per architectural drawings.

1.0 Material & workmanship :

1.1 The strength of the blocks shall be not less than
For M 35 – 45 mm thick
For M 40 – 60 mm thick
For M 50 – 80 mm thick

1.2 The variation in thickness shall not be less than ± 3 mm. Any undulations shall be levelled by the plate compactor or removing and relaying the same.

1.3 The average abrasion value of the same shall not be more than 2.00mm & for individual shall not vary more than 2.5mm. The water absorption shall not be more than 5.0%

1.4 M40 Blocks shall be abrasion resistant for medium traffic of pedestrians & vehicles.

1.5 The blocks shall be laid in coarse sand bedding as per drawing & to the gradient in line & level.

Mode of Measurement –

- 3.1 The rate shall be in sq mts. Clear visible area shall be measured and paid without wastage.
- 3.2 The rate shall be inclusive of cutting with cutting machine & filing the grooves between Blocks & curbing/wall as per sample approved etc complete.
- 9.32 **Providing & laying approved quality mirror finished 18mm thick Granite of approved uniform colour and shade, in floor, otta, sill, skirting, dado, counter, etc. in required sizes (not exceeding 1.2 m. x .6 m.) and shapes, including necessary cement mortar bedding in 1:2 as directed by engineer in charge. (Only finished granite work shall be measured). The rate includes rounding, champhering and mirror polishing of edges etc. complete as directed by engineer in charge.**
- 1.0 The relevant specification of item no. 9.15.a except that approved shade granite shall be used instead of marble as specified in item. The finishing shall be mirror finish. The bedding shall be in CM 1:6 with grey cement. Granite shall conform to M-52.
- 1.1 Granite sample & size shall be got approved before ordering.
- 1.2 Cutting from slabs, **nominal edge chamfering & polishing of the edges at sill ,otta etc shall be inclusive in the rates.**

Mode of Measurement

- 3.1 The rate shall be in sq mts. clear visible area shall be measured and paid without wastage.
- 3.2 The rate shall be inclusive of cutting with cutting machine.
- 3.3 Rate shall be inclusive for the protection of the granite by laying plastic sheet & Plaster of Paris until the handing over .The plastic sheet & Plaster of Paris shall be removed & flooring shall be cleaned at the time of handing over the sheets.
- 103 **Providing and laying 16-18mm thick mirror polished granite stone slab of approved colour and shade or counter platform using 18mm thick mirror polished granite stone slabs (sandwiched together with stone jointing chemical of BAL Endura/ Araldite) of approved colour and pattern, machine cut to required size, laid over a bed of 20mm thick cement mortar 1:6 and cement slurry at the rate of 4.4kg/sqm for bedding, including machine cut edges of all slabs in order to achieve thin joints including grouting the joints with cement mixed with pigment to match the shade of the slabs, finishing to required level and slope, curing, cleaning, etc., complete all as per specifications for size of slabs upto 1.5Mtr X 1.00Mtr. complete all as per specifications .Note : The quoted rate should be inclusive of chamfering the edges and polishing the same.**
- 1.0 **Materials :** the relevant specifications of item no to 9.32 shall be followed except the granite shall be used for platform etc.
- 2.0 **Workmanship :** The relevant specification of item no. 9.32 shall be followed except the work shall be for Sandwich granite platform as per specification and directed by engineer in charge.
- 3.0 **Mode of Measurements and Payment :** The relevant specification of item no. 9.32 shall be

followed.

3.1 The rate shall be for a unit of m² and platform area shall be measured.

3.2 The rate shall include for all materials, labour and sundry involved in operation of the above specified

I07 Providing & laying approved quality mirror finished Granite 18 to 20mm thick of approved light shade (lighter shade like desert yellow, adhunik grey, morkarsar green, tropical brown, GD brown etc) colour & sample for Floor,Dado, skirting, pillars, counters, shelves, sills, partition, trough, table/platform/wall/ Tread/ risers of staircase, steps, etc. of required sizes above 600 mm and upto 2000 mm as per design, including necessary bonding, jointing and laid on 10 mm thick cement mortar 1:3 (1 cement : 3 coarse sand) and jointed with gray cement slurry including adhesive like Araldite as per requirement of work/fixing. The rate includes rounding, champhering and mirror polishing of edges etc. complete all. Rate shall be inclusive of making holes & cutouts for SS sink, Oval wash basin, Pillar tap, Bib tap-couplin etc. complete.(Only finished granite work in plan shall be measured & paid) all as per specifications and direction of engineer-in-charge for all floors / all heights / all levels for all works including.

Relevant specification of I03 to be followed.

9.33.a Extra over and above for fixing glazed /ceramic / vitrified tiles in dado with polymer based adhesives like BAL instead of grey cement sand mortar over smooth mala finish plaster in place of wired plaster. The material and workmanship shall be carried out as per the supplier's specifications and approved by architect and engineer-in-charge.

A01 Extra for providing and filling epoxy based grout in grooves of size up to 6mm x 6mm in flooring or dado with PVC spacer of BAL Endura / Kerakoll / BASF as per approved make of approved shade and color etc. all as per specifications. The quoted rate shall be inclusive of protecting the edges, cleaning the grooves before filling and protecting tile .The quoted rate shall be inclusive of filling groove through epoxy based filler with PVC spacer as per manufacturer specification. Item shall be paid as per theoretical consumption on site.

The grouting material shall be filled only after proper cleaning of the grooves, which are to be grouted. The grouting of the grooves shall be carried out as per the supplier's specifications. On completion of the work the cleaning shall be done properly to have a neat finished surface as per engineer in charge satisfaction.

The work will be measured and paid in kgs. No wastage will be measured and paid for.

9.35 Providing, laying & fixing in position on RCC/Brick Wall upto 4 mtrs ht. from surrounding finish level, Dry/Wet stone cladding of 30mm thk, best quality selected and sorted for uniform colour "AGRA RED / DHOLPUR / PINK UDAIPUR" of max. size 900 X 600mm (finished dim.) including 1. In case of dry cladding by using mechanical clamping of SS-304 clamps of HILTI industry or equivalent as approved by EIC and architect, clamp consist of mechanincal anchor / chemical anchor fasteners, pins and adjustment bolts of SS-304 material, size spacing of the clamps @ 2nos / stone to be considered & additional clamps as required at the edges, first row, last row as per the drg and pattern.2. In case of wet stone cladding required the 20mm smooth finish plaster and 5-8mm thick BAL-CEM Adhesive (gold star) of M/s. Bal-Endura Adhesives Ltd., and joints grouted using the mixture of Bal-grout and Bal-GT1 of approved shade / colour

having paper joint and finishing to required level, etc., complete all as per specifications. Surface of the stone should be uniform without any marking or efflorescence, edges shall be machine cut and finished. Top edge with SS-316 angle bolted to RCC Wall as per the drg. Rate shall incl. making grooves of 8X8mm & filling the same with PU baker rod and structural sealant of approved colour and make of DowCorning / Waker or equivalent, as approved by EIC and for the adjoining openings as rolling shutter, doors, windows etc. etc. complete including, of double scaffolding, cleaning, testing & all necessary to complete the work. All relevant specification to be followed

Material

1.1

Water

1.1.1

Water shall conform to M-1.

1.2

Cement Mortar

1.2.1

Cement Mortar shall conform to M-11.

1.3

Sand Stone Slab

1.3.1

Sand stone slabs of approved shade, variety, size and thickness as specified in the item shall be used. They shall be of selected quality, dense, uniform and homogeneous in texture and free from cracks or other structural defects. The exposed face shall have no veins or unsightly stains and defects. They shall have uniform colours as approved by the Architect. Samples shall be got approved by the Architect before procurement of the slabs. The surface shall be fine polished and sides machine cut, true to line and level.

2.1

Mode of Measurement and Payment

The item shall be measured and paid in sqm. The relevant specifications shall be followed and only clear visible area will be measured and paid. These shall be carried out as directed by engineer in charge

L08

Providing and laying shot blasted interlocking, non-interlocking high density 60 mm thick of M30 grade grey paver blocks as per manufacturer catalogue, manufactured by M/s.Super / Vyara / Alcock / Sabar / Nitco make for footpath, parking areas, service lanes and other areas as mentioned in the drawing including average 50 to 80 mm thick bedding layer of coarse sand below paver block. Laid paver block shall be mechanically compacted up to satisfaction of EIC. The work shall be executed in line and level by skilled mason of flooring work only for paver blocks. It should be laid in such a way that the no cutting of the paver block to be necessary and if required, cutting of paver block to be by machine cut only. The Finished surface of the paver block shall have coarse sand texture finish. Paver blocks shall be compacted and shall be re-laid, if necessary (required/ instructed by EIC).

60mm thick coarse sand shall be laid as cushioning layer for arranging the paver blocks. Joints of the paver blocks shall be filled with the sand

The paver blocks shall be laid properly on the prepared sub-base as per manufacturer's specification and as per Architect and Engineer-in-charge's instruction.

The relevant specifications of roadwork shall be used for preparing the sub grade. All relevant specification to be followed.

The variation in thickness shall not be less than ± 3 mm.

The average abrasion value of the same shall not be more than 2.00mm & for individual shall not vary more than 2.5mm . the water absorption shall not be more than 5%.

Mode of measurement : The rate shall be for a unit of one m².

- 9.37** Providing and laying shot blasted interlocking, non-interlocking high density 60 mm thick M40 grade grey paver blocks of Vyara, Super or equivalent as per approved make for footpath, parking areas, service lanes and other areas as mentioned in the drawing including average 50 to 80 mm thick bedding layer of coarse sand below paver block. Laid paver block shall be mechanically compacted up to satisfaction of Architect/ EIC. The work shall be executed in line and level by skilled mason of flooring work only for paver blocks. It should be laid in such a way that the no cutting of the paver block to be necessary and if required, cutting of paver block by machine cut only. The Finished surface of the paver block shall have coarse sand texture finish. Paver blocks shall be compacted and shall be re-laid, if necessary (required/ instructed by EIC).

50 to 80mm thick coarse sand shall be laid as cushioning layer for arranging the paver blocks. Joints of the paver blocks shall be filled with the sand

The paver blocks shall be laid properly on the prepared sub-base as per manufacturer's specification and as per Architect and Engineer-in-charge's instruction.

The relevant specifications of roadwork shall be used for preparing the sub grade. All relevant specification to be followed.

The variation in thickness shall not be less than ± 3 mm.

The average abrasion value of the same shall not be more than 2.00mm & for individual shall not vary more than 2.5mm . the water absorption shall not be more than 5%.

Mode of measurement : The rate shall be for a unit of one m².

- I08** Extra over charges for flamed finish/ river finish over granite / italian marble / kota stone or any natural stone as per drawing, instruction and directed by Architect/ EIC.

Rates should be quoted for charges of flame finishing or river wash finishing of natural stones. The work will be measured and paid for surface area of treatment.

- I09** Providing & laying sandwich platform comprising of a) Sandwich of 18 mm thick single side polish Granite of approved size, shade (lighter shade like desert yellow, adhunik grey, morkarsar green, tropical brown, etc) and sample on top and 30 mm thick polished kota in bottom with 25mm thick cement mortar (1:4) in between b) At centre vertical sandwich supports of 30 mm thick two kota stone on sides and 20mm CM (1:4) in between and at both end walls vertical supports of 18 mm thick double side granite. c) 75 mm raised platform at bottom with kota on top and 50mm CM (1:4) at bottom, kota stone skirting as per design and approved sample. The rate includes rounding, champhering and mirror polishing of edges, facias of granite, MS support including necessary bonding adhesive (if required) of BASF / Fosroc / BAL / Laticrete / Kerakoll as per approved make. Rate shall be also inclusive of making holes & cutouts for SS sink, Oval wash basin, Piller tap / Bib tap etc. as directed by engineer in charge. (Only plan area shall be measured & paid for).

Mode of Measurement and Payment.

The work shall be measured under relevant item in the schedule of quantities and paid for

- G06** Providing & fixing 15 to 20mm thick White Dholpur / Pink Dholpur/Red Agra / Red Dholpur Stone wet cladding, cut to required size & shape as per drawings duly approved by EIC ,

fixed in cream of cement to the external wall surfaces, inclusive of a rough base coat of plaster 12mm thk. in cement mortar 1:4 including scaffolding, curing and making wire brush marks to receive stone cladding, fixing to perfect line, level & plumb, closely jointed & pointed with white cement & matching colour pigment, also inclusive of providing & making grooves in the stone joints etc. as required, cleaning, curing etc. complete.

Mode of Measurement and Payment.

The work shall be measured under relevant item in the schedule of quantities and paid for

1.0 Material

1.1 Water

1.1.1 Water shall conform to M-1.

1.2 Cement Mortar

1.2.1 Cement Mortar shall conform to M-11.

1.3 Sand Stone Slab

1.3.1 Sand stone slabs of approved shade, variety, size and thickness as specified in the item shall be used. They shall be of selected quality, dense, uniform and homogeneous in texture and free from cracks or other structural defects. The exposed face shall have no veins or unsightly stains and defects. They shall have uniform colours as approved by the Architect. Samples shall be got approved by the Architect before procurement of the slabs. The surface shall be fine polished and sides machine cut, true to line and level.

1.4 Epoxy Grout

1.4.1 Epoxy Grout shall conform to M-38B.

2.0 Workmanship

2.1 Red Agra stone slab is fixed with 15 to 20 mm CM (1:2) on to the wall and the sand stone slabs with machine cut edges shall be pressed on to them firmly. By gently tapping of the slab if sound is coming, it shows there are any hollows. When the hollow cannot be filled with grout and the finished slab continues to give a hollow sound on tapping the slab shall be removed and reset.

3.0 Mode of Measurement and Payment

3.1 The item shall be measured and paid in sqm. The relevant specifications of item no. 7.01 shall be followed and only clear visible area will be measured and paid. These shall include clamps, fixing with cement mortar, grouting with epoxy grout, cleaning, polishing etc. as directed by engineer in charge.