

Any dry weather flow from waste appliances, e.g. AHU's pump rooms, waste water sumps shall connected to sewers after traps and not in the storm water drainage systems.

Balcony / Planter drainage

Wherever required, all balconies, terraces, planters and other frontal landscape areas will be drained by vertical down takes or other type of drainage system shown on the drawings and directed by the Project Manager.

6. TRAPS

6.1 Floor Traps

Floor traps where specified shall be siphon type full before P or S type cast iron having a minimum 50 mm deep seal. The trap and waste pipes when buried below ground shall be set and encased in cement concrete blocks firmly supported on firm ground or when installed on a sunken RCC structural slab. The blocks shall be in 1:2:4 mixes (1 cement: 2 coarse sand: 4 stone aggregate 20 mm nominal size).

Contractor shall provide all necessary shuttering and centering for the blocks. Size of the block shall be 30 x 30 cms of the required depth.

6.2 Floor Trap Inlet /Hopper

Bath room traps and connection shall ensure free and silent flow of discharging water. Where specified, contractor shall provide a special type of floor inlet fitting fabricated from GI pipe, with one, two or three inlet sockets welded on side to connect the waste pipe. All joint between waste hopper and CI inlet socket shall be drip seal/Lead Caulked. Inlet shall be connected to a CI "P" trap. Floor trap inlet and the traps shall be set in cement concrete blocks where burried in floors without extra charge. Floor trap for the shower cubicle shall suit site and as per the approval of Owner's site representative. All fabricated hopper shall be hot dip galvanized.

6.3 Floor Trap Grating

Floor and urinal traps shall be provided with 100 – 150 mm square or round stainless steel gratings, with frame and rim of approved design and shape or as specified in the schedule of quantities approved by the Owner's site representative.

6.4 **Cleanout Plugs**

Floor Clean Out Plug

Clean out plug for soil, waste or rain water pipes laid under floors shall be provided near pipe junctions bends, tees, “Y” and on straight runs at such intervals as required as per site conditions. Cleanout plugs shall terminate flush with the floor level. They shall be threaded and provided with key holes for opening. Cleanout plugs shall be cast brass suitable for the pipe dia. With screwed to a GI socket. The socket shall be drip seal joined/ Lead Caulked to the drain pipes.

Cleanout on Drainage Pipes

Cleanout plugs shall be provided on head of each drain and in between at locations indicated on plans or directed by Owner’s site representative. Cleanout plugs shall be of size matching the full bore of the pipe but no exceeding 150 mm dia CO plugs on drains of greater diameters shall be 150 mm dia. Fixed with a suitable reducing adapter.

Floor cleanout plugs shall be cast brass.

Cleanouts provided at ceiling level pipe shall be fixed to a CI flanged tail piece. The cleanout doors shall be specially fabricated from light weight galvanized sheets and angles with hinged type doors with fly nuts, gasket etc. as per drawing.

7. **PIPE SLEEVES**

Pipe sleeves, next larger diameter than pipes shall be provided wherever pipes pass through walls & slabs and annular space filled with fiberglass & finished with retainer rings. All pipes shall be accurately cut to the required sizes in accordance with relevant BIS codes and burrs removed before laying. Open ends of the pipe shall be closed as the pipe is installed to avoid entrance of foreign matter.

8. **PIPE PROTECTION**

Cast iron soil and waste pipes under floor in sunken slabs and in wall chases (when cut specially for the pipe) shall be encased in cement concrete 1:2:4 mix (1 cement : 2 coarse sand : 4 stone aggregate of 12 mm size) 10 cm bed and around. When pipes are running well above the structural slabs, the encased pipes shall be supported with suitable cement concrete pillars of required height and size at intervals directed by the Project Manager.

9. CUTTING AND MAKING GOOD

Pipes shall be fixed and tested as building proceeds. The contractor shall provide all necessary holes, cutouts and chases in structural members as building work proceeds. Wherever holes are cut or left originally they shall be made good with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 stone aggregate 20 mm nominal size) or cement mortar 1:2 (1 cement : 2 coarse sand). Cured and the surface restored to original condition.

10. PAINTING

Soil, waste, vent and rain water pipes in exposed location, in shafts and pipe space shall be painted with two or more coats of ready mix oil paint to give an even shade. Before painting all dust and extraneous matter shall be removed.

Paint shall be of approved quality and shade. Where directed by the Owner's site representative pipes shall be painted in accordance with approved pipe colour code.

Pipe in chase shall be painted with two coats of bitumen paint, covered with polythene tape and a final coat of bitumen paint. Exposed pipes shall be painted with synthetic enamel paint after removing dust and extraneous matter.

C.I. Soil and waste pipes below ground and covered in cement concrete shall not be painted.

11. TESTING

Testing shall be done in accordance with IS:1172 and IS:5329 except as may be modified herein under. Entire drainage system shall be tested for water tightness and smoke tightness during and after completion of the installation. No portion of the system shall remain untested. Contractor must have adequate number of expandable rubber bellow plugs, manometers, smoke testing machines, pipe and fitting work tests,

All materials obtained and used on site must have manufacturer's hydraulic test certificate for each batch of materials used on the site.

Before use at site all CI pipes shall be tested by filling up with water for at least 30 minutes. After filling, pipes shall be struck with a hammer and inspected for blow holes and cracks. All defective pipes shall be rejected and removed from the site within 48 hours. Pipes with minor sweating may be accepted at the discretion of the Project Manager.

Soil and waste pipes shall be tested in sections after installation, by filling up the stack with water. All openings and connections shall be suitably plugged as approved by the Project Manager. The total head in the stack shall be 4.5 m at the highest point of the section under test. The period of test shall be

minimum for 30 minutes or as directed by the Project Manager. If any leakage is visible, the defective part of the work shall be cut out and made good.

On completion of the work the entire installation shall be tested by smoke testing machine. The test shall be conducted after the plumbing fixtures are installed and all traps have water seal or by plugging the outlets with bellow plugs. Apply dense smoke keeping the top of stack open and observe for leakages. Rectify or replace defective sections.

After the installation is fully complete, it should be tested by flushing the toilets, running atleast 20% of all taps simultaneously and ensuring that the entire system is self draining, has no leakages, blockages etc. rectify and replace where required.

A test register shall be maintained and all entries shall be signed and dated by the Contractor and the Project Manager or his representative.

All pipes in wall chase or meant to be encased or burried shall be hydro tested before the chase in plastered or the pipe encased or burried.

FIRE PROTECTION SYSTEM

1. SCOPE

The scope of this section consists of but is not necessarily limited to supply, installation, testing and commissioning of the fire protection system. The philosophy of the system is as follows :

- a. The Fire Suppression System shall comprise the Fire Hydrants System, the Sprinkler System (Wet type), Hand Appliances.
- b. Water from the underground RCC Fire Water Storage Tanks, shall be supplied for the uses listed below.
 - i. Fire Hydrant System (Pressurised) both for the external hydrants, the internal landing valves and the hose reels at landings.
 - ii. Sprinkler System (Wet Type)
- c. The Hydrant System and the Sprinkler System, under normal conditions, shall be lowest pressurized by means of the electric motor driven Jockey Pump.
- d. The Hydrant System shall be provided with two pump sets, one of which will be diesel engine driven and the other electric motor driven.
- e. The Sprinkler System shall be provided with an electric motor driven pump set.

- f. The piping and valve connections shall be done so that the water from the discharge of the Hydrant Pump sets is able to supply water, automatically to the Sprinkler System whenever, the Sprinkler Pump is unable to maintain the pressure or fails and not vice versa.
- g. The starting and stopping of the Jockey pump shall be automatic based on the pressure switches at preset low and high pressure.
- h. The electric motor driven Hydrant Pump starts automatically at a preset pressure by means of a pressure switch. As soon as the Hydrant Pump starts, the Jockey Pump Stops. If for any reason the electric motor driven Hydrant Pump does not start at the preset pressure or is unable to maintain the pressure, the diesel engine driven Hydrant Pump starts at the preset pressure.
- i. The Hydrant Pump, whether electric motor driven or the diesel engine driven shall be stopped only manually.
- j. The Sprinkler Pump shall be started automatically at a preset pressure but shall be stopped only manually.
- k. Contract shall ensure that all false ceiling voids generator than 800 mm are provided with sprinkler.
- l. Tenderer shall ensure Hydro Testing for the complete system.
- m. The Tenderer shall obtain the necessary approval of the drawings and the schemes from the local authority / TAC as called for. The tenderer shall also take care of any other requirement so that insurance cover can be obtained, if required at minimum premium at a later date.
- n. The tenderer shall design and after approval of Project Manager display near each staircase landing at floor levels, a glass covered framed floor plan clearly showing the locations of all landing valves, hose reels, hand appliances, as well as the DO's and DON'T's for the personnel and the exit direction in case of an emergency. The dimensions of the floor plan, its scale, lettering size, colour scheme etc shall be as directed by the Project Manager.

2. PIPE WORK

2.1 General Requirements

All materials shall be of the best quality conforming to the specifications and subject to the approval of the Consultants.

Pipes shall be fixed in a manner as to provide easy accessibility for repair and maintenance and shall not cause obstruction in shafts, passages etc.

Pipes shall be securely fixed to walls and ceilings by suitable clamps and supports (galvanised after fabrication) at intervals specified. Only approved type of anchor fasteners shall be used for RCC slabs and walls / floors etc.

Valves and other appurtenances shall be so located that they are easily accessible for operations, repairs and maintenance.

Pipes and fittings shall be fixed truly vertical, horizontal or in slopes as required in a neat workman like manner.

Pipe accessories such as gauges, meters, control devices, etc. shall have the same working pressure rating as the associated pipework. All pipework shall be free from burrs, rust and scale and shall be cleaned before installation. All personnel engaged on welding operations must possess a certificate of competence issued by an acceptable / recognized authority.

2.2 Piping

Pipes of following types are to be used:

Mild steel black pipes as per IS: 1239 heavy grade (for pipes of sizes 150 mm N.B. and below) suitably lagged on the outside to prevent soil corrosion. M.S. pipes buried below ground shall also be suitably be lagged with 2 layers of 400 microne polythene sheet over 2 coats of bitumen.

Steel pipelines upto 150 mm dia shall be as per IS: 1239, Part-II (heavy grade) while pipelines above 150 mm dia shall be as per I.S.:3589.

All pipe clamps and supports shall be fabricated from MS steel sections and shall be factory galvanised before use at site. Welding of galvanised clamps and supports shall not be permitted.

Pipes shall be hung by means of expandable anchor fastener of approved make and design. The hangers and clamps shall be fastened by means of galvanised nuts and bolts. The size/diameter of the anchor fastener and the clamps shall be suitable to carry the weight of water filled pipe and dead load normally encountered.

Hangers and supports shall be thoroughly galvanised after fabrication. The selection and design of the hanger & support shall be capable of carrying the sum of all concurrently acting loads. They shall be designed to provide the required supporting effects and allow pipeline movements as necessary. All guides, anchor braces, dampener, expansion joint and structural steel to be attached to the building/structure trenches etc. shall be provided. Hangers and components for all piping shall be approved by the Consultants.

The piping system shall be tested for leakages at 2 times the operating pressure or 1.5 time shut-off pressure, whichever is highest including testing for water hammer effects.

Flanged joints shall be used for connections for vessels, equipment, flanged valves and also on two straight lengths of pipelines of strategic points to facilitate erection and subsequent maintenance work.

For pipes underground installation the pipes shall be buried at least one meter below ground level and shall have 230 mm x 230 mm masonry or concrete supports at least 300 mm high at 3m intervals. Masonry work to have plain cement concrete foundation (1 cement: 4 coarse sand : 8 stone aggregate) of size 380x380x75 thick resting on firm soil.

Mains below ground level shall be supported at regular intervals not exceeding 3.0 metres and shall be laid at least 2.0 metre away from the building.

2.3 Piping Installation & Support

Tender drawings indicate schematically the size and location of pipes. The Tenderer, on the award of the work, shall prepare detailed working drawings, showing the cross-sections, longitudinal sections,

details of fittings, locations of isolating and control valves, drain and air valves, and all pipe supports. He must keep in view the specific openings in buildings and other structure through which pipes are designed to pass.

Piping shall be properly supported on , or suspended from , on stands, clamps, hangers as specified and as required. The Tenderer shall adequately design all the brackets, saddles, anchor, clamps and hangers, and be responsible for their structural stability.

Pipe work and fittings shall be supported by hangers or brackets so as to permit free expansion and contraction. Risers shall be supported at each floor with Galvanised steel clamps. To permit free movement of common piping support shall be from a common hanger bar fabricated from Galvanised steel sections.

Pipe hangers shall be provided at the following maximum spacing:

| Pipe Dia (mm) | Hanger Rod Dia (mm) | Spacing between Supports (m) |
|--------------------------|--------------------------------|---|
| Up to 25 | 6 | 2 |
| 32 to 50 | 10 | 2.7 |
| 80 to 100 | 12 | 2.7 |
| 125 to 150 | 16 | 3.6 |
| 200 to 300 | 19 | 5.3 |

The end of the steel rods shall be threaded and not welded to the threaded bolt.

All pipe work shall be carried out in a proper workman like manner, causing minimum disturbance to the existing services, buildings, roads and structure. The entire piping work shall be organized in consultation with other agencies work, so that area can be carried out in one stretch.

Cut-outs in the floor slab for installing the various pipes area are indicated in the drawings. Tenderer shall carefully examine the cut-outs provided and clearly point out wherever the cut-outs shown in the drawings, do not meet with the requirements.

Pipe sleeves, larger diameter than pipes, shall be provided wherever pipes pass through walls and slab and annular space filled with fibreglass and finished with retainer rings.

The tenderer shall make sure that the clamps, brackets, saddles and hangers provided for pipe supports are adequate or as specified / approved by Consultants. Piping layout shall take due care for expansion and contraction in pipes and include expansion joints where required.

All pipes shall be accurately cut to the required sizes in accordance with relevant BIS codes and burrs removed before laying. Open ends of the piping shall be closed as the pipe is installed to avoid entrance

of foreign matter. Where reducers are to be made in horizontal runs, eccentric reduces shall be used for the piping to drain freely. In other locations, concentric reduces may be used.

Automatic air valves shall be provided at all high points in the piping system for venting. All valves shall be of 15mm pipe size and shall be associated with an equal size gate valves. Automatic air valves shall be provided on hot water risers.

Discharge from the air valves shall be piped through a pipe to the nearest drain or sump. All pipes shall be pitched towards drain points. Pressure gauges shall be provided as shown on the approved drawings.

Care shall be taken to protect pressure gauges during pressure testing.

2.4 **Pipe Fittings**

Pipe fittings mean tees, elbows, couplings, unions, flanges, reducers etc and all such connecting devices that are needed to complete the piping work in its totality.

Forged steel fittings of approved type with “V” groove for welded joints. Forged steel fittings shall be screwed type only and shall be used for pipes of 50 mm dia & below.

Fabricated fittings shall not be permitted for pipes diameters 50mm and below.

When fabricated fittings are used, they shall be fabricated , welded in workshops. They shall be inspected by Project Manager before dispatch from the workshop. The welding procedures of the workshop should have been approved by the rules for sprinkler system and applicable to hydrant and sprinkler system. For “T” connection, pipes shall be drilled and reamed. Cutting by gas or electrical welding shall not be permitted.

2.5 **Jointing**

2.5.1 Welded Joints :

Joints between MS pipes and fittings shall be made with the pipes and fittings having “V” groove and welded with electrical resistance welding in an approved manner. But welding without “V” groove shall not be permitted.

All joints in the pipe line with screwed fittings shall be seal welded after testing and the weld plus the adjoining portion shall be given two coats of zinc rich primer.

2.5.2 Flanged Joints (65 Mm Dia And Above)

Flanged joints with flanges conforming to IS: 6392 shall be provided on

- i. Straight runs at intervals not exceeding 25-30m on pipe lines of 50 mm dia and above and as directed by the Project Manager.
- ii. For jointing all types of valves, appurtenances, pumps, connections with other type of pipes, to water tanks and other places necessary and as required for good engineering practice and as shown/noted on the drawings.

iii. Flanges shall be with GI bolts and nuts and 3mm insertion gasket of natural rubber conforming to IS: 11149.

2.5.3 Unions (Upto 50 Mm Dia)

Approved type of dismountable unions shall be provided on pipe lines of 40 mm dia and smaller dia, in locations similar to those specified for flanges.

3. AIR VESSEL

The air vessel shall be provided to compensate for slight loss of pressure in the system and to provide an air cushion for counter-acting pressure, surges, whenever the pumping sets come into operation. Air vessel shall conform to IS: 3844. It shall be normally half full of water, when the system is in normal operation. Air vessel shall be fabricated with 8 mm thick M.S. plate with dished ends and suitable supporting legs. It shall be provided with one 100 mm dia flanged connection from pump, one 25 mm drain with valve, one water level gauge and 25 mm sockets for pressure switches. The air vessel shall be tested to pressure for 12 hours at 2 times the operating pressure or 1.5 times the shut-off.

4. AIR CUSHION TANK

Every wet riser shall be provided with an air cushion tank at its top most point. The air cushion shall be provided with an automatic air release cock, 20 mm dia drain pipe, drain valve and shut off valve.

5. SYSTEM DRAINAGE

The system shall be provided with suitable drainage arrangement with drain valves complete with all accessories.

6. VALVE CHAMBERS

Provision of suitable brick masonry chambers in cement mortar 1:5 (1 cement : 5 coarse sand) on cement concrete foundations 150 mm thick 1:5:10 mix (1 cement:5 fine sand : 10 graded stone aggregate 20 mm nominal size) with 15 mm thick cement plaster inside and outside finished with a plaster inside and outside finished with a floated coat of neat cement inside with cast iron surface box approved by fire brigade including excavation, back-filling complete shall be made.

7. VALVES

7.1 Sluice Valves

Sluice valves shall be double flanged valves with cast iron body. The spindle, wall seat and wedge nuts shall be of bronze. They shall generally have non-rising spindle and shall be of the particular duty and design called for.

The valves shall be supplied with suitable flanges, non- corrosive bolts and asbestos fibre gaskets. Sluice valves shall conform to Indian Standard IS : 780-1969 and IS : 2906 .

7.2 **Butterfly Valve**

The butterfly valve shall be suitable for waterworks and rated for 300 P.S.I

The body shall be of cast iron to IS:210 in circular shape and of high strength to take the water pressure . The disc shall be heavy duty cast iron with anti corrosive epoxy or nickel coating.

The valve seat shall be of high grade elastomer or nitrile rubber. The valve in closed position shall have complete contact between the seat and the disc throughout the perimeter. The elastomer rubber shall have a long life and shall not give away on continuous applied water pressure. The shaft shall be EN 8 grade carbon steel.

The valve shall be fitted between two flanges on either side of pipe flanges. The valve edge rubber shall be projected outside such that they are wedged within the pipe flanges to prevent leakages.

7.3 **Ball Valve**

The ball valve shall be made forged brass and suitable for test pressure of pipe line. The valve shall be internally threaded to receive pipe connections.

The ball shall be made from brass and machined to perfect round shape and subsequently chrome plated. The seat of the valve body-bonnet gasket and gland packing shall be of Teflon.

The handle shall be provided with PVC jacket. The handle shall also indicate the direction of 'open' and 'closed' situations. The gap between the ball and the teflon packing shall be sealed to prevent water seeping.

The handle shall also be provided with a lug to keep the movement of the ball valve within 90°. The lever shall be operated smoothly and without application of any unnecessary force.

7.4 **Gun Metal Valves**

Gun metal Valves shall be used for smaller dia pipes, and for threaded connections. The Valves shall bear certification as per IS:778

The body and bonnet shall be of gun metal to IS:318. The stem gland and gland nut shall be of forged brass to IS:6912. The hand wheel shall be of cast iron to IS:210.

The Hand wheel shall be of high quality finish to avoid hand abrasions. Movement shall also be easy.

The spindle shall be non rising type.

7.5 **Non-Return Valve**

Non-Return valves shall be cast iron double flanged with cast iron body and gunmetal internal parts conforming to IS:5312.

7.6 Pressure Relief Valve

Each System shall be provided with a Pressure Relief Valves. The Valve shall be spring actuated and set to operate as per field requirement. The Valve shall be constructed of bronze and provided with an open discharge orifice for releasing the water. The Valve shall be open lift type.

8. PRESSURE SWITCH

The pressure switches shall be employed for starting and shutting down operation of pumps automatically, dictated by line pressure. The Pressure Switch shall be diaphragm type. The housing shall be die cast aluminium, with SS 316 movement, pressure element and socket. The set pressure shall be adjustable.

The Switch shall be suitable for consistent and repeated operations without change in values. It shall be provided with IP:55 water and environment protection.

9. PRESSURE GAUGE

Pressure gauge shall be provided near all individual connections of the hydrant system with isolation valves and near each flow switch assembly of the sprinkler system. Pressure gauge shall be 50 mm dia gunmetal bourdon type with gunmetal isolation ball valve, tapping and connecting pipe and nipple. The gauge shall be installed at appropriate height for easy readability.

10. PAINTING

All Hydrant and Sprinkler pipes shall be painted with post office red colour paint. All M S pipes shall first be cleaned thoroughly before application of primer coat. After application of primer coat two coats of enamel paint shall be applied. Each coat shall be given minimum 24 hours drying time. No thinners shall be used. Wherever required all pipe headers shall be worded indicating the direction of the pipe and its purpose such as "TO RISER NO.1" etc.

Painting shall be expertly applied, the paint shall not over run on surfaces not requiring painting such as walls, surfaces etc. Nuts and bolts shall be painted black, while valves shall be painted blue.

11. FIRE HYDRANTS

11.1 Internal Hydrants

- a. Tenderer shall provide on each landing and other locations as shown on the drawings single headed gunmetal landing valve with 100 mm dia inlet as per IS:5290, with shut off valves having cast iron wheels as shown on the drawings. Landing valve shall have flanged inlet and instantaneous type outlets as shown on the drawings.

- b. Instantaneous outlets for fire hydrants shall be standard pattern and suitable for fire hoses.
- c. Tenderer shall provide for each internal fire hydrant station two numbers of 63 mm dia. 15 m long rubberized fabric lined hose pipes with gunmetal male and female instantaneous type coupling machine with GI wire (hose to IS:636 type 2 and couplings to IS:903 with IS certification), fire hose reel, gunmetal branch pipe with nozzle to IS:903. This shall be measured and paid for separately.
- d. Tenderer shall provide standard fire hose reels of 20mm dia high pressure dunlop rubber hose 36.5 m long with gunmetal nozzle, all mounted on a circular hose reel of heavy duty mild steel construction having cast iron brackets. Hose reel shall be connected directly to the wet riser with an isolating valve. Hose reel shall conform to IS:884 and shall be mounted vertically . This shall be measured and paid for separately.
- e. Each internal hydrant hose cabinet shall be provided with a drain in the bottom plate. The drain point shall be lead away to the nearest general drain.
- f. Each internal hydrant hose cabinet containing items as above shall also be provided with a nozzle spanner and a Fireman's Axe. The cabinet shall be recessed in the wall as directed. This shall be measured and paid for separately.
- g. Each hose cabinet shall be conspicuously painted with the letters "FIRE HOSE".

11.2 Hose Reel

Hose reel shall conform to IS : 884, heavy duty, 20 mm dia length shall be 36 metre long fitted with gun metal chromium plated nozzle, mild steel pressed reel drum which can swing upto 170 degree with wall brackets of cast iron finished with red and black enamel complete.

11.3 Fire Hose

All hose pipes shall be of 63 mm diameter RRL/ CP as required, conforming to IS : 636 or IS : 8423. The hose shall be provided with copper alloy delivery coupling. The hose shall be capable of withstanding a bursting pressure of 35.7 Kg/Sq.cm without undue leakage or sweating. Hose shall be provided with instantaneous spring-lock, type couplings.

11.4 Branch Pipe, Nozzle

Branch pipes shall be of gun metal with loaded tin bronze ring at the discharge and to receive the nozzle and provided at the other with a loaded tin bronze ring to fit into the instantaneous coupling. Nozzle shall be of spray type of diameter of not less than 16 mm and not more than 25 mm. Nozzle shall be of loaded tin bronze branch pipe and nozzle shall be of instantaneous pattern conforming to Indian Standard - 903.

11.5 Hose Cabinet

Hose cabinet shall be provided for all internal and external fire hydrants. Hose cabinets shall be fabricated from 16 gauge MS powder coated sheet of fully welded construction with hinged double front door partially glazed (3 mm glass panel) with locking arrangement, stove enamelled fire red paint (shade No. 536 of IS:5) with "FIRE HOSE" written on it prominently (size as given in the schedule of quantities). Cabinet surfaces in contact with the walls shall not be powder coated but instead given two coats of anti-corrosive bit mastic paint.

11.6 Internal Hose Cabinet

Hose cabinet shall be of glass fronted with hinged door & lock. The cabinet shall be made of 16 gauge thick MS sheet and spray painted to shade No. 536 of IS:5. The hose cabinet shall be of size to accommodate the following:

- i. Landing Valves (Single/double headed)
- ii. Hose pipe
- iii. Hose reel (36.5 mtr.)
- iv. Branch pipes, nozzles (2 sets)
- v. Fire man's axe and hand appliances

12. SPRINKLER SYSTEM

12.1 General Specification

The scope of work shall include supply, commissioning, testing of the system as a whole. The sprinkler heads are to be fixed into heavy quality black steel pipes, conforming to IS 1239 or any other approved specification. The size of pipe will vary from 20 mm to 150mm to suit the hydraulics of the system. The System shall conform to CFO Rules for the installation of sprinkler systems in general for 'Ordinary Hazard' category-in respect of design, density and spacing of sprinkler heads.

Reduction in pipe sizes shall not be made by use of bushings. All piping shall be done by means of welding, screwed & flanged jointing as per codes.

Due care shall be taken that sprinklers are not applied with paint at the time of applying paint to piping and fittings.

All control, drain, test and alarm valves shall be provided with signs to identify their purposes, functions, direction of flow the satisfaction of the Consultants.

12.2 Quartzoid Bulb Automatic Sprinkler

Sprinkler heads shall be made of brass/quartzoid bulb sufficiently strong, in compression to withstand any pressure, surge or hammer likely to occur in the system. The yoke & body shall be made of high

quality gun metal brass with arms streamlined to ensure minimum interference with the spread of water.

The deflector of suitable design shall be fitted to give even distribution of water over the area commanded by the sprinkler.

The bulb shall contain a liquid having a freezing point below any natural climatic figure and a high coefficient of expansion. The temperature rating of the sprinkler shall be stamped on the deflector & the colour of the liquid filled in the bulb shall be according to the temperature rating as per HFWA standard. The sprinkler heads shall be of type & quality approved by the local fire brigade authority. The inlet shall be screwed.

The sprinklers shall have 15mm nominal size of the orifice for ordinary hazard.

The orifice size shall be marked on the body or the deflector of the sprinkler.

Metal guards for protection of sprinkler against accidental or mechanical damage shall be provided as desired by the Project Manager.

Tenderer shall submit detailed submittal and discharge spray pattern for the Sprinkler for the approval of consultant.

12.2.1 **Operating Temperature**

The Operating temperature, at which the quartzoid bulb of the sprinkler head shall actuate, shall be 68 degree C or as specifically mentioned.

12.2.2 **Sprinkler Installation**

Sprinkler heads shall be located in positions shown on the drawings. While slight relocation may result from building construction features or interference from other services, the maximum spacing between sprinkler heads and coverage area shall not exceed those stipulated in the TAC regulations and the NFPA 13-1994 Rules.

Allowance shall be made for such relocations within a radius of 1500 mm of the indicated positions without additional cost. The Fire Protection Services Trade shall co-ordinate with the ceiling Trade to set out the sprinkler locations to suit the site location of the unit grid. In general, all sprinklers shall be located at the centre of the ceiling unit and a provision of about 10% more sprinklers and pipework than required in TAC and NFPA Rules shall be included in this sub-contract. Chrome plated wire mesh guards shall be used to protect the sprinkler heads which are liable to accidental or mechanical **(at no extra cost)** damage.

12.3 **Flow Requirements**

The flow requirement for sprinkler heads shall be specifically approved for the designated area of installation.

12.4 **Orifice Plates**

For restricting pressure at lower levels in the sprinkler system, orifice plates of appropriate sizes shall be fitted at different floor levels, at the branching points from Riser Main.

The Diameter of such orifice shall not be less than 50% of the dia of pipe into which it is to be fitted, which shall not be less than 50mm dia. These orifice plates must be of stainless steel with plain central hole without burrs, and the thickness shall be 3mm for pipe size upto 80 mm, 6 mm for pipes from 80 to 125 mm dia and 9 mm for pipes greater than 125 mm dia. Such orifice plate must have a projecting identification tag.

The orifice plate shall fitted not less than two pipe internal diameters downstream of the outlet from any elbow or brand.

Tenderer shall submit the design and identify location on drawing before installation.

12.5 **Inspection And Test Valve Assembly**

Inspection and testing of the automatic starting of the sprinkler system shall be done by providing an assembly consisting of gunmetal valves, gunmetal sight glass, bye-pass valve and orifice assembly as per approved drawing.

12.6 **Flow Switch**

Flow switch shall have a paddle made of flexible and sturdy material of the width to fit within the pipe bore. The terminal box shall be mounted over the paddle/ pipe through a connecting socket. The Switch shall be potential free in either N O or N C position as required. The switch shall be able to trip and make / break contact on the operation of a single sprinkler head. The terminal box shall have connections for wiring to the Annunciation Panel. The flow switch shall have connections for wiring the seat shall be of S.S to the Annunciation Panel. The flow switch shall have IP: 55 protections.

The flow switches work at a triggering threshold bandwidth (flow rate) of 4 to 10 GPM. Further, it shall have a 'Retard' to compensate for line leakage or intermittent flows.

12.7 **The Main Stop Valve**

These shall be of cast iron body of requisite size. When closed, these will shut off supply of water to the installation.

A location plate must be fixed on the outside or an external wall, as near to the main stop valve as possible, bearing the following words on raised letters or other approved type letter.

- a. **Sprinkler Stop Valve Inside:** The word 'sprinkler stop valve' shall be in letters of at least 35mm and the word "INSIDE" at least 25mm in height. The words shall be painted white on black back ground.

- b. All stop valves shall be right handed i.e. they shall be so constructed that in order to shut the valve the spindle shall turn from left to right. There shall be an indicator which will show whether the valve is open or shut.

12.8 **Pipes For Drainage:**

Sprinkler pipes shall be so installed that the system can be thoroughly drained. As far as possible all pipes shall be arranged to drain to the installation drain valve as shown in the drawing for ordinary hazard system.

In the case of basement & other areas where sprinkler pipe-work is below the installation drain valve & in other trapped points in the system, auxiliary valves of the following sizes shall be provided.

-20 mm valves for pipes upto 50mm dia.

-25 mm valves for 80mm dia pipe.

-50 mm valves for pipes larger than 80mm dia.

12.9 **System Design**

The entire sprinkler installation shall be designed to make it a hydraulically balanced system. The pressure requirement at typical floors shall be designed between 2.5 bar and 3.5 bar.

13. **HAND HELD FIRE EXTINGUISHERS**

13.1 **Hand Appliances**

13.1.1 Scope

Work under this section shall consist of furnishing all labour, materials, appliances and equipment necessary and required to install fire extinguishing hand appliances as per relevant specification of various authorities.

Without restricting to the generality of the foregoing, the work shall consist of the following:

Installation of fully charged and tested fire extinguishing hand appliances of A B C powder type as required and specified in the drawings and schedule of rates.

13.2 **General Requirements**

Hand appliances shall be installed in easily accessible locations with the brackets fixed to the wall by suitable anchor fasteners.

Each appliance shall be provided with an inspection card indicating the date of inspection, testing, change of charge and other relevant data.

All appliances shall be fixed in a true workmanlike manner truly vertical and at correct locations.

Distribution / installation of fire extinguisher to be in accordance to IS: 2190.

13.3 **Measurement**

Fire extinguishers shall be counted in numbers and include installation of all necessary items required as given in the specifications.

13.4 **Abc Type Dry Powder Extinguisher**

The Extinguisher shall be filled with ABC grade 40, Mono Ammonium Phosphate 40% from any approved manufacturer.

The capacity of the extinguisher when filled with Dry Chemical Powder (First filling) as per IS 4308, Part II, shall be 5 Kg +/-2% or 10 Kg +/- 3%.

The distribution of fire extinguishers to be as per IS 2190 - 1992

It shall be operated upright, with a squeeze grip valve to control discharge. The plunger neck shall have a safety clip, fitted with a pin, to prevent accidental discharge. It shall be pressurised with Dry Nitrogen, as expellant. The Nitrogen to be charged at a pressure of 15 Kg/cm²

Body shall be of mild steel conforming to relevant IS Standards. The neck ring shall be also mild steel and welded to the body. The discharge valve body, shall be forged brass or leaded bronze, while the spindle, spring and siphon tube shall be of brass. The nozzle shall be of brass, while the hose shall be braided nylon. The body shall be cylindrical in shape, with the dish and dome welded to it. Sufficient space for Nitrogen gas shall be provided inside the body, above the powder filling.

The Neck Ring shall be externally threaded - the threading portion being 1.6 cm. The filler opening in the neck ring shall not less than 50 mm. Discharge nozzle shall be screwed to the hose. The design of the nozzle shall meet the performance requirement, so as to discharge at least 85% of contents upto a throw of 4 mtrs, continuously, at least for 15 seconds. The hose, forming part of discharge nozzle, shall be 500 mm long, with 10 mm dia internally for 5 Kg capacity and 12 mm for 10 Kg capacity. It shall have a pressure gauge fitted to the valve assembly or the cylinder to indicate pressure available inside. The extinguisher shall be treated with anti-corrosive paint, and it shall be labelled with words ABC 2.5 cm long, within a triangle of 5 cm on each face. The extinguisher body and valve assembly shall withstand internal pressure of 30 Kg/cm² for a minimum period of 2 minutes. The pressure gauge shall be imported and suited for the purpose.

13.5 **Water Type Extinguisher (Gas Pressure Type)**

The Extinguishing medium shall be primarily water stored under normal pressure, the discharge being affected by release of Carbon Dioxide Gas from a 120 gms cylinder.

The capacity of Extinguisher, when filled upto the indicated level, shall be 9 ltr +/- 5%

The skin thickness of the Cylinder shall be minimum 4.0 mm, fabricated from Mild Steel sheet, welded as required, with dish and dome, being of same thickness, and of size not exceeding the diameter of body. The diameter of body to be not less than 150 mm and not exceeding 200 mm. The neck shall be externally threaded upto a minimum depth of 16 mm, and leaded tin bronze.

The cap shall be of leaded tin bronze, and screwed on the body upto a minimum of 1.6 cm depth, with parallel screw thread to match the neck ring. The siphon tube to be of brass or G.I. and the strainer of Brass. The cartridge holder, knob, discharge fittings and plunger to be of Brass/Leaded tin bronze, and plunger of stainless steel, spring of stainless steel. The cap to have handle fixed to it. The discharge hose shall be braided nylon, of 10 mm dia and 600 mm long, with a nozzle of brass fitted at end.

The extinguisher shall be treated for anti-corrosion internally and externally, and externally painted with Fire Red paint. The paint shall be stove enamelled/powder coated. The cartridge shall be as per IS, and have 60 gm net carbon dioxide gas for expelling. The extinguisher, body and cap shall be treated to an internal hydraulic pressure of 25 Kg/cm². It shall have external marking with letter A, of 2.5 cm height, in block letters within a triangle of 5 cm each side. The extinguisher shall be upright in operation, with the body placed on ground and discharge tube with nozzle held in one hand to give a throw of not less than 6 mtr, and continue so for atleast 60 secs. The extinguisher body shall be clearly marked with ISI stamp (IS 940).

13.6 **Carbon Dioxide Extinguisher**

The Carbon Dioxide Extinguisher shall be as per IS: 2878

The body shall be constructed of seamless tube conforming to IS:7285 and having a convex dome and flat base. Its dia shall be maximum 140 mm, and the overall height shall not exceed 720 mm.

The discharge mechanism shall be through a control valve conforming to IS:3224. The internal syphon tube shall be of copper aluminium conforming to relevant specifications.

Hose Pipe shall be high pressure braided Rubber hose with a minimum burst pressure of 140 Kg/cm² and shall be approximately 1.0 meter in length having internal dia of 10 mm. The discharge horn shall be of high quality unbreakable plastic with gradually expanding shape, to convert liquid carbon dioxide into gas form. The hand grip of Discharge horn shall be insulated with Rubber of appropriate thickness.

The gas shall be conforming to IS:307 and shall be stored at about 85 Kg/cm². The expansion ratio between stored liquid carbon dioxide to expanded gas shall be 1:9 times and the total discharge time (effective) shall be minimum 10 secs and maximum 25 secs.

The extinguisher shall fulfill the following test pressures:

Cylinder: 236 Kg/cm²

Control Valve: 125 Kg/cm²

Burst Pressure of Hose: 140 Kg/cm² minimum

It shall be an Upright type. The cylinder, including the control valve and high pressure Discharge Hose must comply with relevant Statutory Regulations, and be approved by Chief Controller of Explosives, Nagpur and also bear IS marking.

The Extinguisher including components shall be IS marked.

COMMISSIONING & GUARANTEE

1. SCOPE OF WORK

Work under this section shall be executed without any additional cost. The rates quoted in this tender shall be inclusive of the works given in this section.

Contractor shall provide all tools, equipment, metering and testing devices required for the purpose.

On award of work, Contractor shall submit a detailed proposal giving methods of testing and gauging the performance of the equipment to be supplied and installed under this contract.

All tests shall be made in the presence of the Architect or his representative or any inspecting authority. At least five working days' notice in writing shall be given to the inspecting parties before performing any test.

Water flow rates of all equipment and in pipe lines through valves shall be adjusted to design conditions. Complete results of adjustments shall be recorded and submitted.

Contractor shall ensure proper balancing of the hydraulic system and for the pipes / valves installed in his scope of work by regulating the flow rates in the pipe line by valve operation. The contractor shall also provide permanent Tee connection (with plug) in water supply lines for ease of installing pressure gauge, temperature gauge & rota meters. Contractor shall also supply all required pressure gauge, temperature gauge & rotameter for system commissioning and balancing. The balancing shall be to the satisfaction of Consultant / Project Manager.

Three copies of all test results shall be submitted to the Engineer in A4 size sheet paper within two weeks after completion of the tests.

2. PRECOMMISSIONING

On completion of the installation of all pumps, piping, valves, pipe connections, insulation etc. the Contractor shall proceed as follows:

- a. Prior to start-up and hydraulic testing, the Contractor shall clean the entire installation including all fittings and pipe work and the like after installation and keep them in a new condition. All pumping systems shall be flushed and drained at least once through to get rid of contaminating materials. All pipes shall be rodded to ensure clearance of debris, cleaning and flushing shall be carried out in sections as the installation becomes completed.
- b. All strainers shall be inspected and cleaned out or replaced.
- c. When the entire systems are reasonably clean, a pre-treatment chemical shall be introduced and circulated for at least 8 hours. Warning signs shall be provided at all outlets during pre-treatment. The pre-treatment chemical shall:
 - Remove oil, grease and foreign residue from the pipe work and fittings;
 - Pre-condition the metal surfaces to resist reaction with water or air.
 - Establish an initial protective film;
 - After pre-treatment, the system shall be drained and refilled with fresh water and left until the system is put into operation.
 - Details and procedures of the pre-treatment shall be submitted to the Architect for approval.
- d. Check all clamps, supports and hangers provided for the pipes.
- e. Check all the equipment, piping and valves coming under hot water system and operate each and every valve on the system to see if the valves are functioning properly. Thereafter conduct & hydro test of the system as for (b) above.

- f. Fill up pipes with water and apply hydrostatic pressure to the system as given in the relevant section of the specification. If any leakage is found, rectify the same and retest the pipes.

Fire Protection System

- a. Check all hydrant valves by opening and closing: any valve found to be open shall be closed.
- b. Check all the piping under hydro test.
- c. Check that all suction and delivery connections are properly made for all pump sets.
- d. Check rotation of each motor after decoupling and correct the same if required.
- e. Test runs each pump set.
- f. All pump sets shall be run continuously for 8 hours (if required with temporary piping back to the tank).

Commissioning and Testing

- a. Pressurise the fire hydrant system by running the jockey pump and after it attains the shutoff pressure of the pump , then
- b. Open bypass valve and allow the pressure to drop in the system. Check that the jockey pump cuts-in and cuts-out at the preset pressure. If necessary adjust the pressure switch for the jockey pump. Close by-pass valve.
- c. Open hydrant valve and allow the water to below into the fire water tank in order to avoid wastage of water. The main fire pump shall cut-in at the preset pressure and shall not cutout automatically on reaching the normal line pressure. The main fire pump shall stop only by manual push button. However the jockey pump shall cut-out as soon as the main pump starts,
- d. Switch off the main fire pump and test check the diesel engine driven pump in the same manner as the electrically driven pump,
- e. When the fire pumps have been checked for satisfactory working on automatic controls, open fire hydrant valves simultaneously and allow the hose pipes to discharge water into the fire tank to avoid wastage.
- f. Check each landing valve, male and female couplings and branch pipes, for compatibility with each other. Any fitting which is found to be incompatible and do not fit into the other properly shall be replace by the Contractor. Each landing valve shall also be checked by opening and closing under pressure.
- g. Check all annunciations by simulating the alarm conditions at site.

Sprinkler System

- a. Start the sprinkler pump and develop the required pressure in the sprinkler pipes.
- b. Open the test valve to test the automatic starting of the pump. If necessary , make necessary adjustments in the setting of pressure switch. The sprinkler water gong alarm shall also operate when the test valve is open. This operation is to be done for each and every section of the sprinkler system and the alarm for each section (via flow switch) shall be checked for operation.
- c. After satisfactory operation of the pump the Contractor shall set up mock fire and test the system.
- d. Check all annunciations by simulating the alarm conditions at site.

3. STATUTORY AUTHORITIES' TESTS AND INSPECTIONS

As and when notified in writing or instructed by the Architect, the Contractor shall submit shop drawing and attend all tests and inspections carried out by Local Fire Authorities, Water Authority and other Statutory Authorities, and shall forthwith execute free of charge any rectification work ordered by the Architect as a result of such tests and inspections where these indicate non-compliance with Statutory Regulations. Some of these tests may take place after the issue of Practical Completion of the Main Contract and the Contractor shall make all allowances in this respect.

The Contractor shall be responsible for the submission of all necessary forms and shop drawings to the Statutory Authorities which shall conform in layout to the latest architectural plans submitted to and kept by these Authorities.

The submission shall comply with the requirements set forth in the current Codes of Practice and circular letters of the Statutory Authorities. The shop drawings to be submitted shall be forwarded to the Architect for checking before submission.

The Contractor shall allow for at least two submissions of complete sets of shop drawings to the Authorities, one to be made within six months after the award of the Contract but not less than six weeks before the inspection. The Architect may at his discretion instruct the Contractor for additional submissions to the Local Authorities whenever necessary.

The Contractor shall notify the Architect at least seven days in advance of his application for local Authority tests and inspections. On receipt of a confirmed date for test and inspection the Contractor shall inform the Architect without delay.

4. FINAL ACCEPTANCE TESTS

Following commissioning and inspection of the entire installation, and prior to issue of the Completion Certificate, the Contractor shall carry out final acceptance tests in accordance with a programme to be agreed with the Architect.

Should the results of the acceptance tests show that plant, systems and/or equipment fail to perform to the efficiencies or other performance figures as given in this Specification, the Contractor shall adjust, modify and if necessary replace the equipment without further payment in order that the required performance is obtained.

Where acceptance tests are required by the relevant Authorities having jurisdiction, these tests shall be carried out by the Contractor prior to the issue of Completion Certificate to the acceptance of the Authorities.

5. REJECTION OF INSTALLATION / PLANT

Any item of plant or system or component which fails to comply with the requirements of this Specification in any respect whatsoever at any stage of manufacture, test, erection or on completion at site may be rejected by the Architect either in whole or in part as he considers necessary/appropriate. Adjustment and/or modification work as required by the Architect so as to comply with the Authority's requirements and the intent of the Specification shall be carried out by the Contractor at his own expense and to the satisfaction of the Authority/Architect.

After works have been accepted, the Contractor may be required to carry out assist in carrying out additional performance tests as reasonably required by the Architect/Employer.

6. WARRANTY AND HANDOVER

The Contractor shall warrant that all plant, materials and equipment supplied and all workmanship performed by him to be free from defects of whatsoever nature before handover to the Owner.

7. HANDING OVER OF DOCUMENTS

All testing and commissioning shall be done by the Contractor to the entire satisfaction of the Owner's site representative and all testing and commissioning documents shall be handed over to the Owner's site representative.

The Contractor shall also hand over all maintenance and operation manuals, all certificates and all other documentation as per the terms of the contract to the Owner's site representative.

8. PIPE COLOUR CODE:

| S.No. | Pipe Lines | Ground/ Base Colour | First Colour Band | Second Colour Band |
|--------------|--|----------------------------|--------------------------|---------------------------|
| 1. | Drinking Water (All cold water lines after filter) | Sea Green | French Blue | Single Red |
| 2. | Treated Water (Soft Water) | Sea Green | Light Orange | |
| 3. | Domestic Hot Water | Sea Green | Light Grey | |
| 4. | Drainage (Storm Water) | Black | | |
| 5. | Drainage (Sewage Water) | Brown | | |
| 6. | Fire System | Post Office Red | | |

(iii) **Technical Specifications of Audio Visual Systems**

| S. No. | Specifications | YES | NO |
|-----------------------------------|---|-----|----|
| Sound-Reinforcement System | | | |
| 1 | Gooseneck Microphone | | |
| | It shall Condenser, Gooseneck Microphone. | | |
| | Cardioid Polar pattern with RFI/GSM shielding. | | |
| | Frequency Response : 100 Hz to 15kHz | | |
| | Sensitivity, Open Circuit Voltage, 1 kHz : 4.5mV/Pascal | | |
| | Dynamic Range : 102 dB SPL | | |
| | 9 to 52 Volt Phantom Supply | | |
| | Output Impedance, 1 kHz : 200 ohms | | |
| | Nonreflecting Black Finish. | | |
| | 3-pin XLR Connector | | |
| | | | |
| 2 | UHF Wireless Handheld Microphone | | |
| | It shall be Wireless Handheld Microphone with Synthesized PLL receiver. | | |
| | Frequency Range (RF) : A Band 648 – 676 MHz, G Band 614 – 642 MHz. | | |
| | It shall have 1112 possible channels Programmable in 25 kHz steps | | |
| | Modulation : +/- 40 kHz | | |
| | Digital Posi-Phase True Diversity | | |
| | RF Sensitivity : < 1.0 mV | | |
| | Image Rejection > 60 dB | | |
| | Internal 1/2-wave antenna | | |
| | Frequency Response : 50 – 15 kHz +/- 2 dB | | |
| | Distortion <1.0%, 0.5% typical | | |
| | Signal-to-Noise Ratio >100 dB | | |
| | Dynamic Range >100 dB | | |
| | Radiated Output Power : 30 mW | | |
| | It shall have Dynamic Vocal Microphone. | | |
| | Power Requirements : 9 Volt Alkaline Battery | | |
| | Battery Life : > 8 hours | | |
| | LCD Displays Group and Channel, Frequency, or Battery Level | | |
| | | | |
| 3 | UHF Wireless Lapel Microphone | | |
| | It shall be Wireless Lapel Microphone with Synthesized PLL receiver. | | |
| | Frequency Range (RF) : A Band 648 – 676 MHz, G Band 614 – 642 MHz. | | |
| | It shall have 1112 possible channels Programmable in 25 kHz steps | | |
| | Modulation : +/- 40 kHz | | |

| S. No. | Specifications | YES | NO |
|--------|---|-----|----|
| | Digital Posi-Phase True Diversity | | |
| | RF Sensitivity : < 1.0 mV | | |
| | Image Rejection > 60 dB | | |
| | Internal 1/2-wave antenna | | |
| | Frequency Response : 50 – 15 kHz +/- 2 dB | | |
| | Distortion <1.0%, 0.5% typical | | |
| | Signal-to-Noise Ratio >100 dB | | |
| | Dynamic Range >100 dB | | |
| | Radiated Output Power : 30 mW | | |
| | It shall have Omnidirectional Condenser Lavalier microphone. | | |
| | Power Requirements : 9 Volt Alkaline Battery | | |
| | Battery Life : > 8 hours | | |
| | LCD Displays Group and Channel, Frequency, or Battery Level | | |
| | | | |
| 4 | Antenna Distribution System | | |
| | It shall be UHF antenna/power distribution system. | | |
| | Provides diversity antenna distribution to four single receivers. | | |
| | Universal power supply with IEC power cord. | | |
| | It shall be cascaded to provide antennas for up to 16 receivers. | | |
| | | | |
| 5 | Omnidirectional Antenna | | |
| | It shall be Ground independent remote mountable half-wave omni-directional antenna. | | |
| | | | |
| 6 | Mixer | | |
| | Mixer shall have 12 Mic / line inputs + 4 Mic/stereo line channels, 6 x AUX, Dual 24 bit stereo effects, USB- Audio Interface. | | |
| | The XLR microphone input shall equipped with an extremely high quality, ultra-low noise, discrete preamp. | | |
| | The +48V phantom power for condenser microphones can be switched in groups of six. | | |
| | The Line Input and Channel Insert shall be implemented as jack sockets. | | |
| | The Gain can be controlled in the range 0-60 dB. | | |
| | Each channel offers a Signal Present and Peak LED for level control. | | |
| | The channel faders are dust-protected and offer not only excellent crosstalk attenuation but also a practice-optimized control characteristic. | | |
| | Stereo MIC/LINE Input Channels | | |
| | Two of the four stereo inputs of each model shall be additionally equipped with cinch (RCA) sockets switched in parallel for CD or MP3 players. | | |
| | It shall have 128 x 64 pixels, OLED Display. | | |
| | 4 In / 4 Out Digital Audio Interface Channel. | | |

| S. No. | Specifications | YES | NO |
|--------|--|-----|----|
| | Dual stereo 24/48-bit multi effects processors with 100 Factory presets and 20 User, Tap-Delay. | | |
| | Frequency Response, -3 dB, ref. 1 kHz : 15 Hz to 70 kHz | | |
| | Crosstalk, 1 kHz > 85 dB | | |
| | THD, at 1 kHz < 0.005% | | |
| | | | |
| 7 | USB/SD Recorder | | |
| | It shall be Digital Rackmountable recorder for recording and playback from devices. | | |
| | It shall have Full-color LCD screen. | | |
| | Records from any MONO or STEREO line source. | | |
| | It shall Record directly to the SD card box (1 GB), SD (up to 4GB) or SDHC (up to 32GB) compatible. | | |
| | Record direct to USB flash drive. | | |
| | Combo XLR and ¼" Microphone inputs with Mic/Line switch. | | |
| | Front and rear RCA inputs, Balanced XLR outputs. | | |
| | Rotary Headphone volume control. | | |
| | Adjustable record level with digital input VU. | | |
| | Easily playback previously recorded media. | | |
| | | | |
| 8 | Audio Press Distribution box | | |
| | It shall be Audio Press Box with 12 Microphone outputs, balanced and independently transformer isolated. | | |
| | Balanced, XLR Inputs and Outputs. | | |
| | One balanced Line Input with max. input level : +24 dBu. | | |
| | Nominal Output level is -38 dBu | | |
| | Input Impedance : 25k Ohm | | |
| | Frequency Response : 20 Hz to 50 kHz/-1dB | | |
| | | | |
| 9 | Networkable Digital Signal Processor | | |
| | It shall have min 12 AEC Inputs and 12 Outputs | | |
| | Along with IP/RS-232 Control port | | |
| | Having integrated digital bus/network for expansion of inputs and output ports. | | |
| | The processor shall have programmable DSP like compressor, limiters, EQ, duckers, feedback control etc. complete with standard accessories complete as required. | | |
| | | | |
| 10 | 2 Way Ceiling Speaker | | |
| | Dual 3.5" Two Way Surface Mount loudspeaker | | |
| | Vented LF enclosure, | | |
| | 0.75" titanium diaphragm HF driver with neodymium magnetic structure, | | |
| | Elliptical weather resistant ABS enclosure, | | |

| S. No. | Specifications | YES | NO |
|--------|--|-----|----|
| | Frequency Range (-10 dB) : 85 - 20,000 Hz , | | |
| | Sensitivity, SPL 1 W/1 m : 87 dB , | | |
| | Max. SPL: 108 dB | | |
| | Coverage: 140°H x 100°V | | |
| | Power Handling (Continuous, Peak) : 75, 300W , Transformer Taps: 70V:5W, 100V:10W. | | |
| | Rated voltage 70 V or 100 V | | |
| | Rated impedance: 8 ohm | | |
| | | | |
| 11 | Dual Channel Power Amplifier | | |
| | It shall be Dual Channel Power Amplifier, Per channel 400W@70V or 4Ohm and 215W@8Ohm. | | |
| | Bridge Mode Provides 1 x 860W at 8 Ohms. | | |
| | Selectable 50Hz or 300Hz Hi-Pass Filter. | | |
| | Frequency Response, -1dB : 65Hz - 20kHz | | |
| | Signal-to-Noise Ratio : 103 dB | | |
| | THD at rated output power <0.1% | | |
| | Input Impedance >20kOhm | | |
| | Protection against Audio Limiters, High Temperature, Peak Current Limiters, Turn-On Delay. | | |
| | Front-to-Rear Cooling with Front Panel Power On/Off. | | |
| | | | |
| 12 | FOH Flying Arrayable Loudspeaker | | |
| | It shall be Single 12" Two-way Full-Range Loudspeaker System. | | |
| | Power Handling : 500W Continuous, 2000W Peak | | |
| | LF Transducer : 12 in (305mm) Driver | | |
| | HF Transducer : 2 in (51mm) Compression Driver | | |
| | Freq. Range1 (-10 dB): 49 Hz - 18 kHz | | |
| | Sensitivity: 98 dB (1W/1m) | | |
| | Max. Calculated SPL : 131 dB | | |
| | Horizontal Coverage: 60° (or 40°) | | |
| | Vertical Coverage: 40° (or 60°) | | |
| | Crossover Frequency: 1450 Hz | | |
| | (22) M10 Threaded Suspension Points | | |
| | 13 Ply Weather Resistant Birch Enclosure. | | |
| | | | |
| 13 | Brackets | | |
| | Special Wall / ceiling Mounting bracket for FOH speaker for hanging the same with ceiling. | | |
| | | | |
| 14 | Subwoofer | | |
| | It shall be Single 12" Front Loaded Fully-Weatherized Subwoofer. | | |

| S. No. | Specifications | YES | NO |
|--------|--|-----|----|
| | Power Handling : 400W Continuous, 1600W Peak@4Ohm. | | |
| | Freq. Range (-10 dB): 50 Hz - 150 Hz | | |
| | Sensitivity : 98 dB (1W/1m) | | |
| | Max. Calculated SPL : 130 dB | | |
| | Omnidirectional Horizontal and Vertical Coverage. | | |
| | 13 Ply Weather Resistant Birch Enclosure. | | |
| | 18 GA Stainless Steel Grille. | | |
| | (22) M10 Threaded Suspension Points. | | |
| | | | |
| 15 | Dual Channel 2 x 900W Power Amplifier | | |
| | It shall be Class H, Dual channel power amplifier. | | |
| | Max Midband Output Power (Per channel) : 900W @ 4 ohms, 1200W @ 2 ohms. | | |
| | Max Bridged Output Power : 2800 W @ 4 ohms, 1800 W @ 8 ohms. | | |
| | Rated Output Power : 800W@4 ohms, 400W@8 ohms. | | |
| | Frequency Response : 20Hz - 20 KHz | | |
| | THD : < 0.03%. | | |
| | Input Sensitivity, rated power @ 8 Ω, 1 kHz : +6.6 dBu | | |
| | Max input level : +21dBu, Crosstalk < 80dB. | | |
| | Input impedance : 20kohm | | |
| | Signal to noise ratio : > 110 dB | | |
| | Damping factor > 300. | | |
| | Crosstalk ref. 1 kHz, < -80 dB | | |
| | Audio Limiters, High Temperature, DC, HF Short Circuit, Peak Current, turn-on delay built in protection. | | |
| | Front to rear cooling and 3-stage-fans. | | |
| | | | |
| 16 | Two-Way Powered Stage Monitor | | |
| | It shall be 12" Two-way Powered Full-Range Stage Monitor Speaker. | | |
| | 12" woofer and 1.5" high-frequency titanium compression driver. | | |
| | It shall have 1000-W Class-D amplifier. | | |
| | Frequency Response (-10 dB) : 50 - 20kHz | | |
| | Max. SPL/1m (calc) : 132 dB | | |
| | Coverage (Nominal -6 dB) H : 90 ° | | |
| | Coverage (Nominal -6 dB) V : 50 ° | | |
| | 9-ply, 15mm Plywood Enclosure. | | |
| | Crossover Frequency : 1.7 k Hz | | |
| | Biamped with 24 dB/octave crossover | | |
| | Pre- or post-mix parallel outputs with Versatile gain, mixing, and processing controls. | | |
| | | | |
| 17 | Junction Box | | |
| | 4 Point Junction Box for interconnecting of stage monitors and microphones. | | |

| S. No. | Specifications | YES | NO |
|--------|---|-----|----|
| 18 | Equipment Rack | | |
| | 19" floor standing amplifier aluminium rack for housing control equipment for conference, voting, video archival, distribution and hall display system, maximum height 32U/600 x 600 mm Single / Dual, as per the equipment requirement | | |
| | There shall be provision of at least 1 U blank plate spacing between two adjacent equipment so as to provide sufficient ventilation | | |
| | Fan at top of each rack for heat dissipation, Power supply panel with MCB at the bottom | | |
| | Front transparent door and rear metallic glass door with locking facility | | |
| | Adequate power supply sockets for the equipment to be fitted in the rack | | |
| | Rack to be mounted on a suitable frame grouted onto the floor | | |
| | Cable entry plate in the bottom of the rack | | |
| 19 | Speaker Cable | | |
| | Conductor - Bare Copper | | |
| | 2 core twisted PVC Insulated | | |
| | Working Temp (- 20 Deg C to 70 Deg C) | | |
| | Cross section : 1.5 Sq Mm | | |
| | Conductor - 30 x 0.25mm | | |
| | Resistance - 12.5 Ohm / Km | | |
| | Capacitance - 150pF/mtr | | |
| | Inductance - 0.56µH/ mtr | | |
| | Outer Dia - 7 mm | | |
| 20 | Speaker Cable | | |
| | Conductor - Bare Copper | | |
| | 2 core twisted PVC Insulated | | |
| | Working Temp (- 20 Deg C to 70 Deg C) | | |
| | Cross section : 2.5 Sq Mm | | |
| | Conductor - 30 x 0.25mm | | |
| | Resistance - 12.5 Ohm / Km | | |
| | Capacitance - 150pF/mtr | | |
| | Inductance - 0.56µH/ mtr | | |
| | Outer Dia - 7 mm | | |
| 21 | Mic Cable | | |
| | Two Core Microphone Cable | | |
| | Overall Shielded | | |
| | PVC Insulated. | | |
| 22 | Connectors and other Miscellaneous accessories as required. | | |

| S. No. | Specifications | YES | NO |
|----------------------|---|-----|----|
| Video Display | | | |
| 1 | Laser Projector | | |
| | Single Chip DLP Solid state laser projector | | |
| | 8000 center Lumens or better brightness | | |
| | WUXGA 1920 x 1200 or better resolution | | |
| | 16:10 aspect ratio | | |
| | 1200:1 or better contrast ratio | | |
| | life of light source 20,000 Hrs | | |
| | having Inputs of 1 x HDBaseT, 2 x HDMI or better, 3GSDI x 1 (BNC) or better | | |
| | RS232 , Ethernet (10/100) RJ45 | | |
| | 24/7 Operation | | |
| | Built-in color matching for a more uniform image in a multiple projector configuration , | | |
| | Built-in advanced (grid-based) warping and blending for complex applications as required at site. | | |
| | along with suitable short throw lens 0.7-0.95 for as required at site. | | |
| 2 | 230-250" Projection screen | | |
| | Motorized High Gain Tab Tensioned projection screen | | |
| | Approx 230 - 250 Inch diagonal | | |
| | heavy duty motor. | | |
| | Aspect Ratio : 16: 9 or better | | |
| | Up / Down Remote Control with Infra Red Remote | | |
| | Operating Voltage : 230V AC, 50 HZ | | |
| 3 | 55" display Monitor on Stage | | |
| | 55" 4k UHD 3840 x 2160 (16:9) display Panel. | | |
| | Brightness: 400 Nits or Better | | |
| | Contrast Ratio : 1200:1 typical or better | | |
| | Viewing angle: 178° H/V | | |
| | Response time: 8 ms typical or better | | |
| | Operating Period : 16/7 operation or Better | | |
| | Inputs: 2 X HDMI, 1xDisplayPort, 1xVGA, 2 x USB. | | |
| | Along with OPS slot | | |
| | Audio inputs: RCA (L/R) line in, outputs: RCA (L/R) line out, 3.5mm headphone jack | | |
| | Control: RS-232 (D-Sub9), LAN (RJ45), IR wire extender | | |
| | USB media Player, Built-in Speaker | | |
| | with Wodden enclosure to be mounted at 30-45 degree on floor | | |

| S. No. | Specifications | YES | NO |
|--------|---|-----|----|
| 4 | Table Plate Transmitter | | |
| | It shall be Mult-format Active Table Plate Transmitter. | | |
| | It shall have 1 X HDMI, 1 X VGA, 1 x Audio and sends signal over HDMI/ VGA/ Audio/USB on single CAT-5/6 Sheilded Twisted Pair Cable upto 100 mtrs distance. | | |
| | Built-in 2x1 AV switcher with auto-switching and analog audio-breakaway | | |
| | Supports DVI and DisplayPort Multimode sources. | | |
| | Handles video resolutions up to Full HD 1080p | | |
| | Includes a mini-TRS stereo analog audio input | | |
| | Enables device control via CEC | | |
| | Enables USB HID signal extension for a local keyboard/mouse | | |
| | Handles Dolby Digital, DTS, and uncompressed 7.1 linear PCM audio | | |
| | HDCP compliant | | |
| | | | |
| 5 | Matrix Switcher | | |
| | Multimedia Matrix Modular Switcher with 7x4 matrix. | | |
| | It shall have Features auto-detecting, auto-switching inputs for all types of video and audio sources. | | |
| | Includes built-in 6-channel gated microphone mixing w/DSP. | | |
| | Affords versatile audio signal mixing and routing to 7 separate outputs. | | |
| | Inputs : 2 HDMI, 3HDMI/VGA/Component, S-Video, or composite, 2 HDBaseT and Audio Inputs. | | |
| | Outputs : 2 HDMI/DVI, 2 HDBseT. | | |
| | 4 IR/Serial Out, 1 Relay, 2 RS-232 Ports with LAN Connectivity. | | |
| | Allows audio-follow-video or breakaway switching for all inputs. | | |
| | Handles Dolby Digital, TrueHD and uncompressed 7.1 linear PCM audio. | | |
| | Provides 3 stereo analog outputs with independent DSP per output. | | |
| | It shall have built-in amplifier, selectable for 20W/Ch. @ 8Ω stereo or 40W @ 70/100 Volts mono. | | |
| | Enables USB signal routing via transmitters and receivers, extenders. | | |
| | It shall have built-in Ethernet switch. | | |
| | | | |
| 6 | 7" Touch Panel | | |
| | It shall be a 7" diagonal Touch Screen. | | |
| | TFT active matrix color LCD | | |
| | Aspect Ratio : 17:10 WSVGA | | |
| | Resolution :1024 x 600 pixels | | |
| | Brightness : 350 nits (cd/m ²) | | |
| | Contrast Ratio : 1100:1 | | |
| | Color Depth : 24-bit, 16.7M colors | | |
| | Edgelit LED Display. | | |
| | Viewing Angle : 80° horizontal, 80° vertical | | |

| S. No. | Specifications | YES | NO |
|--------|---|-----|----|
| | It shall have Projected capacitive, 5-point multi-touch capable | | |
| | Single-wire Ethernet connectivity with PoE | | |
| | High-performance H.264 streaming video | | |
| | 2 GB RAM Memory with 600MB maximum Projected size. | | |
| | It shall have Built-in microphone and speakers. | | |
| | Smart Graphics support. | | |
| | It shall have Voice recognition capability | | |
| | | | |
| 7 | I-PAD | | |
| | It shall be with 16GB Internal Storage. | | |
| | Dual Core Processor. | | |
| | Full HD Video Recording at 1080 x 1920 (30 fps). | | |
| | Full HD Video Playback. | | |
| | LCD Assistive Touchscreen | | |
| | LED Backlit Multi-touch Display with IPS Technology. | | |
| | Wi-fi Connectivity. | | |
| | Included Software for Controlling Audio Video. | | |
| | | | |
| 8 | Receiver with 4k Scaler | | |
| | Receiver Includes a built-in 4K/60 scaler | | |
| | 1 X HDBaseT input | | |
| | 1 x HDMI output analog audio output , | | |
| | 10/100 Ethernet LAN connection, | | |
| | Enables device control via CEC, IR, RS-232, and Ethernet, | | |
| | Provides intelligent frame rate conversion and content-adaptive noise reduction | | |
| | HDCP 2.2 compliant | | |
| | Support cable length up to 100 mtrs for 1080P resolution. | | |
| | | | |
| 9 | Transmitter | | |
| | It shall be Mult-format Active Transmitter. | | |
| | It shall have 1 X HDMI, 1 X VGA, 1 x Audio and sends signal over HDMI/ VGA/ Audio/USB on single CAT-5/6 Sheilded Twisted Pair Cable upto 100 mtrs distance. | | |
| | Built-in 2x1 AV switcher with auto-switching and analog audio-breakaway | | |
| | Supports DVI and DisplayPort Multimode sources. | | |
| | Handles video resolutions up to Full HD 1080p | | |
| | Includes a mini-TRS stereo analog audio input | | |
| | Includes a local HDMI monitor output | | |
| | Provides a 10/100 Ethernet LAN connection | | |
| | Enables device control via CEC and Ethernet | | |
| | Handles Dolby Digital, DTS, and uncompressed 7.1 linear PCM audio | | |
| | HDCP compliant | | |

| S. No. | Specifications | YES | NO |
|---------------------|---|-----|----|
| 10 | Network Switch 8 100/1000 Mbps Copper port Power over Ethernet | | |
| 11 | HDMI to HDMI Pre made Cable Length : 2/5/10/15/20 mtrs as required as per site. HDMI 19-pin male to HDMI 19-pin male connections Ensures the integrity of the signal between HDMI devices Supports HD resolutions beyond 1080p and Deep Color Compliant with High Speed HDMI specifications Up to 10.2 Gbps at 340 MHz bandwidth Fully shielded to reduce EMI and other interference sources Molded PVC boot | | |
| 12 | VGA and Audio Cable High-resolution multi-conductor containing 3 mini coaxes, 2 shielded pairs, and 7 single strands Rugged and flexible jacket with internal rip cord and sequential markings every meter. Coax dielectrics are color-coded red, green, blue. | | |
| 13 | CAT5/CAT6 Sheilded Twisted Pair Cable It shall be a Ultra high-performance CAT5e shielded twisted-pair cable. Mutual Capacitance : 17.1 pF / ft Propagation Delay Skew : 45nS / 100 m DC Resistance : 28.6 Ohms / 1000 ft maximum Capacitance Unbalance : 330 pF / 100 m 24 AWG x8 solid copper conductor. | | |
| BANQUET HALL | | | |
| Video System | | | |
| 1 | Laser Projector Single Chip DLP Solid state laser projector of 6000 Lumens ISO or better brightness, WUXGA 1920 x 1200 or better resolution, 16:10 aspect ratio, 1000000:1 or better contrast ratio, life of light source 20,000 Hrs having Inputs of 1 x HDBaseT, 1 x HDMI, RS232 , Ethernet (10/100) RJ45, | | |

| S. No. | Specifications | YES | NO |
|--------|--|-----|----|
| | Along with suitable short throw lens 0.7-0.95, Built-in warping and blending as required at site. | | |
| 2 | 135"-140" Projection Screen | | |
| | Matt White Finish Motorized Electric Screen | | |
| | Diagonal Size 135"-140" | | |
| | Aspect Ratio : 16:9 or better | | |
| | Up / Down Remote Control with Infra Red Remote | | |
| | Operating Voltage : 230V AC, 50 HZ | | |
| 3 | Twisted pair transmitter | | |
| | Twisted pair transmitter with 2x HDMI Inputs, 1x HDMI Outputs, 1x USB 2.0, Balanced Analog Audio I/O & Control (RS232 & IR) | | |
| | supporting transmission of 4K60 4:4:4 with HDR (High Dynamic Range) HDR10 or better. | | |
| | It should have 10/100/1000 Mbps | | |
| | Auto-switching, auto-negotiating, auto-discovery, full/half duplex, TCP/IP, UDP/IP, CIP, DHCP, SSL, TLS, SSH, SFTP (SSH File Transfer Protocol), | | |
| | IEEE 802.1x, IPv4, HTTPS web browser setup and control Ethernet/LAN port. | | |
| | It should be HDCP 2.2 Compliant. | | |
| | It should employ advanced security features and protocols like 802.1x authentication, | | |
| | Active Directory credential management, LDAP directory management, PKI certification, AES encryption, TLS, SSH, IGMP V2/V3 and HTTPS | | |
| 4 | Twisted pair receiver | | |
| | Twisted pair receiver with 1x HDMI Outputs, 1x USB 2.0, Balanced Analog Audio I/O & Control (RS232 & IR). | | |
| | It should have a 4K60 4:4:4 video scaler with motion-adaptive DE interlacing, intelligent frame rate conversion, | | |
| | Deep Color support, HDR10 support, widescreen format selection (zoom, stretch, maintain aspect-ratio, or 1:1) to connect to different displays. | | |
| | It must have a Video Wall Functionality. | | |
| | It should have 10/100/1000 Mbps, | | |
| | auto-switching, auto-negotiating, auto-discovery, full/half duplex, TCP/IP, UDP/IP, CIP, DHCP, SSL, TLS, SSH, SFTP (SSH File Transfer Protocol), | | |
| | IEEE 802.1x, IPv4, HTTPS web browser setup and control Ethernet/LAN port. | | |
| | It should be HDCP 2.2 Compliant. | | |
| | It should employ advanced security features and protocols like 802.1x authentication, | | |
| | Active Directory credential management, LDAP directory management, PKI certification, AES encryption, TLS, SSH, IGMP V2/V3 and HTTPS | | |

| S. No. | Specifications | YES | NO |
|--------|--|-----|----|
| 5 | Control Unit | | |
| | It shall be rack mountable 3-Series Control System. | | |
| | It shall have 3 Com ports : 1 Bidirectional RS232/485/422 Com Port and 2 Bidirectional RS-232 Com Ports. | | |
| | It shall have 8 IR Ports, 8 Relays, 8 Digital I/O Ports | | |
| | It shall have Rear panel memory card slot and Front Panel USB connectivity. | | |
| | It shall have 512 MB SDRAM, 4GB Flash Storage | | |
| | Ethernet provide for control of video projectors, plasma displays, switchers, DVD players, screens, lifts etc. | | |
| | Programmable event scheduling, multi-language support. | | |
| | Smart Graphics computer and Web based control. | | |
| | Metal black finish Enclosure. | | |
| | IPv6 ready. | | |
| 6 | 7" Touch Panel | | |
| | It shall be a 7" diagonal Touch Screen. | | |
| | TFT active matrix color LCD | | |
| | Aspect Ratio : 17:10 WSVGA | | |
| | Resolution :1024 x 600 pixels | | |
| | Brightness : 350 nits (cd/m ²) | | |
| | Contrast Ratio : 1100:1 | | |
| | Color Depth : 24-bit, 16.7M colors | | |
| | Edgelit LED Display. | | |
| | Viewing Angle : 80° horizontal, 80° vertical | | |
| | It shall have Projected capacitive, 5-point multi-touch capable | | |
| | Single-wire Ethernet connectivity with PoE | | |
| | High-performance H.264 streaming video | | |
| | 2 GB RAM Memory with 600MB maximum Projected size. | | |
| | It shall have Built-in microphone and speakers. | | |
| | Smart Graphics support. | | |
| | It shall have Voice recognition capability | | |
| 7 | Multiformat presentation Plate with 2 x HDMI, 1 x Audio, 1x USB. | | |
| 8 | HDMI to HDMI Pre made Cable | | |
| | Length : 2/5/10/15/20 mtrs as required as per site. | | |
| | HDMI 19-pin male to HDMI 19-pin male connections | | |
| | Ensures the integrity of the signal between HDMI devices | | |
| | Supports HD resolutions beyond 1080p and Deep Color | | |
| | Compliant with High Speed HDMI specifications | | |
| | Up to 10.2 Gbps at 340 MHz bandwidth | | |

| S. No. | Specifications | YES | NO |
|---------------------|--|-----|----|
| | Fully shielded to reduce EMI and other interference sources | | |
| | Molded PVC boot | | |
| | | | |
| 9 | CAT5/CAT6 Sheilded Twisted Pair Cable | | |
| | It shall be a Ultra high-performance CAT5e shielded twisted-pair cable. | | |
| | Mutual Capacitance : 17.1 pF / ft | | |
| | Propagation Delay Skew : 45nS / 100 m | | |
| | DC Resistance : 28.6 Ohms / 1000 ft maximum | | |
| | Capacitance Unbalance : 330 pF / 100 m | | |
| | 24 AWG x8 solid copper conductor. | | |
| | | | |
| 10 | Network switch | | |
| | Network Based switcher 24 Port 10/100/1000 gigabit managed POE Switch | | |
| | QOS Support, IPV4/IPV6 Support | | |
| | Advance Security Management | | |
| | Non-blocking ports | | |
| | Internet Group Management Protocol: IGMP V2/V3, Mac, windows, Linux Compatible. | | |
| | | | |
| Sound System | | | |
| | | | |
| | | | |
| 1 | Ceiling speaker | | |
| | Two way ceiling speaker | | |
| | 6" Driver and 0.5" Tweeter | | |
| | Perforated powder-coated steel grille | | |
| | Frequency range (-10 dB): 75 Hz - 20 kHz | | |
| | Sensitivity (SPL 1W/1m) : 89dB | | |
| | Max. SPL: 110 dB | | |
| | Coverage: 130° conical | | |
| | Power handling: 30W, Transformer Taps: 70V:5W, 100V:10W. | | |
| | Rated Voltage 100V | | |
| | Full bandwidth Overload protection | | |
| | Safety: EN-60065 Compliant. | | |
| | | | |
| 2 | Networkable Digital Signal Processor | | |
| | It shall have min 12 AEC Inputs and 12 Outputs | | |
| | Along with IP/RS-232 Control port; | | |
| | Having integrated digital bus/network for expansion of inputs and output ports. | | |
| | The processor shall have programmable DSP like compressor, limiters, EQ, duckers, feedback control etc. complete with standard accessories complete as required. | | |

| S. No. | Specifications | YES | NO |
|--------|--|-----|----|
| 3 | Dual Channel Power Amplifier | | |
| | It shall be Dual Channel Power Amplifier, Per channel 400W@70V or 40Ohm and 215W@8Ohm. | | |
| | Bridge Mode Provides 1 x 860W at 8 Ohms. | | |
| | Selectable 50Hz or 300Hz Hi-Pass Filter. | | |
| | Frequency Response, -1dB : 65Hz - 20kHz | | |
| | Signal-to-Noise Ratio : 103 dB | | |
| | THD at rated output power <0.1% | | |
| | Input Impedance >20kOhm | | |
| | Protection against Audio Limiters, High Temperature, Peak Current Limiters, Turn-On Delay. | | |
| | Front-to-Rear Cooling with Front Panel Power On/Off. | | |
| 4 | UHF Wireless Handheld Microphone | | |
| | It shall be Wireless Handheld Microphone with Synthesized PLL receiver. | | |
| | Frequency Range (RF) : A Band 648 – 676 MHz, G Band 614 – 642 MHz. | | |
| | It shall have 1112 possible channels Programmable in 25 kHz steps | | |
| | Modulation : +/- 40 kHz | | |
| | Digital Posi-Phase True Diversity | | |
| | RF Sensitivity : < 1.0 mV | | |
| | Image Rejection > 60 dB | | |
| | Internal 1/2-wave antenna | | |
| | Frequency Response : 50 – 15 kHz +/- 2 dB | | |
| | Distortion <1.0%, 0.5% typical | | |
| | Signal-to-Noise Ratio >100 dB | | |
| | Dynamic Range >100 dB | | |
| | Radiated Output Power : 30 mW | | |
| | It shall have Dynamic Vocal Microphone. | | |
| | Power Requirements : 9 Volt Alkaline Battery | | |
| | Battery Life : > 8 hours | | |
| | LCD Displays Group and Channel, Frequency, or Battery Level | | |
| 5 | UHF Wireless Lapel Microphone | | |
| | It shall be Wireless Lapel Microphone with Synthesized PLL receiver. | | |
| | Frequency Range (RF) : A Band 648 – 676 MHz, G Band 614 – 642 MHz. | | |
| | It shall have 1112 possible channels Programmable in 25 kHz steps | | |
| | Modulation : +/- 40 kHz | | |
| | Digital Posi-Phase True Diversity | | |
| | RF Sensitivity : < 1.0 mV | | |
| | Image Rejection > 60 dB | | |
| | Internal 1/2-wave antenna | | |

| S. No. | Specifications | YES | NO |
|--------|---|-----|----|
| | Frequency Response : 50 – 15 kHz +/- 2 dB | | |
| | Distortion <1.0%, 0.5% typical | | |
| | Signal-to-Noise Ratio >100 dB | | |
| | Dynamic Range >100 dB | | |
| | Radiated Output Power : 30 mW | | |
| | It shall have Omnidirectional Condenser Lavalier microphone. | | |
| | Power Requirements : 9 Volt Alkaline Battery | | |
| | Battery Life : > 8 hours | | |
| | LCD Displays Group and Channel, Frequency, or Battery Level | | |
| | | | |
| 6 | Gooseneck Microphone | | |
| | It shall Condenser, Gooseneck Microphone. | | |
| | Cardioid Polar pattern with RFI/GSM shielding. | | |
| | Frequency Response : 100 Hz to 15kHz | | |
| | Sensitivity, Open Circuit Voltage, 1 kHz : 4.5mV/Pascal | | |
| | Dynamic Range : 102 dB SPL | | |
| | 9 to 52 Volt Phantom Supply | | |
| | Output Impedance, 1 kHz : 200 ohms | | |
| | Nonreflecting Black Finish. | | |
| | 3-pin XLR Connector | | |
| | | | |
| 7 | Antenna Distribution System | | |
| | It shall be UHF antenna/power distribution system. | | |
| | Provides diversity antenna distribution to four single receivers. | | |
| | Universal power supply with IEC power cord. | | |
| | It shall be cascaded to provide antennas for up to 16 receivers. | | |
| | | | |
| 8 | Omnidirectional Antenna | | |
| | It shall be Ground independent remote mountable half-wave omni-directional antenna. | | |
| | | | |
| 9 | Equipment Rack | | |
| | 19" floor standing amplifier aluminium rack for housing control equipment for conference, voting, video archival, distribution and hall display system, maximum height 32U/600 x 600 mm Single / Dual, as per the equipment requirement | | |
| | There shall be provision of at least 1 U blank plate spacing between two adjacent equipment so as to provide sufficient ventilation | | |
| | Fan at top of each rack for heat dissipation, Power supply panel with MCB at the bottom | | |
| | Front transparent door and rear metallic glass door with locking facility | | |
| | Adequate power supply sockets for the equipment to be fitted in the rack | | |
| | Rack to be mounted on a suitable frame grouted onto the floor | | |

| S. No. | Specifications | YES | NO |
|--------|---|-----|----|
| | Cable entry plate in the bottom of the rack | | |
| 10 | Speaker Cable | | |
| | Conductor - Bare Copper | | |
| | 2 core twisted PVC Insulated | | |
| | Working Temp (- 20 Deg C to 70 Deg C) | | |
| | Cross section : 1.5 Sq Mm | | |
| | Conductor - 30 x 0.25mm | | |
| | Resistance - 12.5 Ohm / Km | | |
| | Capacitance - 150pF/mtr | | |
| | Inductance - 0.56μH/ mtr | | |
| | Outer Dia - 7 mm | | |
| 11 | Mic Cable | | |
| | Two Core Microphone Cable | | |
| | Overall Shielded | | |
| | PVC Insulated. | | |
| 12 | Connectors and other Miscellaneous accessories as required. | | |

APPROVED MAKE LIST FOR AV SYSTEMS

| S.No. | ITEM | APPROVED MAKES |
|--------------|---|---|
| 1 | MICROPHONE | Clock Audio / Electrovoice / Revolabs |
| 2 | ANTEENA DISTRIBUTION SYSTEM / ANTENA | Clock Audio / Electrovoice / Revolabs |
| 3 | AUDIO MIXER | DIGICO / DYNACORD / ALLEN & HEATH |
| 4 | USB / SD RECORDER | GEMINI / TASCAM / DENON |
| 5 | AUDIO DISTRIBUTION BOX | RANE / TASCAM / BIAMP |
| 6 | DIGITAL SIGNAL PROCESSOR | POLYCOM / ELECTROVOICE/ CRESTRON/BOSE |
| 7 | SPEAKER | MARTIN AUDIO / L-ACOUSTIC/ ELECTROVOICE/ D&B/ BOSE |
| 8 | POWER AMPLIFIER | ELECTRO VOICE / BOSE / LABGRUPPEN/ CRESTRON |
| 9 | EQUIPMENT RACK | APW PRESIDENT / VALRACK / RITTAL |
| 10 | SPEAKER CABLE | BELDON / SOMMER / KLOTZ |
| 11 | MICROPHONE CABLE | BELDON / SOMMER / KLOTZ |
| 12 | PROJECTOR | CHRISTIE/NEC/DUKANE |
| 13 | DIRECT LED VIDEO WALL CONTROLLER etc | CHIRSTIE / DELTA / BARCO |
| 14 | LED LCD DISPLAY | CHIRSTIE / DELTA / BARCO |
| 15 | CONTROL, SWITCHING, TRANSMITTER, RECIEVERS , TOUCH PANEL | CRESTRON /AMX/ EXTRON |
| 16 | IPAD | APPLE |
| 17 | NETWORK SWITCH | HP / CISCO / EXTREME |
| 18 | HDMI CABLE | CRESTRON / AMX / KLOTZ |
| 19 | VGA WITH AUDIO CABLE | CRESTRON / AMX / KLOTZ |
| 20 | CAT-6 SHIELDED CABLE | CRESTRON / AMX / KLOTZ |
| 21 | CAT-6 CABLE | AMP/DIGILINK |
| 22 | Junction Box | Custom |

Qualification Criteria for Sublet Contractor for AV

Following are the pre-Qualification criteria for selecting nominated sub-contractors for AV Work.

Main Contactor should select a specialised sub-contractor for AV work and submit the prequalification Documents along with the tender to the Engineer In charge/Consultant.
Engineer in charge will qualify the sublet contractor.

Audio Video System Criteria:

1. The Specialised AV Contractor must be authorised dealer/SI for AV Equipment's and shall submit supporting letter from respective OEM's of Audio, Video and Control System. Along with confirmation from OEM regarding assurance of the availability of spares and services for the quoted products for next 5 years. OEM Should also Confirm and submit documentary proof of having Sales/Service office in India for after sales Support.
2. The Specialised AV Contractor should provide work completion certificate of minimum value of 200 Lakhs for audio-Video and Control System during last three years with certified BOQ/Final Bill of at least one systems integration work of similar nature in government projects and/or public sector.
3. The Specialised Contractor should have bank solvency Certificate of minimum value of 400 Lakhs issued after 1st march 2018.
4. The Specialised AV Contractor Should Submit Documentary evidence for local office/service centre in Gujarat since more than 3 Years.

(V) Technical Specifications of Civil & Interior Items

Item No: 1 - Demolition of brick work & stone masonry including stacking of serviceable materials and disposal of unserviceable materials with all lead and lift. (III) In cement mortar.

1. Workmanship:

- Work complete as per relevant specification of Item No: 20.11(II) page No -131 in General Specification R & B booklets for building works.

2. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of one Cubic Meter.

Item No: 2 - Dismantling of existing floor tiled, wall tiles/ stone or stone floors or any other type of flooring lay in mortar including stacking of serviceable materials and disposal of unserviceable materials with all lead and lift. Work complete including all type of job as suggested by EIC/Architect.

1. Workmanship:

- Work complete as per relevant specification of Item No: 20.23 page No -131 in General specification R & B booklet for building works.

2. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of one Cubic Meter.

Item No: 3 - Dismantling of existing doors, windows, ventilators, any type of grill etc. (wood or steel) shutters including chowkhats, architraves, holdfasts and other attachment etc. complete and stacking the materials with all lead and lift. Not exceeding 3 Smt in area.

1. Workmanship:

- Work complete as per relevant specification of Item No: 20.49(I) page No -133 in General specification R & B booklet for building works.

2. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of one Number.

Item No: 4 - Filling, with good quality Cinder, as and where directed by the EIC/Architect ,in sunk and other required area in layers of required thickness, including watering, ramming well etc. complete, as directed. (At Toilet and other area)

1. Material:

- Good quality cinder should be used as per approved sample by EIC/Architect. It shall be sound clean free from clay, dirt, ash or other deleterious matter.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- The Cinder to be used for. Filling shall be free from salts, organic or other foreign matter.
- The site of shall be cleared of all debris, brick bats, mortar dropping etc; and filled with Cinder in layers as per required thickness. Each layer shall be adequately watered, rammed and consolidated before the succeeding layer is laid. The Cinder shall be rammed with iron rammers
- Work complete including all necessary materials, tools, tackles etc.
- All work should be carried out as per detailed drawing and instruction of EIC/Architect. Bidder shall be responsible for the any type of damage work at the time of execution.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of one Cubic Meter.

Item No: 5 - Filling in plinth with sand under floors including watering, ramming, consolidating and dressing etc complete. (Toilet area)

1. Material:

- Sand shall be used for filling as per approved sample and confirming to relevant IS codes and approved by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No: 4.24, page No -28 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Cubic Meter.

Item No: 6 - R.C.C. M -25: Providing and laying controlled cement concrete M 25 and curing complete, including the cost of form work, vibrating and excluding cost of reinforcement for reinforced concrete work as per the detailed drawing , scaffolding etc complete as per instruction of Architect/EIC. (At Ground floor area)

1. Material:

- Cement, sand and stone aggregate shall be used as per approved sample and confirming to relevant IS codes and approved by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No: 5.8.3, page No -40 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Cubic Meter.

Item No: 7 - Providing TMTFE 500 D bar reinforcement as per approved make and sample by Architect/EIC for R.C.C. work including bending, binding and placing in position, transportation, octroi, and other taxes etc complete for any level with scaffolding etc complete. (At Ground Floor)

1. Material:

- TMT Fe 500 D shall be used as per approved sample and confirming
- to relevant IS codes and approved by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No: 5.4.11, page No -37 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Kg.

Item No: 8 - Providing and Fixing Autoclave Aerated Concrete Blocks (AAC Block) as per drawing (Thickness upto150mm) in single or multiple layers, the joints with up to 1:4 cement mortar or minimum 3mm thick ready mixed jointing mortar like Fixoblock of Ultratech or approved shall be used as per manufacturer's specifications. Crushing strength of aerated concrete block/ bats shall not be less than 35 KG/sqcm, density in oven dry condition between 651 to 750 Kg/cum, thermal conductivity 0.16 w/mk, fire resistant 4 hours, in true line level and plumb and cleaning the surface with necessary tool tackles etc. at all floors, all heights, all levels and all places including curing, finishing, scaffolding, racking / flush jointing etc complete, as per drawing / specification (IS No :2185 (Part III) - 1984) and as directed by Engineer In charge for all civil, plumbing, electrical & infrastructure works. (i) Upto Ground floor

1. GENERAL:

- This work shall consist of furnishing and placing the Masonry work using light weight Autoclaved cellular (Aerated) concrete block having crushing strength not less than 40 kg/sqcm and density in oven dry condition between 651 to 750 Kg/cum for super structure above plinth level upto floor two level in cement mortar 1:5(1 cement: 5 fine sand) of the shape and dimension shown in the drawings and conforming to these specification and approved by Architects / Engineer In Charge.

2. TERMINOLOGY

- Autoclaved -Steam curing of concrete products, sand-lime bricks, asbestos cement products, hydrous calcium silicate insulation products, or cement in an autoclave at maximum ambient temperatures generally between 170 and 215°C.
- Block- A concrete masonry unit, any one of the external dimensions of which is greater than the corresponding dimension of a brick as specified in IS: 3952-1978, and of such size and mass as to permit it to be handled by one man. Furthermore, to avoid confusion with slabs and panels, the height of the block shall not exceed either its length or six times its width.
- Block Density- The density calculated by dividing the mass of a block by the overall volume, including holes or cavities and end recess. The density of the material shall be between 651 to 750 Kg/cum.
- Drying Shrinkage-The difference between the length of specimen which has been immersed in water and then subsequently dried to constant length, all under specified conditions; expressed as a percentage of the dry length of the specimen, The drying shrinkage shall be determined in the manner described in IS : 6441 (Part-2)-1972.

3. DIMENSIONS AND TOLERANCES

- Concrete masonry building units shall be made in sizes and shapes to fit different construction needs. The nominal dimensions of the concrete block shall be as follows:
Length 400,500 or 600 mm
Height 200,250 or 300 mm
Width 100, 150, 200 or 250 mm
- The maximum variation in the length of the units shall not be more than + 5 mm and the maximum variation in the height and width of unit, not more than + 3 mm.
- Subject to the tolerances specified, the faces of the masonry units shall be flat and rectangular, opposite faces shall be parallel, and all arises shall be square. The bedding surface shall be at right angles to the faces of the blocks.

Item No : 9 - Providing 10mm.Thick cement plaster in single coat on brick/concrete wall for interior plastering upto any level finished even and smooth in [I]Cement mortar 1:3 (1 cement : 3 fine sand). Work complete including all type of scaffolding, tools, tackles etc complete. (Toilet and other area at all floor)

1. Material:

- Cement and sand shall be used for mortar of plaster work as per approved sample and confirming to relevant IS codes and approved by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No: 17.58 page No- 104 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Square meter.

Item No : 10 - Providing 15mm thick cement plaster in single coat on Rough (Similar) side of single or half brick walls/RCC for plastering any level and finished even in Cement mortar 1:4 (1-cement :4-sand) Work complete including all type of scaffolding , tools, tackles etc complete.

1. Material:

- Cement and sand shall be used for mortar of 15 mm thick cement plaster work as per approved sample and confirming to relevant IS codes and approved by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No: 17.58 page No- 104 in General specification R & B booklet for building works shall be follow except that the proportion and thickness and cement mortar as per above specification work .

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Square meter.

Item No : 11 - Pest Control treatment: Applying general insecticide pest control treatment to floors/building etc including labour material etc. complete. Using Heptachloride 20 EC. As Per 6113_pests Concentration Weight 0.50 percent is recommended one litre chemical emulsion dillute with 39 liter of water will give. Total dillute concentration will be 40 litre inclusive of one litre chemical emulsion appication 0.5 Litre chemical / Sqm of surface is recommended as per I.S 5 years Agreement

for warranty by including all type of job work complete as per suggestion of Architect/EIC. (At All Floor)

1. Material:

- Pest control treatment shall be used as per approved sample and confirming to relevant IS codes and approved by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No: 22.007 page No- 137 in General specification R & B booklet for building works shall be follow except that the application as per above specification work .

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Square meter.

Item No : 12 - Wet Area Waterproofing(Toilets area) : 1.Surface Preparation 1. Remove all loose material, grease, oil, dust etc. from the surface on which the treatment is to be done.,2. All Vertical pipe penetrations must be firmly grouted and an angle fillet must be formed around it. 3. Spilled concrete or other material should be cut back to sound concrete and made good with suitable cementitious repair mortar (Deucrete CWP or equivalent).2 : 3 Coat Cementitious Waterproofing System (Primer + 2 Coats) (Deucrete CWP, Pidilite , Bal Endura or Equivalent) Once the surface is prepared as per the requirement, Damp down the concrete surface with clean water. 2. Whilst damp, but free from standing water, apply using a short, stiff bristle brush or roller. For heavy 6-10 mm depressions, etc. use less gauging liquid and mix to the desired consistency. 3. A first primer coat of waterproofing chemical Deucrete CWP (or Equivalent), mixed with water, cement and sand in the ratio of 1:1:1:1 is applied to the floor and walls. 4. After the primer coat dries, a second coat with the ratio of 1:1:1 (Deucrete CWP/Pidilite/ Bal Endura : Cement: Sand) is applied at an average consumption of waterproofing material at 2 Kg/M². 5. Once the second coat is dry, Third coat is applied at the same rate and ratio. Ponding Test 1. Once the Waterproofing work is finished and dried (confirmed by the site supervisor), ponding test must be conducted by filling the entire wet area with water. 2. Once ponding test is certified with absence of any kind of leakage or dampness, further work must be commenced.Work complete

including all type of tools, tackles, scaffolding etc complete at any level and height. Work complete as per the instuctions of EIC/ Client/ Architect.

1. Material:

- Cementitious repair mortar (Deucrete CWP or equivalent) shall be used for Cementitious Waterproofing System as per approval by EIC/Architect.
- All type of material shall be used for waterproofing as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Remove all loose material, grease, oil, dust etc. from the surface on which the treatment is to be done.
- All Vertical pipe penetrations must be firmly grouted and an angle fillet must be formed around it.
- Spilled concrete or other material should be cut back to sound concrete and made good with suitable Cementitious repair mortar (Deucrete CWP or equivalent). 2 : 3 Coat Cementitious Waterproofing System (Primer + 2 Coats) (Deucrete CWP, Pidilite , Bal Endura or Equivalent) Once the surface is prepared as per the requirement, Damp down the concrete surface with clean water. 2. Whilst damp, but free from standing water, apply using a short, stiff bristle brush or roller. For heavy 6-10 mm depressions, etc. use less gauging liquid and mix to the desired consistency. 3. A first primer coat of waterproofing chemical Deucrete CWP (or Equivalent), mixed with water, cement and sand in the ratio of 1:1:1 is applied to the floor and walls.
- After the primer coat dries, a second coat with the ratio of 1:1:1 (Deucrete CWP/Pidilite/ Bal Endura : Cement: Sand) is applied at an average consumption of waterproofing material at 2 Kg/M².
- Once the second coat is dry, Third coat is applied at the same rate and ratio. Ponding Test 1. Once the Waterproofing work is finished and dried (confirmed by the site supervisor), ponding test must be conducted by filling the entire wet area with water. 2. once ponding test is certified with absence of any kind of leakage or dampness, further work must be commenced. Work complete including all type of tools, tackles, scaffolding etc complete at any level and height.
- Work complete including all necessary materials, tools, tackles etc. as per described above specification.
- All work should be carried out as per detailed drawing and instruction of EIC/Architect.
- Bidder shall be responsible for the any type of damage work at the time of execution.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.

- The rate shall include the cost of all materials, finishing, labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of Square Meter.

Item No : 13 - IPS : Providing and laying 50 mm thick cement concrete flooring 1:2:4 (1-cement : 2-coarse sand : 4-graded stone aggregate 20mm nominal size) laid in one layer finished with a floating coat of neat cement.

1. Material:

- Cement, sand & Aggregate shall be used as per approved sample and confirming to relevant IS codes and approved by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No: 14.71(A) page No -88 in General specification R & B booklet for building works.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of One Square Meter.

Item No : 14 - Wash basin counter - Toilet Area(Counter width- 600mm) : Providing & fixing two layers of wash basin counter,first layer using 25mm thick Kotastone of approved shade and second layer using approved shade and sample of Mirror finish Granite, joined together with 1:4 Cement mortar beding / approved tile adhesive , to true plane & level or to slopes,or close jointed with cement slurry with pigment of matching shade and colour and finishing with the same, including dedo 1'6" ht , cutting kotah & tile as per required shape & size to fit Wash basin,& 3" to 9" fascia with moulding, nosing, chamfered front edges, fixing, disposal of debris etc. finished as per design in detail drawing and instruction of Architect/EIC.Basic rate of Granite with finish is Rs.175 / Sqft.The sample mock shall be approved from Architect/EIC.

1. Materials:

- Granite shall be used as per Basic rate is Rs. 175 /Sqft and sample approved by EIC/Architect.

- Tile adhesive and Pigments shall be used of as per approved by EIC/Architect.
- All type of material shall be used for basin counter work as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Two layers of wash basin counter, first layer using 25mm thick Kotastone of approved shade and second layer using approved shade and sample of Mirror finish Granite
- joined together with 1:4 Cement mortar bedding / approved tile adhesive ,
- to true plane & level or to slopes, or close jointed with cement slurry with pigment of matching shade and colour and finishing with the same,
- Work including dedo 1'6" ht , cutting kotah & tile as per required shape & size to fit Wash basin,& 3" to 9" facia with moulding, nosing, chamfered front edges, fixing.
- disposal of debris etc.
- Work complete including all type of joining material, tools, tackles, with finishing, proper even surface etc as per specification and suggestion.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour ,etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of one Running meter.

Item No : 15 - Wooden Platform : Providing and fixing wooden platform area made by 25 mm thick structure PLY fixed on solid wooden structure & MS structure fabricating , assembling, hoisting / erecting and fixing in position at all heights/all levels/all floors/all shapes & sizes with all leads & lifts using MS Rolled Steel Sections , Hollow sections, Tubular Sections, MS Plates, Chequered Plates etc. all confirming to latest relevant IS codes for the MS work for platform work .For Level 100 mm

1. Materials:

- Structural ply shall be used as per sample approved by EIC/Architect.
- Solid wooden structure and MS structure for framing work shall be used of as per approved by EIC/Architect.
- All type of material shall be used for wooden platform work as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Wooden platform area made by 25 mm thick structure PLY fixed on solid wooden structure & MS structure fabricating, assembling, hoisting / erecting and fixing in position at all heights/all levels/all floors/all shapes & sizes with all leads & lifts.
- Using MS Rolled Steel Sections, Hollow sections, Tubular Sections, MS Plates, Chequered Plates etc. all confirming to latest relevant IS codes for the MS work for platform work.
- Work complete including all type of joining material, tools, tackles, with finishing, proper even surface etc as per specification and suggestion.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of one Square meter.

Item No :16 - For Level 100 to 1500 mm

1. Materials:

- Structural ply shall be used as per sample approved by EIC/Architect.
- Solid wooden structure and MS structure for framing work shall be used of as per approved by EIC/Architect.
- All type of material shall be used for wooden platform work as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Wooden platform area made by 25 mm thick structure PLY fixed on solid wooden structure & MS structure fabricating, assembling, hoisting / erecting and fixing in position at all heights/all levels/all floors/all shapes & sizes with all leads & lifts.
- Using MS Rolled Steel Sections, Hollow sections, Tubular Sections, MS Plates, Chequered Plates etc. all confirming to latest relevant IS codes for the MS work for platform work.
- Work complete including all type of joining material, tools, tackles, with finishing, proper even surface etc as per specification and suggestion.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.

- The rate shall include the cost of all materials, finishing, labour, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of one Square meter.

Item No: 24 - Carpet Flooring Work: Providing & laying carpet flooring of as per approved make list and select Sample by Architect. Carpet fixed with SR 505 Pidilite or equivalent tile adhesive and rate shall be inclusive of 4 mm th hitlon underlay foam material. carpet should be laid as closure to each other. Contractor will take care for level matching with other area flooring. Scope includes labour, under lay material, disposal of debris, necessary cutting of tiles without damaging the edges, and at require area provide 304 ss finish end profile to protect and cleaning, etc. complete. All works are carried as per detail drawing / instruction of architect / EIC. Before laying carpet contractor shall prepare even surface up to 20 mm)

1. Materials:

- Carpet shall be used as per Basic rate is Rs. 4400/Sqmt and sample approved by EIC/Architect.
- Adhesive and underlay foam shall be used as per approved by EIC/Architect.
- All type of material shall be used for flooring work as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Carpet shall be fixed with SR 505 Pidilite or equivalent tiles adhesive and underlay foam material as per suggestion of EIC/Architect.
- Carpet should be laid as closure to each other.
- Bidder will take care for level matching with other area flooring.
- Scope includes labour, under lay material, disposal of debris, necessary cutting of tiles without damaging the edges, and at require area provide 304 ss finish end profile to protect and cleaning, etc. complete.
- Before laying carpet Bidder shall prepare even surface up to 20 mm.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of one Square meter.

Item No : 25 - Wooden flooring at stage : Providing and fixing 13 mm thick wooden flooring as approved make list and sample by architect ,real wooden planks laying on base floor rate shall be inclusive of 4 mm th hitlon underlay foam materialand interlocked with approved make of tile adhesive , and 3 mm under lay material as per suggestion by manufacturers instruction . as per detailed drawing or instruction of architect. Work shall be carried under supervision of specialist, matching with surrounding levels etc. complete.Basic Rate for material only wooden plank is Rs.650/Sqft. Total job finished with where ever required end profile and skirting as per instructions of EIC.

1. Materials:

- 13 mm thick Wooden planks shall be used as per Basic rate is Rs. 650/Sqft and sample approved by EIC/Architect.
- Adhesive and underlay foam shall be used as per approved by EIC/Architect.
- All type of material shall be used for flooring work as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- The Planks will be fixed over underlay foam of required thickness as per drawing. The joists of the wooden framing on which the planks shall be fixed shall be checked and corrected to levels.
- The end boards shall be accurately fixed with the sides parallel and close to the walls. Each adjoining board shall be carefully jointed and shall be tightened in position and screwed.
- For fixing the boards to the joists, two screws shall be used at each end of the boards and one screw at each of the intermediate joists in a zig zag manner. The screws shall be countersunk and screw holes filled with approved stopping.
- The flooring shall be truly level and plane. The joints shall be truly parallel and or perpendicular to the walls, unless otherwise specified. The floor shall be planned in both directions and made perfectly even, true and smooth.
- Finishing: The surface of the floor shall be bees waxed otherwise as directed by the EIC.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of one Square meter.

Item No : 26 - Wooden skirting : Providing and fixing 13 mm thick wooden skirting of as per approved make list and select sample by architect ,Work shall be carried under supervision of

specialist, matching with surrounding levels etc. complete. Only the actual running length of skirting installed shall be measured in Rmt. for payment. Rate shall be for all floors and at all heights including all costs. The rates are also inclusive of polishing and necessary scaffolding, tools, tackles etc. sample mock of 2 Rmt minimum of the frame work and skirting) shall be got approved from Architecture & EIC. Item shall be operated, measured and paid if and only not mentioned in relevant tender item. Basic Rate for material only wooden skirting is 650/ Rft.

1. Materials:

- 13 mm thick Wooden planks shall be used as per Basic rate is Rs. 650/Sqft and sample approved by EIC/Architect.
- Adhesive and underlay foam shall be used as per approved by EIC/Architect.
- All type of material shall be used for flooring work as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- The Planks will be fixed over underlay foam of required thickness as per drawing. The joists of the wooden framing on which the planks shall be fixed shall be checked and corrected to levels.
- The end boards shall be accurately fixed with the sides parallel and close to the walls. Each adjoining board shall be carefully jointed and shall be tightened in position and screwed.
- For fixing the boards to the joists, two screws shall be used at each end of the boards and one screw at each of the intermediate joists in a zig zag manner. The screws shall be countersunk and screw holes filled with approved stopping.
- The flooring shall be truly level and plane. The joints shall be truly parallel and or perpendicular to the walls, unless otherwise specified. The floor shall be planned in both directions and made perfectly even, true and smooth.
- Finishing: The surface of the floor shall be bees waxed otherwise as directed by the EIC.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The rate shall be for a unit of one Square meter.

Item No : 27 - Vitrified Flooring : Providing and laying vitrified floor tiles in 800X800mm sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1

cement : 4 coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joints with white cement and matching pigments etc., complete.

1. Materials:

- 10 mm thick Vitrified tiles shall be used as per Basic rate is Rs. 150/Sqft and sample **approved** by EIC/Architect.
- Epoxy grouting shall be used of Laticrete or equivalent approved material by EIC/Architect.
- All type of material shall be used for flooring work as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

Bedding:

Bedding shall be cleaned, wetted and mopped. The bedding shall then be laid evenly over the surface tamped and corrected to desired level and allowed to harden enough to offer a rigid cushion to tiles and to enable the monsoon to place wooden planks across and squat on it.

The Vitrified tiles shall be laid on cement mortar bedding of 20 mm. thick in CM.1:6. The mortar shall have sufficient plasticity for laying and there shall be no hard lumps that would interfere with the evenness of bedding. The bedding shall be cleared and well wetted. The mortar shall then be spread in thickness not less than 20 mm. at any place and average 20 mm thickness. The proportion of the cement mortar shall be as specified in the item.

Fixing tiles:

The tiles before laying shall be soaked in water for at least two hours. Neat grey cement grout at 33 kg/Cement/Sqmt. of honey like consistency shall be spread over the mortar bedding as directed. The edges of the tiles shall be smeared with neat cement slurry

The tiles shall be well pressed and gently tapped with a wooden mallet till they are properly bedded and in level with the adjoining tiles.' There shall be no hollows in bed or joints. The joints between the tiles shall be as in straight line or as per pattern as per detailed drawing.

- The tiles shall not have staggered joints. The joints shall be true to centre line both ways. The Nahni trap coming in the flooring shall be so positioned that its grating shall replace only one tile as far as possible. Where full size tiles cannot be fixed they shall be cut (Swan) to the required size and the edges rubbed smooth to ensure straight and true joints. The joints shall be filled with laticrete grouting with wire brush or trowel to a depth of 6 mm. and loose material removed. Laticrete shall be used for pointing the joints. After fixing the tiles finally in an even plane the flooring shall be kept wet and allowed to nature undisturbed for 7 days.

Cleaning:

- The surplus grouting material that may have come out of the joints shall be cleaned off before it sets. Once the floor has set, it shall be carefully washed, cleared 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.

- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The work done shall be measured in square meter for visible area of work done. The length and width of the flooring shall be measured between the faces of Skirting or dado or plastered face of wall as the case may be. The paving under dado or skirting shall not be measured. No deduction shall be made not extra paid for any opening in the floor of area up to 0.1 sqmt. Nothing extra shall be paid for laying the floors at different levels in the same rooms. The rate shall be for a unit of one square meter.

Item No : 28 - Skirting : Providing and laying Vitrified tiles in 800X800mm sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and conforming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joint with white cement & matching pigments etc. complete.

1. Materials:

- 10 mm thick Vitrified tiles shall be used as per Basic rate is Rs. 150/Sqft and sample approved by EIC/Architect.
- Epoxy grouting shall be used of Laticrete or equivalent approved material by EIC/Architect.
- All type of material shall be used for flooring work as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- The relevant specifications of item No. 1.90 shall be followed except that the tiles shall be fixed for risers of steps, dado or skirting in C.M. 1:3 shall be done.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.

- The rate shall include the cost of all materials, finishing, labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The work done shall be measured in running meter for visible area of work done.

Item No : 29 - Toilet Flooring : Providing and laying vitrified floor tiles in 600X600mm sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joints with white cement and matching pigments etc.,complete.

1. Materials:

- 10 mm thick Vitrified tiles shall be used as per Basic rate is Rs. 150/Sqft and sample **approved** by EIC/Architect.
- Epoxy grouting shall be used of Laticrete or equivalent approved material by EIC/Architect.
- All type of material shall be used for flooring work as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

Bedding:

Bedding shall be cleaned, wetted and mopped. The bedding shall then be laid evenly over the surface tamped and corrected to desired level and allowed to harden enough to offer a rigid cushion to tiles and to enable the monsoon to place wooden planks across and squat on it.

The Vitrified tiles shall be laid on cement mortar bedding of 20 mm. thick in CM.1:6. The mortar shall have sufficient plasticity for laying and there shall be no hard lumps that would interfere with the evenness of bedding. The bedding shall be cleared and well wetted. The mortar shall then be spread in thickness not less than 20 mm. at any place and average 20 mm thickness. The proportion of the cement mortar shall be as specified in the item.

Fixing tiles:

The tiles before laying shall be soaked in water for at least two hours. Neat grey cement grout at 33 kg/Cement/Sqmt. of honey like consistency shall be spread over the mortar bedding as directed. The edges of the tiles shall be smeared with neat cement slurry

The tiles shall be well pressed and gently tapped with a wooden mallet till they are properly bedded and in level with the adjoining tiles.' There shall be no hollows in bed or joints. The joints between the tiles shall be as in straight line or as per pattern as per detailed drawing.

- The tiles shall not have staggered joints. The joints shall be true to centre line both ways.
The Nahni trap coming in the flooring shall be so positioned that its grating shall replace

only one tile as far as possible. Where full size tiles cannot be fixed they shall be cut (Swan) to the required size and the edges rubbed smooth to ensure straight and true joints. The joints shall be filled with laticrete grouting with wire brush or trowel to a depth of 6 mm. and loose material removed. Laticrete shall be used for pointing the joints. After fixing the tiles finally in an even plane the flooring shall be kept wet and allowed to nature undisturbed for 7 days.

Cleaning:

- The surplus grouting material that may have come out of the joints shall be cleaned off before it sets. Once the floor has set, it shall be carefully washed, cleared 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.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The work done shall be measured in square meter for visible area of work done. The length and width of the flooring shall be measured between the faces of Skirting or dedo or plastered face of wall as the case may be. The paving under dedo or skirting shall not be measured. No deduction shall be made not extra paid for any opening in the floor of area up to 0.1 sqmt. Nothing extra shall be paid for laying the floors at different levels in the same rooms. The rate shall be for a unit of one square meter.

Item No : 30 - Toilet Dado Work : Providing and laying Lapato/ Matt /Glossy/ Non skid./Rustic finish Vitrified tiles in dado using minimum 10 mm thick tiles approved by architect /client (size 600 mm X600mm) fixed in dado on 10 mm th. Cement plaster 1:3 (1 cement: 3 coarse sand) All surfaces must be dimensionally stable according to IS 1443-1972, level, cured, undamaged, compact,rigid,resistant, dry and free from any debonding agents tiles fixed by approved tile adhesive and all application shall be done under instruction of manufacturer guideline and specification , and jointed with 3mm thick epoxy grouting laticrete or equivalent approved make of approved shade and colour in proper line and level as per detailed drawing / instruction all complete as per approved sample by Architect, drawings and instruction of EIC. at all floors / all levels / all heights and all shapes . Basic rate of tile is Rs. 120/Sq.ft.

1. Materials:

- 10 mm thick Vitrified tiles shall be used as per Basic rate is Rs. 120/Sqft and sample approved by EIC/Architect.
- Epoxy grouting shall be used of Laticrete or equivalent approved material by EIC/Architect.
- All type of material shall be used for dado work as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

Preparation of Surface: In case of brick masonry wall, the joints shall be raked out to a depth of least 15 mm. In case of concrete wall the surface shall be chiseled and roughed with wire brushes. The surface shall be cleaned and wetted thoroughly before commencing the laying work.

Laying: The wall surface shall be covered with 10 mm. thick plaster of cement mortar 1:3 mix and allowed to harden. The plaster shall be roughened with wire brushes both ways. The back of tiles shall be floated with grey cement slurry set and edges with white cement slurry in bedding mortar. The tiles shall be gently tapped in position on after the other keeping the joints as thin as possible. Top of skirting or dedo shall be truly horizontal and the joints vertical or as per required pattern. Risers of steps, skirting and dedo shall rest on top of treads or flooring. Where full size tiles cannot be fixed, they shall be cut to the required size and the edges are smoothed. The joints shall be cleaned and flush pointed with laticrete grouting. The surface shall be kept wet for seven days. After curing the surface shall be washed clean. The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Dedo shall be measured in square meters. Length and height shall be measured along the finished face of dedo including curves, where special such as corners, internal and external angles, etc., used. The length and height shall be measured correct to the centimeter. The rate shall be for a unit of one square meter.

Item No : 31 - Providing & laying approved quality granite of approved shade, thickness 18 mm(selected and sorted for its uniform colour and thickness)., in floor, otta, sill,tread , riser etc. in required sizes (not exceeding 2.1 m. x 0.75 m.) and shapes, set with cement slurry (minimum 4.4 kg cement/sqm) including 35mm to 70 mm thick (Average thickness 50 mm) cement mortar bedding (thickness of mortar bedding to be decided as per requirement and as directed by EIC or his representative) in 1:6 laid and jointed with white cement and matching pigment including rubbing, re-

polishing after fixing to remove any undulation between the joints (if required) with different grades of Emery, refilling of open joints, curing, daily cleaning and mopping, shall be done up to the satisfaction of the EIC (Only finished work will be measured.) etc. all complete as per approved sample by Architect, drawings and instruction of EIC. at all floors / all levels / all heights and all shapes. The rate includes machine cut edges of uniform thickness and beveling and mirror polishing of edges. The rate shall be inclusive of protecting the flooring by plaster of Paris applying and after completion of work remove or 4 mm thick protection sheet of Supreme make EPE+HM Blue .Basic rate of Granite with finish is Rs.200 / Sqft.

1. Materials:

- 18 mm thick Granite with finish shall be used as per Basic rate is Rs. 150/Sqft and sample approved by EIC/Architect.
- Matching Pigment shall be used of approved material by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

Dressing of slabs: stone shall be cut to require size and fine chisel dressed to give a smooth and even surface on all sides to full depth. A straight edge laid along the sides of the stone shall be fully in contact with it Chisel dressing shall also be done on top surface to remove any waviness. The sides and top surface of marble slabs shall be machined rubbed or table rubbed with coarse sand before using. All angles and edges of slabs shall be true, square and free from chipping. The thickness of stone shall be 18 mm. The allowable tolerance shall be 2 mm. allowable. The tolerance shall + 5 mm. in length and breadth.

Bedding: Granite slab shall be laid on Bedding of cement mortar 1:6 (1 cement : 6 coarse sand) of including 35mm to 70 mm thick (Average thickness 50 mm) as given in description of item.

Laying: The surface of sub-grade shall be cleared, wetted and mopped. Mortar of specified mix and thickness shall then be spread on an area sufficient to receive one slab. The slab be washed clean before laying. It tie laid on top pressed and tapped gently to bring it in level with other slabs. It shall then be lifted and a side. 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 it over this surface cement slurry or honey like consistency at 4.4 Kg. of cement per sq. meter. The edges of slabs already paved shall be buttered with gray 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 slab shall be removed. The slab fixed in the floor adjoining the walls shall enter not less than 10 mm. under the plaster skirting or dedo. The junction between the walls and floors shall be finished neatly. The finished surface shall be true to level and slopes as directed. The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The work done shall be measured in square meter for visible area of work done. The length and width of the flooring shall be measured between the faces of Skirting or dedo or plastered face of wall as the case may be. The paving under dedo or skirting shall not be measured. The rate shall be for a unit of one square meter.

Item No : 32 - Granite Skirting :Providing & laying approved quality granite of approved shade, thickness 18 mm(selected and sorted for its uniform colour and thickness) for skirting of approved quality (sample of granite stone shall be approved by architect) as per design in required sizes and shapes, set with white cement slurry (minimum 3.3 kg cement/sqm) average 10 mm thick cement mortar bedding of grey cement 1:1 (1 cement:1 fine sand) laid and jointed with white cement/chemical/jointing/crack-filling epoxy adhesivesAll surfaces must be dimensionally stable according to IS 1443-1972, level, cured, undamaged, compact,rigid,resistant, dry and free from any debonding agents stone fixed by approved stone adhesive and all application shall be done under instruction of manufacturer guideline and specification , and matching pigment including rubbing, mirror polishing with different grades of Emery, curing, etc. complete. The rate shall be including crack filling material of approved make and shade. (Work shall be carried out as per approved sample.) The rate shall be inclusive of protecting the flooring by plaster of Paris and plastic and/or bubble top sheets.Basic rate of Granite-200/Sqft.

1. Materials:

- 18 mm thick Granite with finish shall be used as per Basic rate is Rs. 150/Sqft and sample approved by EIC/Architect.
- Epoxy adhesive shall be used of approved material by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

Bedding: Granite slab shall be laid on Bedding on 10 mm thick cement mortar 1:1 (1 cement: 1 Fine sand) as given in description of item. The mortar shall have sufficient plasticity for laying and there shall be no hard lumps that would interfere with the evenness of bedding. The bedding shall be cleared and well wetted. The mortar shall then be spread in thickness not less than 10 mm. at any place and average 10 mm thickness. The proportion of the cement mortar shall be as specified in the item.

Laying: The surface of sub-grade shall be cleared, wetted and mopped. Mortar of specified mix and hickness shall then be spread on an area sufficient to receive one slab. The slab be washed clean before laying. It tie laid on top pressed and tapped gently to bring it in level with other slabs. It shall then be lifted and a side. 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 it over this surface cement slurry or honey like consistency at 3.3 Kg. of cement per sq. meter. The edges of slabs already paved shall be buttered with gray 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 slab shall be removed. The slab fixed in the floor adjoining the walls shall enter not less than 10 mm. under the plaster skirting or dedo. The junction between the walls and floors shall be finished neatly. The finished surface shall be true to level and slopes as directed. The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The work done shall be measured in running meter for visible area of work done.

Item No : 33 - Providing and laying 20 mm thick Italian marble stone slab for Flooring, sill, etc. of approved quality (sample of marble stone shall be approved by architect) as per design in required sizes and shapes, set with white cement slurry (minimum 4.4 kg cement/sqm) 35mm to 70 mm (Average thickness 50 mm) thick cement mortar bedding (thickness of mortar bedding to be decided as per requirement and as directed by EIC or his representative) of grey cement 1:6 (1 cement: 6 coarse sand) laid and jointed with white cement/chemical/jointing/crack-filling epoxy adhesives and matching pigment including rubbing, mirror polishing with different grades of Emery, curing, etc. complete. The rate shall be including crack filling material of approved make and shade. (Work shall be carried out as per approved sample.) The rate shall be inclusive of protecting the flooring by plaster of Paris applying and after completion of work removing or 4 mm thick protection sheet of Supreme make EPE+HM Blue . Basic rate of Italian Marble stone is 700/ Sqft.

1. Materials:

- 20 mm thick Italian Marble stone slab shall be used as per Basic rate is Rs. 700/Sqft and sample approved by EIC/Architect.
- Epoxy Adhesive and Matching Pigments shall be used as per approved material by EIC/Architect.

- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Flooring work as per required sizes and shapes, set with white cement slurry (minimum 4.4 kg cement/sqm) 35mm to 70 mm (Average thickness 50 mm) thick cement mortar bedding (thickness of mortar bedding to be decided as per requirement and as directed by EIC or his representative) of grey cement 1:6 (1 cement: 6 coarse sand) laid and jointed with white cement/chemical/jointing/crack-filling epoxy adhesives and matching pigment including rubbing, mirror polishing with different grades of Emery, curing, etc. complete.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be including crack filling material of approved make and shade & Application of Stain proof coat of approved make as per selection by EIC/Architect (Work shall be carried out as per approved sample.) The rate shall be inclusive of protecting the flooring by plaster of Paris applying and after completion of work removing or 4 mm thick protection sheet of Supreme make EPE+HM Blue. The rate shall be consolidated for above items description.
- The rate shall include the cost of all materials, finishing, labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The work done shall be measured in Square meter.

Item No : 34 - Providing and laying 20 mm thick Italian marble stone slab for skirting, riser & dedo of approved quality (sample of marble stone shall be approved by architect) as per design in required sizes and shapes, set with white cement slurry (minimum 3.3 kg cement/sqm) average 10 mm thick cement mortar bedding of grey cement 1:1 (1 cement:1 fine sand) laid and jointed with white cement/chemical/jointing/crack-filling epoxy adhesives. All surfaces must be dimensionally stable according to IS 1443-1972, level, cured, undamaged, compact, rigid, resistant, dry and free from any debonding agents. Stone fixed by approved stone adhesive and all application shall be done under instruction of manufacturer guideline and specification, and matching pigment including rubbing, mirror polishing with different grades of Emery, curing, etc. complete. The rate shall be including crack filling material of approved make and shade. (Work shall be carried out as per approved sample.) The rate shall be inclusive of protecting the flooring by plaster of Paris and plastic and/or bubble top sheets. Basic rate of Italian Marble stone is 700/ Sqft.

1. Materials:

- 20 mm thick Italian Marble stone slab shall be used as per Basic rate is Rs. 700/Sqft and sample approved by EIC/Architect.
- Epoxy Adhesive and Matching Pigments shall be used as per approved material by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- 20 mm thick Italian marble stone slab for skirting, riser & dedo as per design in required sizes and shapes, set with white cement slurry (minimum 3.3 kg cement/sqm) average 10 mm thick cement mortar bedding of grey cement 1:1 (1 cement:1 fine sand) laid and jointed with white cement/chemical/jointing/crack-filling epoxy adhesives .
- All surfaces must be dimensionally stable according to IS 1443-1972, level, cured, undamaged, compact,rigid,resistant, dry and free from any debonding agents ston fixed by approved stone adhesive and all application shall be done under instruction of manufacturer guideline and specification.
- Matching pigment including rubbing, mirror polishing with different grades of Emery, curing, etc. complete.
- The rate shall be including crack filling material of approved make and shade & Application of Stain proof coat of approved make as per selection by EIC/Architect.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

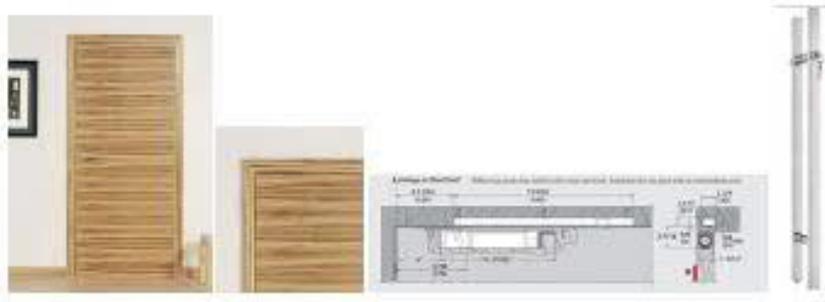
3. Measurements:

- The rate shall be including crack filling material of approved make and shade & Application of Stain proof coat of approved make as per selection by EIC/Architect.
- The rate shall be inclusive of protecting the flooring by plaster of Paris and plastic and/or bubble top sheets.
- The rate shall be consolidated for above items description.
- The rate shall include the cost of all materials, finishing, labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The work done shall be measured in Square meter.

Item No : 35 - Single Leaf Flush Door with frame and finish with veneer(40MM) : Providing and fixing in position 40mm thick solid core wooden single leaf flush doors of approved make having fire retardant ply facing on both sides and finished with veneer as approved , frame size - 100 X 50 MM , polishing work , Hardware system of Geze/Dorma like Hinges , Boxer type door closer , Door handle,

Euro profile , lock , Door stop . Work complete including all type of hardware, fittings, fixtures etc complete as per detailed drawings and specifications. Basic Rate for material only teak veneer - 75 /Sqft. sample mock shall be approved from Architect/EIC. (At All Floor)

Ref Image



1. Materials:

- 40 mm thick flush door shall be used as per sample approved by EIC/Architect.
- Teak wood frame shall be used as per approved sample by EIC/Architect.
- Waterproof ply shall be used for door as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.
- Teak Veneer shall be used for finish of door as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.
- Hardware shall used of as per approved by EIC/Architect.
- All type of material shall be used for Door as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Fixing of 40mm thick solid core wooden single leaf flush doors of approved make having Waterproof ply facing on both sides as per approved sample.
- Fixing of Teak wood frame (100 x50 mm) shall be used as per approved sample by EIC/Architect
- Fixing of Both side veneer as per selection.
- Fixing of Hardware system of Geze/Dorma like Hinges, Concealed door closer, Door handle, Euro profile, lock, Door stop as per selection work complete.
- All doors should be properly leveled without any sagging and with smooth opening and closing. There should be no variation or deviation of any kinds.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

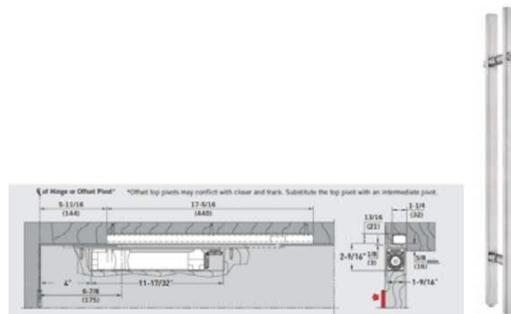
3. Measurements:

- The rate shall be consolidated for all above items.

- The rate shall include the cost of all materials, finishing, labour, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors. Clear opening area shall be measured & paid in Square meter.

Item No : 36 - Single Leaf Flush Door with glass view panel & WPC frame (50X150 mm): Providing and fixing in position 40mm thick solid core wooden single leaf flush doors of approved make having fire retardant ply facing on both sides and finished with 1.5 mm thick laminate as approved , 8 mm thick milky glass view panel, Hardware system of Geze/Dorma like (Hinges , Boxer type door closer , Door handle , Euro profile , lock , Door stop) . Work complete including all type of hardware, fittings, fixtures etc complete as per detailed drawings and specifications. Basic rate of 1.5 mm thick laminate is 45/Sqft. sample mock shall be approved from Architect/EIC. (Ground Floor)

Ref Image



1. Materials:

- 40 mm thick flush door shall be used as per sample approved by EIC/Architect.
- Waterproof ply shall be used for door as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.
- WPC frame (50 x 150 mm) shall be used as per approved sample by EIC/Architect. 8 mm thick milky glass shall be used as per approved sample by EIC/Architect.
- 1.5 mm thick laminate shall be used for finish of door as per approved make list and confirming to relevant IS codes and approved by EIC/Architect. Hardware shall used of as per approved by EIC/Architect.

- All type of material shall be used for Door as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

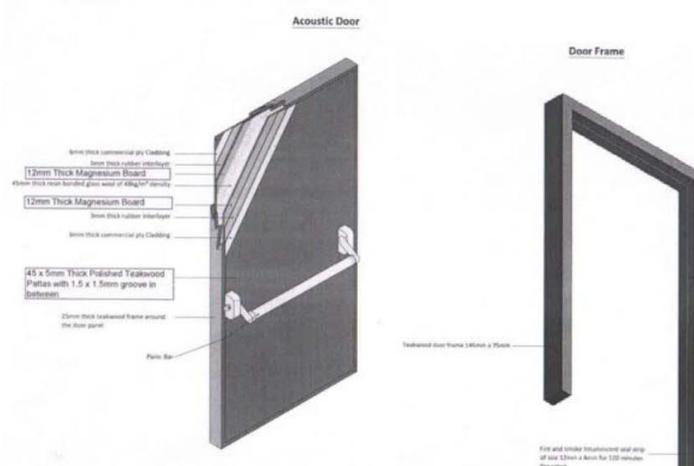
- Fixing of 40 mm thick solid core wooden single leaf flush doors of approved make having Waterproof ply facing on both sides as per approved sample.
- Fixing of WPC frame (150 x50 mm) shall be used as per approved sample by EIC/Architect.
- Fixing of Both side 1.5 mm thick laminate finishes as per selection.
- Fixing of Hardware system of Geze/Dorma like Hinges, Concealed door closer, Door handle, Euro profile, lock, Door stop as per selection work complete.
- All doors should be properly leveled without any sagging and with smooth opening and closing. There should be no variation or deviation of any kinds.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour,etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors. Clear opening area shall be measured & paid in Square meter.

Item No : 37 - Acoustic door : Providing & Fixing Acoustical Isolation door of wood frame of 145 mm x 75 mm (nominal) along with fire & smoke seal strip of size 12mm x 4mm for 120 minutes fire rated and Rw 35 db acoustic door of thickness 100 mm having 50 mm infill of 50 mm thick & 48 kg/cumt density glasswool sandwiched by 2 Nos of 12 mm Anutone or equivalent make Magnesia Oxide fire rated boards (edge to edge on internal hardwood frame) and cladded with 6 mm fire resistant ply with 3 mm rubber sheet interlayer and finished with both side 4 mm thick veneer and 45 x 5 mm thick polished teakwood pattis with 1.5 mm groove in between on the other. 25 mm teakwood frame will cover the entire door panel as shown in the drawing. The door shall be resistant to mould growth, abrasion, vermin, minor impact and short term exposure to water. The door shall have acoustic seal in door rebates and drop dead seal at the bottom. Additional teakwood frame shall be provided horizontally in the center for enforcement. The sound reducing doors shall be finish by teak veneer both side as per apporevd make and sample finish with semi glosst PU polish rected by the engineer / architect in charge and also include door closure, door coordinator, panic bar with outside key, handle, etc Hardware system of Geze/Dorma like (Hinges , Boxer type door closer , Door handle , Euro profile , lock ,Door stop) . Basic rate of veneer is 75/Sqft. (GF & SF)

Ref Image



1. Materials:

- Acoustic door shall be used as per sample approved by EIC/Architect.
- Teak wood frame shall be used for door as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.
- Veneer shall be used for finish of door as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.
- Hardware shall used of as per approved by EIC/Architect.
- All type of material shall be used for Door as per approved make list and confirming to relevant IS codes and approved by EIC/Architect

2. Workmanship:

- Acoustical Isolation door of wood frame of 145 mm x 75 mm (nominal) along with fire & smoke seal strip of size 12mm x 4mm for 120 minutes fire rated and Rw 35 db acoustic door of thickness 100 mm having 50 mm infill of 50 mm thick & 48 kg/cumt density glass wool sandwiched by 2 Nos of 12 mm Anutone or equivalent make Magnesia Oxide fire rated boards (edge to edge on internal hardwood frame) and cladded with 6 mm fire resistant ply with 3 mm rubber sheet interlayer and finished with both side 4 mm thick veneer
- 45 x 5 mm thick polished teakwood pattis with 1.5 mm groove in between on the other. 25 mm teakwood frame will cover the entire door panel as shown in drawing.
- The door shall be resistant to mould growth, abrasion, vermin, minor impact and short term exposure to water.
- The door shall have acoustic seal in door rebates and drop dead seal at the bottom. Additional teakwood frame shall be provided horizontally in the center for enforcement.
- The sound reducing doors shall be finish by teak veneer both side as per approved make and sample finish with matt PU polish reacted by the EIC/Architect in charge and also include door closure, door coordinator, panic bar with outside key, handle, etc Hardware system of

Geze/ Dorma like (Hinges, Concealed door closer, Door handle , Euro profile, lock, Door stop)

- All doors should be properly leveled without any sagging and with smooth opening and closing. There should be no variation or deviation of any kinds.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors. Clear opening area shall be measured & paid in Square meter.

Item No : 38 - Heavy duty Alluminium frame Door with glass view panel: Providing Supplying and Fixing of Air tight Aluminum door frame size with overlapping flange and two side Beerier with 6mm thick toughen glass. All Profile should have Euro groove facilities to accommodate All Imported hardware's like level, gizee etc. All locking should have multi point lock system to give Perfect air tighten profile should be suitable to accommodate good quality i.e. dorma, hafle etc. Door closer. All doors should have good quality cylindrical lock With 2 side Key, lock facilities. All joints should have appropriate Jigs & Clits to withstand all type of Loads. All profile weight should not be less then weight shown in tender. Door frame :- 1.5 kg/mtr. Shutter style :- 2.3 kg/mtr. Shutter bottom & top rail – 2.1 kg/mtr. Work complete including all type of fittings, fixtures etc complete. sample mock shall be approved from Architect/EIC.

Ref Image



1. Materials:

- 6 mm thick toughened glass shall be used as per sample approved by EIC/Architect.
- Aluminum frame section shall be used for door as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

- Hardware shall used of as per approved by EIC/Architect.
- All type of material shall be used for Door as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Door frame shall be used :- 1.5 kg/mtr.
- Shutter style:- 2.3 kg/mtr.
- Shutter bottom & top rail – 2.1 kg/mtr.
- All joints should have appropriate Jigs & Clits to withstand all type of Loads. All profile weight should not be less then weight shown in tender drawing.
- All locking should have multi point lock system to give Perfect air tighten profile should be suitable to accommodate good quality i.e. Dorma, hafle etc. Door closer. All doors should have good quality cylindrical lock With 2 side Key, lock facilities.
- All doors should be properly leveled without any sagging and with smooth opening and closing. There should be no variation or deviation of any kinds.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour,etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors. Clear opening area shall be measured & paid in Square meter.

Item No : 39- Wall Punning : Providing and applying Plasto XP Gypsum plaster (USG Boral) or equivalent make , minimum 12 mm thick in Wall and minimum 6 mm thick in ceiling , including all labors, tools, tackles, scaffolding, surface preparation, mixing of material, transportation (lead & lift) applying in position, Levelling, finishing, cleaning etc. complete to satisfaction of EIC. The rate also include making of grooves above skirting, dado tiles and around window and door jambs etc. (cost of Bonding agent to the ceiling or RCC surfaces is to be included in the item).item shall be used as per instruction of Architect.

1. Materials:

- Plasto XP Gypsum plaster shall be used as per sample approved by EIC/Architect.
- All type of material shall be used for work as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- 12 mm thick in Wall and minimum 6 mm thick in ceiling , including all labors, tools, tackles, scaffolding, surface preparation, mixing of material, transportation (lead & lift) applying in position, Levelling, finishing, cleaning etc. complete to satisfaction of EIC.
- The rate also include making of grooves above skirting, dado tiles and around window and door jambs etc. (cost of Bonding agent to the ceiling or RCC surfaces is to be included in the item)
- Work should be properly leveled without any sagging and with smooth. There should be no variation or deviation of any kinds.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors. Area shall be measured & paid in Square Meter.

Item No: 40- Providing and Applying of required thickness Birla or Asian acrylic lapy (putty) of approved brand and manufacture on wall surface to give an even shade including thoroughly brushing the surface free from mortar dropping and other foreign matter and sand papered smooth complete. Item shall be used as per instruction of Architect.

1. Material:

- Birla or Asian acrylic putty shall be used as per approved sample and confirming to relevant IS codes and approved by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Work complete as per relevant specification of Item No: 19.59 page No -124 in General
- Specification R & B booklet for building works except that the Putty work.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.

- The rate shall be for a unit of One Square Meter.

Item No : 41 - Interior painting : Wall painting two coats with low VOC Fenomastic Hygiene Silk of Jotun/Royal Aspira or equivalent approved brand in any shades and colour as directed on wall surface to give an even shade including applying two coats of Acrylic co-polymer Stucco putty of Jotun or equivalent on a one coat of PVA primer/Decoprime or equivalent and two coats of paint, scaffolding to at any height with all labour and material thoroughly brushing the surface free from mortar droppings and other foreign matter and sand prepared smooth etc. complete. Top coat should have. The substrate must be sound, clean, dry, free from dust, oil, grease and laitance etc. All traces of release agents must be removed. On chalky and dusty surfaces, all loose material must be removed by stiff bristle brushing. The primer / paint application is to be done with the rollers. Rate shall be including crack filling and levelling as per manufacturer's specification.

1) Low VOC content.

2) Crack Bridging ability upto 1 mm.

3) Ability to resist bacteria/fungus

4) APEO (Alkyl Phenol Ethoxylate) and Formaldehyde free

5) Very Low Flame spread

6) Superior Washability. Note: System is 1 Coat of Primer+2 Coats of Putty+2 Coats of Finish Paints.

1. Materials:

- Interior paint shall be used as per sample approved by EIC/Architect.
- All type of material shall be used for work as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- **Scaffolding:** Wherever scaffolding is necessary it shall be erected in such a way that as far as possible on part of scaffolding shall rest against the surface to be colour washed. A properly secured strong and well tied suspended platform (Zoola) may be used for painting. Where ladders are used, pieces of old gunny bag shall be tied at top and bottom to prevent scratches to the floors and walls. For paint of ceilings proper stage scaffolding shall be erected where necessary.
- **Preparation of surface:** The substrate must be sound, clean, dry, free from dust, oil, grease and laitance etc. All traces of release agents must be removed. On chalky and dusty surfaces, all loose material must be removed by stiff bristle brushing. The primer / paint application is to be done with the rollers. Rate shall be including crack filling and levelling as per manufacturer's specification.
- **Application:** Applying two coats of Acrylic co-polymer Stucco putty of Jotun or equivalent on a one coat of PVA primer/Decoprime or equivalent and two coats of paint, scaffolding to at

any height with all labour and material thoroughly brushing the surface free from mortar droppings and other foreign matter and sand prepared smooth etc. complete.

- **Precautions:** Splashes on floors etc. shall be cleaned out without delay as they will be difficult to remove after hardening. Washing of surfaces treated with Paints shall not be done within 3to4weeks of application.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- Rate shall be including crack filling and levelling as per manufacturer's specification. 1) Low VOC content. 2) Crack Bridging ability upto 1 mm. 3) Ability to resist bacteria/fungus 4) APEO (Alkyl Phenol Ethoxylate) and Formaldehyde free 5) Very Low Flame spread 6) Superior Washability.
- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors. Area shall be measured & paid in Square Meter.

Item No: 42 - Texture paint (Insider and outside) :Wall painting two coats with low VOC Jotashield Tex Ultra of Jotun or equivalent approved brand in any shades and colour as directed on wall surface to give an even shade including applying of a one coat of Penetrating primer or equivalent and two coats of paint, scaffolding to at any height with all labour and material thoroughly brushing the surface free from mortar droppings and other foreign matter and sand prepared smooth etc. complete. The substrate must be sound, clean, dry, free from dust, oil, grease and laitance etc. All traces of release agents must be removed. On chalky and dusty surfaces, all loose material must be removed by stiff bristle brushing. The primer / paint application is to be done with the rollers. Rate shall be including crack filling and levelling as per manufacturer's specification. Top coat should have.

1) Low VOC content

2) Crack Bridging ability upto 2.6 mm.

3) 100% pure acrylic emulsion

5) Very Low Flame spread

6) Superior Washability.

1. Materials:

- Texture paint shall be used as per sample approved by EIC/Architect.

- All type of material shall be used for work as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- **Scaffolding:** Wherever scaffolding is necessary it shall be erected in such a way that as far as possible on part of scaffolding shall rest against the surface to be colour washed. A properly secured strong and well tied suspended platform (Zoola) may be used for painting. Where ladders are used, pieces of old gunny bag shall be tied at top and bottom to prevent scratches to the floors and walls. For paint of ceilings proper stage scaffolding shall be erected where necessary.
- **Preparation of surface:** The substrate must be sound, clean, dry, free from dust, oil, grease and laitance etc. All traces of release agents must be removed. On chalky and dusty surfaces, all loose material must be removed by stiff bristle brushing. The primer/ paint application is to be done with the rollers. Rate shall be including crack filling and levelling as per manufacturer's specification.
- **Application:** Wall painting two coats with low VOC Jotashield Tex Ultra of Jotun or equivalent approved brand in any shades and colour as directed on wall surface to give an even shade including applying of a one coat of Penetrating primer or equivalent and two coats of paint, scaffolding to at any height with all labour and material thoroughly brushing the surface free from mortar droppings and other foreign matter and sand prepared smooth etc. complete.
- **Precautions:** Splashes on floors etc. shall be cleaned out without delay as they will be difficult to remove after hardening. Washing of surfaces treated with Paints shall not be done within 3to4weeks of application.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- Rate shall be including crack filling and levelling as per manufacturer's specification. 1) Low VOC content. 2) Crack Bridging ability upto 2.6 mm. 3) 100% pure acrylic emulsion Anti-Carbonation concrete protection 5) Very Low Flame spread 6) Superior Washability.
- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors. Area shall be measured & paid in Square Meter.

Item No : 43 - Semi glossy Enamel paint : painting two coats with low VOC Fenomastic Pure Colour Enamel Semi-Gloss (Alkyd Base) of Jotun/Satin of Asian Paints /Dulux Satin of AkzoNobel or equivalent approved brand in any shades and colour as directed on wall surface to give an even shade including applying one coat of Acrylic co-polymer Stucco putty of Jotun or equivalent (if applying on wooden surface) on a one coat of PVA primer/Asian wood primer or equivalent and two coats of paint, scaffolding to at any height with all labour and material thoroughly brushing the surface free from mortar droppings and other foreign matter and sand prepared smooth etc. complete. The substrate must be sound, clean, dry, free from dust, oil, grease and laitance etc. All traces of release agents must be removed. On chalky and dusty surfaces, all loose material must be removed by stiff bristle brushing. The primer / paint application is to be done with the rollers. rate shall be including crack filling and levelling as per manufacturers specification. Top coat should have.

1) Low VOC/Lead/Mercury Free content.

2) Good Washability

3) Rich luxury semi-gloss finish

4) Anti-Yellowing properties

Note: System is 1 Coat of Primer+1 Coat of Putty+2 Coats of Finish Paints

(At all floor)

1. Materials:

- Matt Enamel paint shall be used as per sample approved by EIC/Architect.
- All type of material shall be used for work as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- **Scaffolding:** Wherever scaffolding is necessary it shall be erected in such a way that as far as possible on part of scaffolding shall rest against the surface to be colour washed. A properly secured strong and well tied suspended platform (Zoola) may be used for painting. Where ladders are used, pieces of old gunny bag shall be tied at top and bottom to prevent scratches to the floors and walls. For paint of ceilings proper stage scaffolding shall be erected where necessary.
- **Preparation of surface:** The substrate must be sound, clean, dry, free from dust, oil, grease and laitance etc. All traces of release agents must be removed. On chalky and dusty surfaces, all loose material must be removed by stiff bristle brushing. The primer / paint application is to be done with the rollers. Rate shall be including crack filling and levelling as per manufacturer's specification.
- **Application:** painting two coats with low VOC Fenomastic Pure Colour Enamel Semi-Gloss (Alkyd Base) of Jotun/Satin of Asian Paints /Dulux Satin of AkzoNobel or equivalent approved brand in any shades and colour as directed on wall surface to give an even shade including applying one coat of Acrylic co-polymer Stucco putty of Jotun or equivalent (if

applying on wooden surface) on a one coat of PVA primer/Asian wood primer or equivalent and two coats of paint, scaffolding to at any height with all labour and material thoroughly brushing the surface free from mortar droppings and other foreign matter and sand prepared smooth etc. complete.

- **Precautions:** Splashes on floors etc. shall be cleaned out without delay as they will be difficult to remove after hardening. Washing of surfaces treated with Paints shall not be done within 3to4weeks of application.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- Rate shall be including crack filling and levelling as per manufacturer's specification
- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors. Area shall be measured & paid in Square Meter.

Item No : 44 - Providing & applying natural oil and water finish (Telpani-double boiled linseed oil diluted with turpentine in required proportions) polish in 3 or more coats to the wooden / Plywood / veneer surface, moldings etc. with the help of sand paper of 60, 80, 100, 120 nos etc including surface preparation, applying filler / hardener / putty, sanding, cleaning of furniture after completion of job etc. complete to the satisfaction & as directed by the EIC. (Mode of Measurements: Only the polished area shall be measured & paid for the items in which polishing is not inclusive in item description) work shall be carried out as per the manufacture's specification & approved sample. (At all floor)

1. Materials:

- Natural oil and water finish polish shall be used as per approved sample by EIC/Architect.
- All type of material shall be used for work as per approved make list and confirming to relevant IS codes and approved by EIC/Architect

2. Workmanship:

- 3 or more coats to the wooden / Plywood / veneer surface, moldings etc. with the help of sand paper of 60, 80, 100, 120 nos etc including surface preparation, applying filler / hardener / putty, sanding, cleaning of furniture after completion of job etc. complete to the satisfaction & as directed by the EIC.

- Work complete as per specification and instructions of the EIC/Architect. Work complete including all type of finishing.
- The whole work is to be completed as per suggestion& instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors. Area shall be measured & paid in Square Meter.

Item No : 45 - Providing and fixing anchor fastener system chemical based of Hilti or equivalent make for connections in concrete as per design and drawings and/or as directed by engineer in charge. (Rate shall include cost of bolts, labour, all material including chemical cartridge (wherever required). T & P for power drilling, cleaning the drilled holes of loose dust by blowing air, insertion of chemical from cartridge with plastic nozzles as may be required, placing internally threaded sleeve, driving of bolts, 2 nos-4 mm thick (hot dip galvanized coated) washer, fastening screw and tightening with nuts and check nuts etc may be required. Work complete including all type of tools , tackles, scaffolding etc complete at any level and height work complete as per the instruction of EIC/Client/Architect 12 mm dia.

1. Materials:

- Anchor fastener system with chemical base shall be used as per approved sample by EIC/Architect.
- All type of material shall be used for work as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Anchor fastener system chemical based of Hilti or equivalent make for connections in concrete as per design and drawings and/or as directed by engineer in charge.
- Rate shall include cost of bolts, labour, all material including chemical cartridge (wherever required). T & P for power drilling, cleaning the drilled holes of loose dust by blowing air, insertion of chemical from cartridge with plastic nozzles as may be required, placing internally threaded sleeve, driving of bolts, 2 nos-4 mm thick (hot dip galvanized coated) washer, fastening screw and tightening with nuts and check nuts etc may be required.
- Work complete including all type of tools, tackles, scaffolding etc complete at any level and height.

3. Measurements:

- The rate shall be consolidated for all above items.

- The rate shall include the cost of all materials, finishing, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors. Area shall be measured & paid in Numbers.

Item No: 46, 47 & 48: 16 mm dia to 25mm dia

1. Materials:

- Anchor fastener system with chemical base shall be used as per approved sample by EIC/Architect.
- All type of material shall be used for work as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Anchor fastener system chemical based of Hilti or equivalent make for connections in concrete as per design and drawings and/or as directed by engineer in charge.
- Rate shall include cost of bolts, labour, all material including chemical cartridge (wherever required). T & P for power drilling, cleaning the drilled holes of loose dust by blowing air, insertion of chemical from cartridge with plastic nozzles as may be required, placing internally threaded sleeve, driving of bolts, 2 nos-4 mm thick (hot dip galvanized coated) washer, fastening screw and tightening with nuts and check nuts etc may be required.
- Work complete including all type of tools, tackles, scaffolding etc complete at any level and height.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors. Area shall be measured & paid in Numbers.

Item No : 49 - Fabricating, supply and erecting in position Standard Structural steel sections conforming to IS 2062 with (YST-310) for other works using Pipes, square/rectangle hollow sections etc. including welding, cutting, wastage, etc. complete. The rate is inclusive of welding rod, supply & fixing of correct size nut, High strength bolts of 8.8 grade, washers, paint, with all contractor's materials, labour, tools & plants, in bolted / welded construction as directed by Engineer-in-Charge. Contractor will be supplied the GA drawings of structural steel as well as major connections. All fabrication drawings, internal

connections & construction methodology shall be developed by contractor & has to get it approved through consultant / engineer in charge. Anticorrosive paint must be applied before applied any paint. The rate shall inclusive of providing and applying Epoxy Coating of approved shade, brand and manufacture on new structural steel work with one coat of 30 micron (DFT) of Epilux 4 Zinc Rich primer of Berger Paint India Ltd or equivalent as primer and Two coat each of 35 micron (DFT) of Epilux 84 High Gloss CR enamel of Berger Paint India Ltd or equivalent at all levels. (Total DFT is $30+35+35=100$ microns) The waste cut pieces shall not be included in the paying quantity. The work shall be done as per drawing and specification. The work shall be carried out as per IS: 800, IS: 816. Work complete including all type of tools, tackles, scaffolding etc complete at any level and height. Work complete as per the instuction of Architect / EIC

1. Materials:

- Fabrication (YST-310) shall be used as per approved sample by EIC/Architect.
- All type of material shall be used for work as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Work complete as per above specification, drawing and instructions of the EIC/Architect. Work complete including all type of finishing.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors. Area shall be measured & paid in KG.

Item No : 50 - Fabricating, supply and erecting in position Standard Structural steel sections conforming to IS 2062 with (YST-310) for railing or other works using Plate, flats etc. including welding, cutting, wastage, etc. complete. The rate is inclusive of welding road, supply & fixing of correct size nut, High strength bolts of 8.8 grade, washers, paint, with all contractor's materials, labour, tools & plants, in bolted / welded construction as directed by Engineer-in-Charge. Contractor will be supplied the GA drawings of structural steel as well as major connections. All fabrication drawings, internal connections & construction methodology shall be developed by contractor & has to get it approved through consultant / engineer in charge. Anticorrosive paint must be applied before applied any paint. The rate shall inclusive of providing and applying Epoxy Coating of approved shade, brand and manufacture on new structural steel work with one coat of 30 micron (DFT) of Epilux 4 Zinc Rich primer of Berger Paint India Ltd or equivalent as primer and Two coat each of 35 micron (DFT) of Epilux 84 High Gloss CR

enamel of Berger Paint India Ltd or equivalent at all levels. (Total DFT is 30+35+35=100 microns) The waste cut pieces shall not be included in the paying quantity. The work shall be done as per drawing and specification. The work shall be carried out as per IS: 800, IS:816 .Work complete including all type of tools , tackles, scaffolding etc complete at any level and height. Work complete as per the instnction of Architect/ EIC.

1. Materials:

- Fabrication (YST-310) shall be used as per approved sample by EIC/Architect.
- All type of material shall be used for work as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Work complete as per above specification, drawing and instructions of the EIC/Architect. Work complete including all type of finishing.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fix in at all heights and for all floors. Area shall be measured & paid in KG.

Item No : 51 - Frosted sparkling glass film : Providing and fixing 3M Scotchcal Frosted Crystal or equivalent approved Translucent, cast PVC, self-adhesive vinyl, special CRYSTAL-effect film to reproduce Sand-blasting effect on glass with customised designs. MCS warranty of 3 (if exposed to direct sunlight) to 10yrs (indoors) must be endorsed by manufacturer. Rate shall be inclusive plotter cutting design as per architect suggestion. Contractor shall provide shop drawing for approval of Architect.work complete incuding all type of tools, tackles, scaffolding etc complete as per suggestion of Architect/ EIC. If in case any application finishing will not as per satisfaction contractor shall remove all film at their cost. Contractor shall do a sample mock of 5 Sqm minimum of glass film) ,shall be approved from EIC.

1. Materials:

- 3 M shall Frosted sparkling glass film be used as per approved make and sample by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Fixing of 3M Scotch cal Frosted Crystal or equivalent approved Translucent, cast PVC, self-adhesive vinyl, special CRYSTAL-effect film to reproduce Sand-blasting effect on glass with customized designs.
- Work complete as per above specification.
- Work complete including all type of tools, tackles, scaffolding etc complete at any level and height
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- The work done shall be measured in square meter for area of work done. The rate shall be for a unit of one Square meter.

Item No: 52 - Wooden Frame Glass window with frame covering: Providing and fixing wooden frame made from waterproof ply finish with veneer and 10 mm thick toughen glass of approved make fixed on frame. Work complete including all type of tools, tackles etc as per suggestion of EIC, and detailed drawing .Rate shall be inclusive of glass finishing, polishing etc, consumable hardware, tools, tackles etc. Veneer basic rate 80/Sqft.

1. Material:

- Waterproof Ply shall be used for frame work as per approved make and sample by EIC/Architect.
- Veneer shall be used for finishing of frame work as per approved make and sample by EIC/Architect.
- 10 mm thick toughened glass shall be used as per approved make and sample by EIC/Architect.
- Hardware and accessories shall be used as per approved make and sample by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

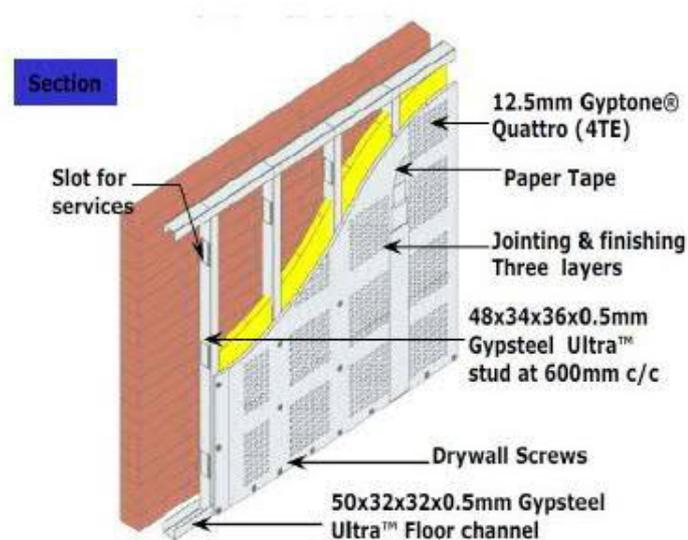
2. Workmanship:

- Work complete as per above specification.
- Frame shall be made by waterproof ply.

- Frame shall be finish with veneer as per selection.
- 10 mm thick toughened glass shall be fixing as per detailed drawing.
- Work complete including all type of tools, tackles, scaffolding etc complete at any level and height
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- Rate shall be inclusive of glass finishing, polishing etc, consumable hardware, tools, tackles etc.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- The work done shall be measured in square meter for area of work done. The rate shall be for a unit of one Square meter.



Item No : 53 - Providing and Fixing in position 50mm thick glass wool in slab form of density 24 Kg/cum of UP Twiga make or any other approved make behind wall paneling as shown in the drawings and manufacture's specification. The Installation shall be as per following steps:

- 1. Fix framework / Batten out backside of wall paneling to suit width of insulation slabs**
- 2. Fix expanded metal galvanized chicken mesh or agro net before the insulation on battens as a key for rendering, fixing it into vertical batten with staples or flat head nails.**
- 3. Insulation slabs shall be fixed snugly between battens without gaps.**
- 4. Depending upon humidity a layer of pre 1.5 mm thick laminate Vapour barrier shall be used behind insulation. The joints of the vapour barrier shall be sealed with self adhesive Aluminum tape.**
- 5. Before fixing the perforated wall paneling, the entire surface shall then be covered with black fiberglass tissue as a vapour barrier. The joints of the vapour barrier shall be sealed with self adhesive Aluminum tape.**
- 6. Fixing shall be done on vertical batten with staples or flat head nails or adhesive solution**
- 7. Final finish shall be done with perforated gyp-board,/woodwool board/acoustic board (As per separate item)**

1. Material:

- 50 mm thick glass wool shall be used as per approved make and sample by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Work complete as per above specification.
- Work complete including all type of tools, tackles, scaffolding etc complete at any level and height
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3 Measurements:

- The rate shall be consolidated for all above items.
- Paid for the items in which glass wool is not inclusive in item description of tender.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- The work done shall be measured in square meter for area of work done. The rate shall be for a unit of one Square meter.

Item No : 54 - Supplying Cement Fibre Elegant Tile 600x600x5mm/600x1200x5mm with square edge density 1050kg/m³ covered with absorbive microfiber coating on the front side and Acoustics fibre on the back side, thus making it acoustically absorbive, water resistance, fire resistant NRC upto 0.89 at 160 Hz tested as per ISO 354. The tiles are anti sag and are to be installed directly on FR Wooden Frame 600x600mm centre to centre. 50mm thick, 1000 GSM absorb wool tested as per Fire Retardant ASTM D 635-1991/Insulation and IS 15061-2002 for excellent results. (Ceiling at 1st Level - plain Gypsum Ceiling)

‘APHONY FIBRETTE’ 15mm Ceiling /wall tiles made of Wood Fibre cement composites with an option of colors as per the choice of the ARCHITECT/person in charge of size 595x595mm/595x1195, edge, square/Regular, highly recommend for ceilings/walls. Has excellent noise absorption of 1 NRC as per ISO:354-1985 and ASTM 423-90a. Density 400Kg/ m³, meets stringent Fire Ratings ASTM D-876 and Fire Class – 1 and Class P – not easily ignitable as per BS – 476-part 5,6,7, weather Resistance as per IS 3308, Thermal Insulation as per IS:3346-1980 with relative humidity of 90% RH at 60 Celsius (140 Fahrenheit) for 15day = No deterioration. Tested as per En 13682001 and are RoHS Complaint

Installation Specification:

Can be installed on T24 grid system made of 0.30mm thick sheet or 0.6mm thick gird, Main ‘T’ length 3000mm to be placed at 600mm centre to center and secondary cross ‘T’ of length 600mm inter locked, web minimum 35mm. as per the choice of the architect/engineer specially designed for Acoustic vibration management and long life with a backing of HIMALYAN ACOUSTICS 50mm thick absorb wool tested as per Fire Retardant ASTM D 635- 1991 and IS 15601 – 2002 for excellent results.

Item No: 55 - Plain gypsum board FRMR grade ceiling: Plain gypsum FRMR grade false ceiling Suspension (considering all levels with require all fabricaiaon work and fitting from RCC slab to false ceiling up to 150 to1200 mm & The rate shall be consider in sqm for all floors and at all heights, Offsets whether covelight or fixed gypsum board size up to 100 mm to 1200 mm in the false ceilings including all costs) . Work complete as per the manufacturers specification of Saint Gobain - M/F Suspended Ceiling 1 hour fire rated.: Providing and fixing Suspended ceiling using Gypsum or equivalent of ULtra G. I. Perimeter Channels of size 0.5mm thick having one flange of 20mm and another flange of 30mm and web 27mm along with perimeter of ceiling, screw fixed to brick wall / partitions with the help of nylon sleeves and screws, at min. 600 mm centers. Then suspending G. I. intermediate channel of size 45mm, 0.9mm thick with two flanges of 15mm each from the soffit at 1220mm centers with ceiling angle of width 25mm x 10mm x 0.5mm thick fixed to soffit with 27mm x 37mm x 25mm x 1.6mm thk G. I. cleat and 45mm x 8mm dia. steel expansion fasteners. Ceiling section of 0.5mm thickness having knurled web of 51.5mm and two flanges of 26mm each with lips of 10.5mm are then fixed to intermediate channel with the help of connecting clip and in direction perpendicular to the intermediate channel at 457mm centers. Double layer of 15mm Gyproc Fireline Gypsum Board outer layer and 15mm thk Gyproc

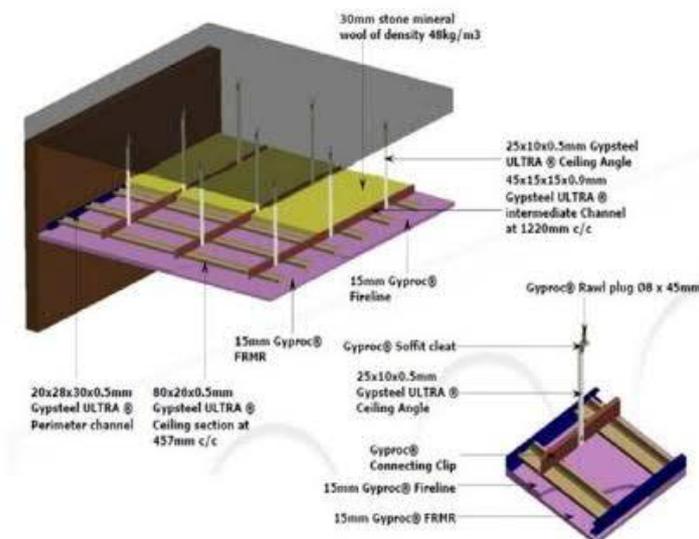
FRMR Gypsum Board on inner layer (conforming to IS 2095 part 1 2011) is then screw fixed to ceiling section with 25mm & 50mm dry wall screwed at 230mm centers. Screw fixing is done mechanically either with screw driver or drilling machine with suitable attachment. Finally the boards are to be jointed and finished so as to have a flush look which includes filling and finishing the edges of the boards with jointing compound, Joint paper tape and two coats of Drywall top coat suitable for Gypsum Board. 30mm Thick Stone mineral wool of density 48 Kg/m³ is laid over the ceiling section. Peripheri and cut out should be sealed with appropriate fire sealant. Contractor have to submit the performance certification from the manufacturer. Cutouts For light fittings, grill diffusers shall be made. Necessary cutting / providing openings in the ceiling for AC fixtures, grills, electrical fittings, or other utility services, hatch openings etc. shall be provided by the Contractor and cost of making such modifications shall be included in the price. No separate charges for cutting / providing opening will be paid. Trap doors with necessary ply frame workto be provided as required at no extra cost.Joints between the two gypsum board, (Board placed staggered) gypsum board and wall will have suitable tape and finishes with plaster of paris so as to have crack free joints.

1. Material:

- Gypsum board FRMR grade ceiling shall be used as per approved make and sample by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Work complete as per above manufacturers specification.
- Work complete including all type of tools, tackles, scaffolding etc complete at any level and



height

- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- The work done shall be measured in square meter for area of work done. The rate shall be for a unit of one Square meter.

Item No: 56 - Plain gypsum board ceiling with decorative design: Plain gypsum false ceiling Suspension (considering all levels with require all fabricataion work and fitting from RCC slab to false ceiling up to 150 to 1500 mm & The rate shall be consider in sqm for all floors and at all heights ,Offsets whether covelight or fixed gypsum board size up to 100 mm to 1500 mm in the false ceilings including all costs) . Work complete as per the manufacturer's specification. Providing and fixing Suspended ceiling using Gypsum or equivalent of ULtra G. I. Perimeter Channels of size 0.5mm thick having one flange of 20mm and another flange of 30mm and web 27mm along with perimeter of ceiling, screw fixed to brick wall / partitions with the help of nylon sleeves and screws, at min. 600 mm centers. Then suspending G. I. intermediate channel of size 45mm, 0.9mm thick with two flanges of 15mm each from the soffit at 1220mm centers with ceiling angle of width 25mm x 10mm x 0.5mm thick fixed to soffit with 27mm x 37mm x 25mm x 1.6mm thk G. I. cleat and 45mm x 8mm dia. steel expansion fasteners. Ceiling section of 0.5mm thickness having knurled web of 51.5mm and two flanges of 26mm each with lips of 10.5mm are then fixed to intermediate channel with the help of connecting clip and in direction perpendicular to the intermediate channel at 457mm centers. 15mm Gypsum Board is then screw fixed to ceiling section with 25mm & 50mm dry wall screwed at 230mm centers. Screw fixing is done mechanically either with screw driver or drilling machine with suitable attachment. Finally the boards are to be jointed and finished so as to have a flush look which includes filling and finishing the edges of the boards with jointing Compound, joint paper tape and two coats of Drywall top coat suitable for Gypsum Board. Contractor has to submit the performance certification from the manufacturer. Cutouts For light fittings, grill Diffusers shall be made. Necessary cutting / providing openings in the ceiling for decorative design, AC fixtures, grills, electrical fittings, or other utility services, hatch openings etc. shall be provided by the Contractor and cost of making such modifications shall be included in the price. No separate charges for cutting / providing opening will be paid. Trap doors with necessary ply frame work to be provided as required at no extra cost. No extra cost for achieving decorative design in gypsum board as given in architectural drawings including all necessary required fabrication work.

1. Material:

- Plain gypsum board ceiling with decorative design shall be used as per approved make and sample by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Work complete as per above manufacturers specification.

- Work complete including all type of tools, tackles, scaffolding etc complete at any level and height
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- The work done shall be measured in square meter for area of work done. The rate shall be for a unit of one Square meter.

Item No: 57 - Wooden ceiling finish with veneer : Providing and fixing IS 710 12 mm thick plywood false ceiling as per drawing & instruction of EIC & sample approved (complete with frame work). Finish with 4 mm thk veneer gurjan base ply Semi glossy PU finish polish. Plywood shall be fixed with required fabrication work and ply frame work with all necessary accessories Rate shall include cost of making of all cutouts for light fixtures, gadgets, gizmo, pelmets, grooves, beads and also provide support/template where ever required The rate shall be in sq.mt for all floors and at all heights including all costs the shop drawing (or a sample mock of 5 Sqm minimum of the frame work and ceiling) shall be approved from EIC. 5mm Groove shall be provided at the junction of the false ceiling & the wall. (Considering all levels with require all fabricataion work and fitting from RCC slab to false ceiling 100 to 1000 mm). Basic rate of veneer 150/-SQFT.

1. Material:

- 12 mm thick IS 710 Ply shall be used for wooden ceiling as per approved make and sample by EIC/Architect.
- 4 mm thick veneer gurjan base ply shall be used for wooden ceiling as per approved make and sample by EIC/Architect.
- Fabrication and ply frame shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Frame work shall be made by required fabrication and ply with necessary accessories complete. (RCC slab to false ceiling 100 to 1000 mm)
- 12 mm thick IS 710 ply shall be used for covering.
- Finishing: 4 mm thick veneer gurjan base ply matt PU finish polish. (Basic rate -150/Sqft.)
- Work include cost of making of all cutouts for light fixtures, gadgets, gizmo, pelmets, grooves, beads and also provide support/template where ever required
- Work complete including all type of tools, tackles, scaffolding etc complete at any level and height.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- The work done shall be measured in square meter for area of work done. The rate shall be for a unit of one Square meter.

Item No : 58 - OPEN GRID CELL 150MM X 150MM 'LAY-IN' ALUMINIUM CEILING WITH 15mm GRID "Providing and fixing in true horizontal level Open cell Aluminum lay-in ceiling tiles with border panels forming flush-tetragular edge of size 600mmx600mmx38mm having Fire Performance CLASS 0/Class 1 (BS 476). The tile of 'Global white' color with cell size 150mm X 150mm shall be laid on white painted 15mm profile grid system comprising Main runners (3000mm), 1200mm and 600mm cross tees with 15mm white flanges and 38mm web height. The grid should be of make with 15mm wide T - section flanges color white having rotary stitching on all T sections i.e. the Main Runner with C3 coupling, 1200 mm & 600 mm Cross Tees with Hardened XL2 Clip having a web height of 38 mm and a load carrying capacity of 14 Kg.s/M. The T Sections have a Galvanizing of 90 grams per M2 with pull out strength of 100 Kg.s. Suspension system for grid to be of "INSTALLATION: To comprise main runner spaced at 1200mm centers securely fixed to the structural soffit by approved hangers at 1200mm maximum centre & not more than 150mm from spliced joints. The last hanger at the end of No. main runner should not be greater than 600mm from the adjacent wall. 1200mm long cross tees to be interlocked between main runners at 600mm centre to form 1200 x 600 mm module. Cut cross tees longer than 600mm require independent support. 600 x 600mm module to be formed by fitting 600mm long cross tees centrally between the 1200 mm crosses tees. PeriM trim to be wall angles, secured to walls at 450 mm maximum centers." accessories manufactured and supplied by Industries consisting of M6 Anchor Fasteners with

Vertical Hangers made of Galvanized steel of size 26 x 26 x 25 x 1.2mm with a Galvanized Thickness of 80gsm, A pre Straightened Hanger wire of dia – 2.65 mm of 1.8 m length., thickness of 80gsm and a tensile strength of 344-413 MPa, along with Adjustable hook clips of 0.8mm thick, galvanized spring steel for 2.68 mm. The adjustable clip also consists of a 3.5 mm aquiline wire to be used with the main runner

- Providing and fixing Luxalon Aluminium Cell Ceiling manufactured by M/s Hunter Douglas India Pvt. Ltd., of approved colour consisting of Main Runner, Cross Runner, Upper Sections, Lower Sections all of U-Shaped Profiles 10mm wide x 50mm deep x 0.4mm thick with inwardly returned edges of 2.5mm. Coil Coated on a Continuous Paint Line, Double baked and Roll formed from enamelled Corrosion Resistance Aluminium Alloy for higher strength and good Roll Forming characteristics. The Main Runner shall be fixed at a distance of 1.2mtrs c/c and shall be suspended by means of G.I. Suspension Rod 4mm diameter and a Galvanized Suspension Spring Clip at a distance of 1.2mtr c/c. The Cross-Runner shall be fixed to the Main Runner at a distance 0.6mtrs c/c., with a self-locking device. The Upper Section and Lower section shall be fixed to the Main Runner and Cross Runner in a form of a Cell Structure of module 150 mm x 150 mm with a self-locking device.
- Paint Finish: - Aluminium Main Runners, Cross Runners Upper Section, Lower Section of U-Shaped Profiles shall be chromatised for maximum bond between metal and paint; enamelled twice under high temperature one side with full primer and Finish Coat, the other side (inner side) with a Primer Coating and Skin Coat on a Continuous Paint Line.
- Mode of Measurements: - Measurements shall be wall to wall without deductions for lights, diffusers, columns etc.
- Module: - 150mm x 150mm

Item No: 59 Supplying Stretch Fabric System on G.I studs 2400mm X 50mm web, flanges 15 & 50mm fully knurled giving it high strength, hot dipped galvanized steel with 120GSM zinc coating specially designed for Acoustic vibration management and long life with a backing 50mm thick insulation. 'Aphony Fibrette' Wood Fibre 1mm width cement composites bond of 600x1200x20mm tile with NRC 1.00 to be mechanically fastened on the G.I Studs. Acoustical infill of absorbwool 10mm which is adhered to the acoustical panel on the front side. Then 12mm/20mm Vinyl tracks are screw fixed on to the 6mm Ply and Acoustics panels. Then the fabric is stretched over the Vinyl tracks. The installed system should provide NRC OF 1.00.Fabric colour as per Architect choice-Ref attached specifications for more details. To be installed on G.I studs 600x600mm centre to centre 2400mm X 50mm web thickness 0.5mm, flanges 15 & 50mm fully knurled giving it high strength, hot dipped galvanized steel with 120GSM zinc coating specially designed for Acoustic vibration management and long life with a backing of. 50mm thick,1000 GSM absorb wool tested as per Fire Retardant ASTM D 635-1991/Insulation and IS 15061-2002 for excellent results. (Wall Penaling - GF)

- Providing 'Stretch Fabric System' G.I studs 2400mm X 50mm thickness 0.5mm. flanges 15 & 50mm fully knurled giving it high strength, hot dipped galvanized steel with 120GSM zinc coating mechanically fastened 600x600mm center to center specially designed for Acoustic vibration management and long life with a backing 50mm thick. 1000 GSM absorb wool tested as per Fire Retardant ASTM D 635- 1991/Insulation and IS 15061-2002 for excellent results. 'Aphony Fibrette' 600x1200x20mm tile with NRC 1.00 as per ISO: 354-1985 and ASTM 423-90a , Density 400kg / m³ meets stringent Fire ratings ASTM-876 and Fire Class – 1 and Class P-not easily ignitable as per BS-476-part 5,6,7. To be mechanically fastened on the G.I. Studs. Acoustical infill of absorb wool 10mm which is adhered to the acoustical panel on the front side. Then 12mm/20mm Vinyl tracks are screw fixed on to the 6mm Ply and Acoustics panels. Then the fabric is stretched over the Vinyl tracks. The installed system should provide NRC OF 1.00.Fabric colour as per Architect choice-Ref attached specifications for more details.

Item No : 60 - Soft Board : Providing and fixing on wall 12mm thick approved quality soft board with cotton cloth/fabric of approved make and shade on 12mm thick IS 710 ply with 19mm x 25 mm thick Ghana teak wood beading all around including semi glossy PU polish, as approved sample and as directed by Architect. The work shall be measured & paid in Sqm. for all floors, all level and at all heights including all costs (basic rate of cotton cloth /fabric for 54" wide shall be Rs. 400.00 per meter The rate shall be inclusive of lacquer polish to all the exposed wooden members. Only the clear elevation area of the cloth/fabric shall be measured and paid.

1. Material:

- 12 mm thick soft board shall be used as per approved make and sample by EIC/Architect.
- 12 mm thick IS 710 ply shall be used as per approved make and sample by EIC/Architect
- Teak wood beading shall be used as per approved make and sample by EIC/Architect
- Adhesive shall be used as per approved make and sample by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Installation: 12 mm thick soft board of 400/Rmt . shall be used as per selection
- Frame: Ghana Teak wood beading all around shall be used as per drawing.
- Covering: 12 mm thick IS 710 ply as per drawing.
- Finish: Frame shall be finished with Matt PU polish.
- Exposed wooden surface shall be finished with Lacquer polish.
- Work should be in complete level without any variation and deviation. There shall be no tolerance in regard to wall finish.

- Item including open able shutter wherever required area and finish with the same material.
- Work complete including all type of tools, tackles, scaffolding etc complete at any level and height
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole
- Work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- Only the clear elevation area shall be measured and paid.
- The work done shall be measured in square meter for area of work done. The rate shall be for a unit of one Square meter.

Item No: 61 - PLY WALL PANELING FINISH WITH VENEER FINISH: Providing & fixing 12mm thick IS 710 ply fixed on frame work. The framework shall be fixed as per drawing vertically & @ 600 mm c/c vertical & 1200 mm c/c horizontally. The frame work shall be made from Aluminium section make JINDAL/HINDALCO conforming to IS specification In paneling, (intermediate, perimeter) & (at vertical or horizontal joint of ply & at turning point) shall be fixed to the wall/floor & ceiling with Sheet metal screws/Nylon grip screws of Corro-shield /Fischer and shall be supported by filling required size wedges /washers/ MS wall connectors or packings of teak wood /MS washers to ensure right angles and plumb level. All ply/wooden frameworks shall be treated with anti-termite treatment & hidden The framework shall be covered with approved make plywood(IS 710- 12 mm ply),adhesive ,tape, headless nails etc ,finished with Veneer (veneer base 4 mm thick Gurjan ply) with semiglossy PU polish & in pattern as shown in the drawing. Rate shall be inclusive grooves etc complete as per drawing or as directed by EIC/ Architect. The rate shall be in Sq.mt of actual paneling work for all floors, at all heights, all shapes .Rate shall inclusive of all material ,labor scaffolding, tools, tackles, for all heights and for all levels, Rates shall also be inclusive of cost of making cut outs/ openings for electrical fixtures, tube lights /air-conditioners ,grills, diffusers etc & providing additional sections for strengthening around the openings/cutouts, making grooves between wall & board or as per drawing /instruction of EIC. and no extra payment shall be considered for additional sections provided. All curved surfaces, recesses, waffles shall be part of the paneling including openable shutter wherever required area and finish with the same material. Rate shall be inclusive of all item inclusive part of paneling only the clear elevation area shall be measured and paid. (Basic rate of veneer teak veneer -150/ Sqft)

1. Material:

- 12 mm thick IS 710 ply for panelling shall be used as per approved make and sample by EIC/Architect.
- Frame work shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.
- Teak veneer shall be used as approved make and sample by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Installation: fixing of 12mm thick IS 710 ply fixed on frame work.
- The framework shall be fixed as per drawing vertically & @ 600 mm c/c vertical & 1200 mm c/c horizontally. The frame work shall be made from Aluminum section make JINDAL/HINDALCO conforming to IS specification In paneling, (intermediate, perimeter) & (at vertical or horizontal joint of ply & at turning point) shall be fixed to the wall/floor & ceiling with Sheet metal screws/Nylon grip screws of Corro-shield /Fischer and shall be supported by filling required size wedges /washers/ MS wall connectors or packing's of teak wood /MS washers to ensure right angles and plumb level.
- All ply/wooden frameworks shall be treated with anti-termite treatment & hidden The framework shall be covered with approved make plywood(IS 710- 12 mm ply),adhesive ,tape, headless nails etc ,
- finished with Veneer (veneer base 4 mm thick Gurjan ply – 150/Sqft) with matt PU polish & in pattern as shown in the drawing
- Panelling should be in complete level without any variation and deviation. There shall be no tolerance in regard to wall finish. Wherever required proper framing has to be executed to make the surface level.
- Work complete including all type of tools, tackles, scaffolding etc complete at any level and height
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.

- Rate shall inclusive of all material ,labor scaffolding, tools, tackles, for all heights and for all levels, Rates shall also be inclusive of cost of making cut outs/ openings for electrical fixtures, tube lights /air-conditioners ,grills, diffusers etc & providing additional sections for strengthening around the openings/cutouts, making grooves between wall & board or as per drawing /instruction of EIC. And no extra payment shall be considered for additional sections provided. All curved surfaces, recesses, waffles shall be part of the paneling including openable shutter wherever required area and finish with the same material.
- Only the clear elevation area shall be measured and paid.
- The work done shall be measured in square meter for area of work done. The rate shall be for a unit of one Square meter.

Item No: 62 - Mirror Paneling : Providing & fixing 12mm thick IS 710 ply fixed on frame work. The framework shall be fixed as per drawing vertically & @ 600 mm c/c vertical & 1200 mm c/c horizontally. The frame work shall be made from Aluminium section make JINDAL/HINDALCO conforming to IS specification In paneling, (intermediate, perimeter) & (at vertical or horizontal joint of ply & at turning point) shall be fixed to the wall/floor & ceiling with Sheet metal screws/Nylon grip screws of Corro-shield /Fischer and shall be supported by filling required size wedges /washers/ MS wall connectors or packings of teak wood /MS washers to ensure right angles and plumb level. All ply/wooden frameworks shall be treated with anti-termite treatment & hidden The framework shall be covered with approved make plywood (IS 710- 12 mm ply), adhesive, tape, headless nails etc, finished with Mirror in pattern as shown in the drawing. Rate shall be inclusive grooves etc complete as per drawing or as directed by EIC/ Architect. The rate shall be in Sq.mt of actual paneling work for all floors, at all heights, all shapes .Rate shall inclusive of all material ,labor scaffolding, tools, tackles, for all heights and for all levels, Rates shall also be inclusive of cost of making cut outs/ openings for electrical fixtures, tube lights /air-conditioners ,grills, diffusers etc & providing additional sections for strengthening around the openings/cutouts, making grooves between wall & board or as per drawing /instruction of EIC. and no extra payment shall be considered for additional sections provided. All curved surfaces, recesses, waffles shall be part of the paneling including openable shutter wherever required area and finish with the same material. Rate shall be inclusive of all item inclusive part of paneling Only the clear elevation area shall be measured and paid. basic rate of Mirror -150/ Sqft -

Item No : 63 - Mirror : Providing and fixing 6 mm thick mirror of Saint Gobain or other approved make shall be fixed with SS studs.

1. Material:

- 6 mm thick mirror shall be used as per approved make and sample by EIC/Architect.
- SS studs shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Installation: 6 mm thick mirror fixed with SS studs.
- Work complete including all type of tools, tackles, scaffolding etc complete at any level and height
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- Only the clear elevation area shall be measured and paid.
- The work done shall be measured in square meter for area of work done. The rate shall be for a unit of one Square meter.

Item No: 64 - Ply pelmet work: Providing and fixing wooden pelmets of upto 150mm/200 mm x 150 to 300 mm L shape made of 19mm thick ply as per IS 710 and beading of 4mm thick and 25mm wide Ghana Teak wood for curtains/blinds/projection screen of openings. Rate to be inclusive of lipping, cutting, wastages, necessary fixtures, nails, adhesives, necessary scaffolding, fixing at all heights and for all floors as per drawing and approved sample etc finish with veneer semi gloss PU finish basic rate of veneer 150/-per sqft (Mode of Measurements: Only the palmet length shall be measured & paid for the items in which palmet work is not inclusive in item description)

1. Material:

- 19 mm thick IS 710 Ply shall be used as per approved make and sample by EIC/Architect.
- Ghana teak wooden beading shall be used as per approved make and sample by EIC/Architect
- Veneer shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Wooden pelmet made by IS 710 19 mm thick ply as per drawing.
- Beading of 4mm thick and 25mm wide Ghana Teak wood for curtains/blinds/projection screen of openings.
- finish with veneer matt PU finish basic rate of veneer 80/-per Sqft
- Work complete including all type of tools, tackles, scaffolding etc complete at any level and height
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- The work done shall be measured in running meter for area of work done. The rate shall be for a unit of one Running meter.

Item No : 65 - Providing and applying natural Melamine polish of approved make - matt /semi gloss/glossy finish for internal wooden & veneered surfaces including surface preparation, applying filler / hardener / putty, sanding, cleaning of furniture after completion of job etc to the satisfaction of architects / EIC. work shall be carried out as per the manufacture's specification & approved sample. The final coat should be sprayed by gun with pressure as per requirement. (Exposed wooden surface at all floor) (Mode of Measurements: Only the polished area shall be measured & paid for the items in which polishing is not inclusive in item description)

1. Material:

- Melamine polish shall be used as per approved make and sample by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- The melamine coat preferable of clearly hard glaze shall be applied with a cloth Pad. The surface shall then be left to dry for at least six hours and further coats are applied with a paint brush. If the duration of gap is more than 24 hours between coats, the previous coat shall be

rubbed down with a fine glass paper or a medium grade of steel wool. The matt finish shall be obtained by giving a final coat of clean reseal matt coat.

- Applying Melamine polish as per selection of EIC/Architect.
- The final coat should be sprayed by gun with pressure as per requirement. (Exposed wooden surface at all floor)
- Work shall be carried out as per the manufacture's specification
- Work complete including all type of tools, tackles, scaffolding etc complete at any level and height the whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- Only the polished area shall be measured & paid for the items in which polishing is not inclusive in item description
- Area shall be measured in Square Meter.

Item No : 66 - Providing and applying natural UV stabilized natural Poly urethane polish clear matt finish/glossy finish/semi gloss finish polish of approved make for external/internal wooden & veneered surfaces including surface preparation, applying filler / hardener / putty, sanding, cleaning of furniture after completion of job etc. to the satisfaction of architects / EIC. work shall be carried out as per the manufacture's specification & approved sample. Item shall be operated only for the items where rate is exclusive of PU polish.(Exposed wooden surface at all floor) (Mode of Measurements: Only the polished area shall be measured & paid for the items in which polishing is not inclusive in item description)

1. Material:

- Melamine polish shall be used as per approved make and sample by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Work shall be carried out as per the manufacture's specification
- Work method shall be following as per relevant specification no 1.245.

- Work complete including all type of tools, tackles, scaffolding etc complete at any level and height
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- Only the polished area shall be measured & paid for the items in which polishing is not inclusive in item description
- Area shall be measured in Square Meter.

Item No : 67 - Providing and applying Lacquer polish of approved make and finish on new wood and wood based surface to give an even surface, including cleaning the surface of all dirt, dust and sand papered smooth and including a coat of wood file after completion of job etc. to the satisfaction of architects / EIC. (Mode of measurements: Only the polished area shall be measured & paid for the items in which polishing is not inclusive in item description) work shall be carried out as per the manufacture's specification & sample approved..(Exposed wooden surface at all floor) (Mode of Measurements: Only the polished area shall be measured & paid for the items in which polishing is not inclusive in item description)

1. Material:

- Lacquer polish shall be used as per approved make and sample by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Work shall be carried out as per the manufacture's specification.
- Work method shall be following as per relevant specification no 1.245.
- Work complete including all type of tools, tackles, scaffolding etc complete at any level and height
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.

- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- Only the polished area shall be measured & paid for the items in which polishing is not inclusive in item description
- Area shall be measured in Square Meter.

Item No : 68 - Roller blind (roller blind decorative fabric should be made up of 25% to 50% polyester, 50% to 75% PVC), it should have specific low emissivity treatment and lead free with Greenguard certification. It should have 3% - 5% openness, including antimicrobial additive preferably Microban. The fabric should be 0.76mm - 0.99mm thick, mesh weight should be 16.40 - 16.70 (oz/yd²), Flame retardant, Jacquard weave with 10 years of warranty against any distortion in fabric due to any reason. UV blockage should be approx 95% Roller Blind tube is made of Aluminum with a diameter of 38mm Anodized, bottom rail is power coated & mechanism of plastic with chain and metal bracket, sturdy fixing arrangement as per direction of Engineer in Charge. Basic rate 4000/- sqmt (Make Deck/Hunter Douglas/ D Décor or equitant

1. Material:

- Blackout roller blinds with solar protection fabric shall be used as per approved make and sample by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Fixing Serge Ferrari, Somfy or TOSO equivalent approved make manual roller blinds with Soltis- B99 Blackout fabric with spring drive system with steel ball chain/one touch with speed control action roller blind with end brackets with head rail, components, bottom bar.
- Fabric of Soltis-96 blackout (Rate:1000/Sqmt) with manual operation and warranty etc as per manufacturer's specifications. Fabric to be as per approved sample.
- All the work complete as per the detailed drawing and instruction of EIC/Architect.
- Work complete including all type of tools, tackles, scaffolding etc complete at any level and height
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.

- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.
- Area shall be measured in Square Meter.

Item No : 69 - Providing and fixing stainless steel (Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in-charge, (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.)

1. Material:

- SS 304 grade element for railing work shall be used as per approved make and sample by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Staircase railing shall be made with Stainless steel seamless tube of grade 304, continuously welded and grinded smooth polished smooth/ rough, bend/ curved at turning as per design, fixed/ welded with the Stainless steel balusters complete as per architectural drawing.
- All members of railing shall be machine cut, machine polished to get the best finishing. The balusters to be fixed with floor/wall as the case may be with hidden type metal fasten of approved make and approved size.
- Base of baluster shall be covered with 2mm thk SS covering as per design
- All the work complete as per the detailed drawing and instruction of EIC/Architect.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all heights and for all floors.

- Area shall be measured in Running Meter.

Item No : 70 - False hollow Flooring : Providing & Fixing of False flooring of approved Make list flooring system Panel : Unitile® USF 800 Access Floor panel of size 600 x 600 mm or equivalent approved make shall be all steel welded construction with an enclosed bottom pan of 64 hemispherical cones and top plain sheet is fuse welded at 144 locations to form a panel of an overall thickness of 35 mm. The panel after cleaning, degreasing, phosphating by 11 tank process is coated with 40 - 60 micron epoxy coat and is heated to achieve maximum adhesion to the panel surface and corrosion resistance. The inner empty core of the panel is injected with a light weight, fire retardant, non combustible cementitious compound at high pressure to fill in all the crevices of the panel and ensures support of not less than 90% of the top surface area of the panel. with 600x600 cement filled tiles of 33 mm thickness with 1.5 mm thick laminate along with under structures , including all type of frame work, anchoring , tools, tackles, fittings , adhesive , finishing work complete as per the instruction of Architect/EIC. Sub Structure : Sub structure installed to support the panel shall be suitable to achieve a minimum finished floor height of 150 mm to a maximum of 600 mm from the existing floor level. Pedestal design shall confirm speedy assembly and removal for relocation and maintenance. The assembly shall provide easy adjustment of leveling and accurately align panels for a maximum ± 25 mm in the vertical direction. Pedestals shall support an axial load without permanent deflection and an ultimate load as laid out in System Performance requirement. STRINGERS :The stringer is hot dipped galvanized steel cold rolled construction specially designed with ribs embossed on 3 sides for strength, lateral stability, and for enhanced rolling loads performance and to support the panels on all 2 four sides for alignment. The stringer to have a counter sunk holes at both ends to accommodate bolting of M6 machine screws to the pedestal head assembly. The stringers shall be 21 x 32 x 0.8 x 570 mm length.

1. Materials:

- False hollow flooring shall be used as per approved make list and sample approved by EIC/Architect.
- Adhesive and fixing material shall be used as per approved by EIC/Architect.
- All type of material shall be used for flooring work as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Work complete including all type of joining material, tools, tackles, with finishing, proper even surface etc as per manufacturer's specification and suggestion.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.

- The rate shall include the cost of all materials, finishing, labour, scaffolding, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect. No extra payment will be given for any of the reasons.
- The rate shall be for a unit of one Square meter.

Item No: 71 - ACOUSTIC OPERABLE PARTITION -Manual Operable Partition consisting of series of individual flat elements of 100 mm thick travelling along the ceiling track assembled to form a solid wall. The entire system must function as a solid wall and even when closed should reveal minimal screws, fixing or other similar solid metal parts. The sound insulation of the operable partition should be 50dB tested under third party reputed laboratory in accordance to EN 20140-3. The test certificate should show the make and model of the system. All inclusive with panelling over the panels of Veneer/Fabric finished with PU/Melamine polish as prroved by Architect sample. (Dorma, Hafele or equivalent)

1. General Description and Acoustical Performance

- Operable Partition consisting of series of individual flat elements of 100 mm thick travelling along the ceiling track assembled to form a solid wall. The entire system must function as a solid wall and even when closed should reveal minimal screws, fixing or other similar solid metal parts. The sound insulation of the operable partition should be **50dB** tested under third party reputed laboratory in accordance to EN 20140-3. The test certificate should show the make and model of the system.

2. Construction

- Elements must be constructed of a torsion-free steel horizontal tube frame and torsion-stiff vertical aluminium profiles, bolted together to make the element strong and sturdy. The frame must be clad either side with 16mm MDF panels hung in acoustic free suspension from the panel frame. The panel skin shall be installed on site and able to be replaced without totally disassembling the panel frame. The element must be constructed in accordance with the specified sound insulation requirements. The elements must be inter-connected by means of a positive locking concave/convex aluminium profile with an integrated magnetic strip and sealing lip having a linear attraction of 40N/m. The spindle mechanism in every element should be connected to the top and bottom horizontal seals which should be constructed of aluminium plates with flexible rubber at the contact point. Specially formed polyurethane corner rubber seal to be provided for overlapping acoustic seals horizontal sealing strip.

3. Operation

- Each element must have a spindle mechanism which should be connected to the spring loaded top and bottom retractable seal. The spindle mechanism should be operated manually by a bayonet connected crank handle that acts as a lock in function during cranking process. The horizontal top and bottom seals must be retracted as per the operating mechanism and should ensure a contact pressure of 800N when the seals are completely extended. The spring loaded retractable horizontal seals should also be able to adjust to minor floor undulation for better acoustic efficiency. The seal spindle mechanism must be accessible while the panel is hanging for servicing and adjustment if necessary. Total disassembly of the panel frame to access internal components is not acceptable. No fixed sweep seals allowed in top and bottom of the element that would rub against the track or floor while moving the element.
- **Telescopic / End Closure Element**
- The telescopic element or the end closure element must open and close 120mm horizontally through an additional telescopic panel made of 16mm MDF provided and fixed to the telescopic element. The movement of the telescopic Panel and the operation of the horizontal top and bottom seal and must be operated by a single mechanism. The telescopic element must maintain all the same quality criteria as the other elements.

4. Element Suspension (for single element weight < 500 kgs)

An aluminium track profile shall be installed to ensure easy, low-noise operation of the elements. Additional track cladding must not be necessary. It shall be possible to implement all right-angled and positive-guidance stacking track assemblies with this track design. Each element must be suspended on the aluminium track by 'maintenance free' multi-directional trolley capable of withstanding a minimum load of 500kgs per element. Additional ledge should be provided on the track for the movement of the trolley providing the extra strength to the track and smooth movement of the element. The trolley shall consist of a four sided die cast aluminium body. Multidirectional ball bearing wheels shall be steel-rimmed mounted to each of the four side and shall be capable of navigating track intersection. The trolley shall incorporate four nylon horizontal navigating wheels, mounted to the top of the trolley body, to provide guidance for smooth operation. To allow for minor structural sag in the ceiling, the elements must be designed for easy height adjustment without the need to open up either the ceiling or the element.

Item No: 72 - Audi Chair with Auto Tip up seat Stand – To be 200 x 75 x 6 mm. M.S.Flat welded to 38 x 38 x 2 mm, CRCA tube 22”, long further r supported to 38 x 38 x 2 mm – 11” long CRCA tube. Tip – Up movement supported by 200 x 75 x 6 mm M.S. Flat with M.S. twin support 12 mm in Dia. Rear Back

Panel - 2 Layer Back made with 12 mm High-Impact plywood surfaced with wood veneer and polish.
Back Cushion: Cold molded foam for years of service. Foam density: 55kg/m³. Cushion Thickness: 110-130mm. **Seat Pan – 19mm High- Impact plywood 440 x 490 x130mm**, all bolts to be received by Dash nuts CNC milled threaded and nailed of size – 20 x 10mm. **Seat Cushion:** Contoured seat cushion with serpentine spring inside to provide superior comfort and support. Cold-molded foam allows for years of service. Foam density: 60kg/m³. Cushion thickness: 120-140mm. **Tip-up seat** with combination of spring and damping provides for lifetime of quiet seat return.

Arm rest -Hardwood Armrest. To be of size 425 x 25 x 55 / 70 mm depending on the ctc of the chair.

Writing Tablet (Optional): Aluminum anodized swivel type writing mechanism with plastic injection and grave for pen and cup.

Seat Upholstery: Upholstery would be with High Quality Fabric specially treated with Abrasion resistant ASTM D4966-98 (2044) and with Teflon coating for easy removal of stains.

To be by hoist and crane system followed by degreasing / derusting/Activation followed by 7 Tank powder coating process **Approved Brands: PEN Workers / Herman Miller/ Feather lite occupant.**

Ref Image



1. Material:

- Audi Chair shall be used as per approved make and sample by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS Codes and approved by EIC/Architect.

2. Workmanship:

- Work complete as per above manufacturers specification.
- Work complete including all types of tools, tackles, labour etc. complete at any level and Height.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.

- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole Work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate shall be inclusive of all materials, loading, unloading, all taxes, transportation, placing At all floors and for all leads, polishing and all accessories as described in item description
- The work done shall be measured in Numbers for area of work done. The rate shall be for a Unit of one Numbers.

Item No: 73 - SINGLE SEATER CHAIR: Providing & placing chair as per reference image /approved by architect Padding material shall be high resiliency polyurethane foam, the back shall be 3/4” thick. The seat shall be 1-1/2” thick. Seating fabric shall be approved by architect all upholstery shall be first quality without creases, stretch lines, or wrinkles. The frame shall be teak solid wood. legs and handle as per design with engraving and embossing pattern All wood shall be finished with semi-gloss pu finish The work shall be done as per the approved shop drawing (to be prepared by contractor), specifications, sample approved and as directed by the Architect/EIC. The rate shall be for complete item inclusive of all material, labor, wastages, necessary tools & tackles, approved make for all floors, all heights, all levels and all places within campus. Contractor shall do all the needful and shall fulfill Architect's design intent. No additional claims will be entertained for this. Rate shall inclusive of shop drawing, mock up sample, all materials, loading, unloading, all taxes, transportation, placing at all floors and for all leads, and all accessories as described in item description. As approval of architect. Basic rate of fabric 500/Rmt

Ref Image



1. Material:

- Chair Type 11 shall be used as per approved make and sample by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Padding material shall be high resiliency polyurethane foam; the back shall be 3/4" thick. The seat shall be 1-1/2" thick. Seating fabric shall be approved by EIC/Architect.
- All upholstery shall be first quality without creases, stretch lines, or wrinkles. The frame shall be teak solid wood. Legs and handle as per design with engraving and embossing pattern all wood shall be finished with semi-gloss PU finish.
- Work complete as per above manufacturers specification.
- Work complete including all types of tools, tackles, labour etc complete at any level and height.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole Work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate shall be inclusive of all materials, loading, unloading, all taxes, transportation, placing at all floors and for all leads, polishing and all accessories as described in item description
- The work done shall be measured in Numbers for area of work done. The rate shall be for a unit of one Numbers.

Item No : 74 - Single Seater sofa : 900mm (L) x 715 mm (B) x 950 mm (H) The seat shall 150 mm th 40 density & back shall be 32 density foam & finished in Approved fabric upholstery as per the drawing/image and instruction from Architect/EIC all external & internal exposed woodwork to be finished in PU semi gloss finish polish. .The work shall be done as per the approved shop drawing (to be prepared by contractor), specifications, sample approved and as directed by the Architect/EIC. The rate shall be for complete item inclusive of all material, labor, wastages, necessary tools & tackles, approved make for all floors, all heights, all levels and all places within campus. Contractor shall do all the needful and shall fulfill Architect's design intent. No additional claims will be entertained for this. Rate shall inclusive of shop drawing, mock up sample, all materials, loading, unloading, all taxes, transportation, placing at all floors and for all leads, and all accessories as described in item description. As approval of architect. Basic rate of fabric 800/ Rmt

Ref Image



1. Material:

- Solid teak wood shall be used as per approved make and sample by EIC/Architect.
- Fabric shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.
- Polish shall be used as approved by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS Codes and approved by EIC/Architect.

2. Workmanship:

- Frame: Solid teak wood and finished with PU Matt polish.
- The seat shall 150 mm thick 40 density thickness.
- Back shall be 32 density foam & finished in Approved fabric (Basic rate – 1000/Rmt)
- Upholstery as per the drawing.
- All external & internal exposed woodwork to be finished in PU matt finish polish.
- Work complete as per above specification.
- Work complete including all types of tools, tackles, labour etc complete at any level and Height.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole Work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc. for fixing at all Heights and for all floors.
- The work done shall be measured in Numbers for area of work done. The rate shall be for a Unit of one Numbers.

Item No : 75 – Two Seater sofa : 1500mm (L) x 715 mm (B) x 800 mm (H) The seat shall 150 mm th 40 density & back shall be 32 density foam & finished in Approved fabric upholstery as per the drawing/image and instruction from Architect/EIC all external & internal exposed woodwork to be

finished in PU matt finish polish. .The work shall be done as per the approved shop drawing (to be prepared by contractor), specifications, sample approved and as directed by the Architect and Engineer-in-charge. The rate shall be for complete item inclusive of all material, labor, wastages, necessary tools & tackles, approved make for all floors, all heights, all levels and all places within campus. Contractor shall do all the needful and shall fulfill Architect's design intent. No additional claims will be entertained for this. Rate shall inclusive of shop drawing, mock up sample, all materials, loading, unloading, all taxes, transportation, placing at all floors and for all leads, and all accessories as described in item description. As approval of architect. Basic rate of fabric 1000/ Rmt.

Ref Image



1. Material:

- Solid teak wood shall be used as per approved make and sample by EIC/Architect.
- Fabric shall be used as per approved make list and confirming to relevant IS codes and Approved by EIC/Architect.
- Polish shall be used as approved by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant ISbCodes and approved by EIC/Architect.

2. Workmanship:

- Frame: Solid teak wood and finished with PU Matt polish.
- The seat shall 150 mm thick 40 density thickness.
- Back shall be 32 density foam & finished in Approved fabric (Basic rate – 1000/Rmt)
- Upholstery as per the drawing.
- All external & internal exposed woodwork to be finished in PU matt finish polish.
- Work complete as per above specification.
- Work complete including all types of tools, tackles, labour etc complete at any level and Height.
- The whole work is to be completed as per design; sample material & any other requirement Shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.

- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole Work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc. for fixing at all Heights and for all floors.
- The work done shall be measured in Numbers for area of work done. The rate shall be for a Unit of one Numbers.

Item No: 76 - Three Seater sofa: 2100 (L) x 800 mm (B) x 900 mm (H) made up of Solid teak wood with PU matt finished polish. The seat shall 150 mm th 40 density & back shall be 32 density foam & finished in Approved fabric upholstery as per the drawing/image and instruction from Architect/EIC all external & internal exposed woodwork to be finished in PU matt finish polish. .The work shall be done as per the approved shop drawing (to be prepared by contractor), specifications, sample approved and as directed by the Architect and Engineer-in-charge. The rate shall be for complete item inclusive of all material, labor, wastages, necessary tools & tackles, approved make for all floors, all heights, all levels and all places within campus. Contractor shall do all the needful and shall fulfill Architect's design intent. No additional claims will be entertained for this. Rate shall inclusive of shop drawing, mock up sample, all materials, loading, unloading, all taxes, transportation, placing at all floors and for all leads, and all accessories as described in item description. As approval of architect. Basic rate of fabric 1200/Rmt.

Ref Image



1. Material:

- Solid teak wood shall be used as per approved make and sample by EIC/Architect.
- Fabric shall be used as per approved make list and confirming to relevant IS codes and Approved by EIC/Architect.
- Polish shall be used as approved by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS Codes and approved by EIC/Architect.

2. Workmanship:

- Frame: Solid teak wood and finished with PU Matt polish.
- The seat shall 150 mm thick 40 density thickness.
- Back shall be 32 density foam & finished in Approved fabric (Basic rate – 1000/Rmt)
- Upholstery as per the drawing.
- All external & internal exposed woodwork to be finished in PU matt finish polish.
- Work complete as per above specification.
- Work complete including all types of tools, tackles, labour etc complete at any level and Height.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc. for fixing at all Heights and for all floors.
- The work done shall be measured in Numbers for area of work done. The rate shall be for a Unit of one Numbers.

Item No: 77- CENTER TABLE - 900MM (L) x 6000MM (W): Providing fixing complete as per drawing/Ref Image. center table 35 mm thick top made from IS 303 BWR grade ply with gurjan base ply veneer finish matt PU finish and vertical support from ss 304 grade ,including all type of hardware, fittings, fixtures , tools , tackles , etc complete as per attached ref image and drawing. The work shall be done as per the specifications, sample approved and as directed by the Architect/EIC. Basic rate of gurjan base ply veneer is 75 /Sqft. Providing and fixing/placing custom made furniture as per detail drawing/ref. image. The work shall be done as per the approved shop drawing (to be prepared by contractor), specifications, mock up sample approved and as directed by the Architect/EIC. The rate shall be for complete item inclusive of all material, labour, wastages, necessary tools & tackles, approved make for all floors, all heights, all levels and all places within campus. Contractor shall do all the needful and shall fulfill Architect's design intent. No additional claims will be entertained for this. The unit shall be manufactured in parts and these parts shall be assembled at site.

Ref Image



1. Material:

- IS 303 ply shall be used as per approved make and sample by EIC/Architect.
- Veneer shall be used as per approved make and sample by EIC/Architect.
- Hardware's shall be used as per approved make list and confirming to relevant IS codes and Approved by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS Codes and approved by EIC/Architect.

2. Workmanship:

- 35 mm thick top made from IS 303 BWR grade ply with gurjan base ply veneer (Basic rate –75/Sqft) finish matt PU finish
- Vertical support from ss 304 grade, including all type of hardware, fittings, fixtures, tools, Tackles, etc. complete.
- Work complete including all types of tools, tackles, labour etc. complete at any level and Height.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all Heights and for all floors.
- The work done shall be measured in Number for area of work done. The rate shall be for a Unit of one Number.

Item No: 78- CONSOLE: Providing & fixing Console complete as per drawing/Ref Image. Approx size : 2400 x 400 x 600 mm made from up of 19mm thick BWR grade ply & teak wood & finished of Veneer of approved make and shade and all edges finish with teak wood beading matching semi-gloss PU

finish with veneer. Rate shall be inclusive of providing, fixing all necessary brass satin finish nickel plated/ S.S 304 grade (hardware from Hettich like Auto Hinges, Rod locks, Multipurpose lock, Rate shall be inclusive of internal shelves of 19mm thick IS 303 BWR ply and outer side veneer and inner side 1.5 mm thick laminate, with 4mm thick solid wooden beading on all around the shelf All external & internal exposed woodwork to be finished in PU matt paint finish polish as per specified item's manufacturer's specifications..Rate shall inclusive of providing mock up sample for approval of architect. Antique kind handle shall be fixed as per approved sample of architect. Basic rate of veneer is 75/Sqft. Providing and fixing/placing custom made furniture as per detail drawing/ref.image.The work shall be done as per the approved shop drawing (to be prepared by contractor), specifications, mock up sample approved and as directed by the Architect/EIC. The rate shall be for complete item inclusive of all material, labor, wastages, necessary tools & tackles, approved make for all floors, all heights, all levels and all places within campus. Contractor shall do all the needful and shall fulfill Architect's design intent. No additional claims will be entertained for this. The unit shall be manufactured in parts and these parts shall be assembled at site.

Ref Image



1. Material:

- IS 303 ply shall be used as per approved make and sample by EIC/Architect.
- Veneer shall be used as per approved make and sample by EIC/Architect.
- Hardware's shall be used as per approved make list and confirming to relevant IS codes and Approved by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS Codes and approved by EIC/Architect.

2. Workmanship:

- 19mm thick BWR grade ply & finished of Veneer (Basic rate –150/Sqft) of approved make and shade.
- fixing all necessary brass satin finish nickel plated/ S.S 304 grade (hardware from Hettich like Auto Hinges, handle, Rod locks, multipurpose lock, internal shelves of 19mm thick IS 303 BWR ply and

outer side veneer and inner side 1.5 mm thick laminate, with 4mm thick solid wooden beading on all around the shelf.

- All external & internal exposed woodwork to be finished in PU matt paint finish polish as per specified item's manufacturer's specifications.
- Work complete including all types of tools, tackles, labour etc complete at any level and Height.
- The whole work is to be completed as per design; sample material & any other requirement Shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole Work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all Heights and for all floors.
- The work done shall be measured in Number for area of work done. The rate shall be for a Unit of one Number.

Item No: 79- CORNER TABLE - 450MM (L) x 450MM (W) - (General waiting) providing fixing complete as per drawing/Ref Image. center table 35 mm thick top made from IS 303 grade ply with gurjan base ply veneer finish semi gloss PU finish and vertical support from ss 304 grade , including all type of hardware, fittings, fixtures , tools , tackles , etc complete as per attached ref image and drawing. The work shall be done as per the specifications, sample approved and as directed by the Architect/EIC. Basic rate of gurjan base ply veneer is 80 /Sqft.

Ref Image



1. Material:

- IS 303 ply shall be used as per approved make and sample by EIC/Architect.
- Veneer shall be used as per approved make and sample by EIC/Architect.

- Hardware's shall be used as per approved make list and confirming to relevant IS codes and Approved by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS Codes and approved by EIC/Architect.

2. Workmanship:

- 35 mm thick top made from IS 303 BWR grade ply with gurjan base ply veneer (Basic rate –75/Sqft) finish matt PU finish
- Vertical support from ss 304 grade, including all type of hardware, fittings, fixtures, tools, Tackles, etc. complete.
- Work complete including all types of tools, tackles, labour etc. complete at any level and Height.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole Work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all Heights and for all floors.
- The work done shall be measured in Number for area of work done. The rate shall be for a Unit of one Number.

Item No: 80- Wardrobe: Providing and fixing wardrobe as per drawing/Ref image 1050(L) x600(D) x 2100(H) made up of 19mm thick BWR grade ply & finished of Veneer of approved make and shade. Rate shall be inclusive of providing, fixing all necessary brass satin finish nickel plated/ S.S 304 grade (hardware from Hettich like Auto Hinges, handle, Rod locks, Multipurpose lock, Telescopic channel S.s pipe oval Hettich (047 615) with ss socket), tower bolts, ball catches/Magnet, hydraulic hinges etc Rate shall be inclusive of internal shelves of 19mm thick IS 303 BWR ply and outer side veneer and inner side 1.5 mm thick laminate, with 4mm thick solid wooden beading on all around the shelve & 2 nos of drawer unit with both side 1.5 mm thick laminate finished complete as per the drawing. Shutter made from SS finish olive or approved make frame and handle profile with 4 mm th toughened glass with opaque film All external & internal exposed woodwork to be finished in PU semi gloss paint finish polish as per specified item's manufacturer's specifications..Rate shall inclusive of providing mock up sample for approval of architect. Basic rate of Veneer is 150 /Sqft.

Ref Image



1. Material:

- IS 303 ply shall be used as per approved make and sample by EIC/Architect.
- Glass shall be used as per approved make and sample by EIC/Architect.
- Veneer shall be used as per approved make and sample by EIC/Architect.
- Hardware's shall be used as per approved make list and confirming to relevant IS codes and Approved by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS Codes and approved by EIC/Architect.

2. Workmanship:

- 19mm thick BWR grade ply & finished of Veneer (Basic rate – 150/Sqft) of approved make and shade.
- fixing of all necessary brass satin finish nickel plated/ S.S 304 grade (hardware from Hettich like Auto Hinges, handle, Rod locks, multipurpose lock, Telescopic channel S.s pipe Oval Hettich (047 615) with ss socket), tower bolts, ball catches/Magnet, hydraulic hinges Etc.
- internal shelves of 19mm thick IS 303 BWR ply and outer side veneer and inner side 1.5 mm thick laminate, with 4mm thick solid wooden beading on all around the shelve & 2 Nos of drawer unit with both side 1.5 mm thick laminate finished complete as per the drawing.
- Shutter made from SS finish olive or approved make frame and handle profile with 4 mm thick toughened glass with opaque film.
- All external & internal exposed woodwork to be finished in PU matt paint finish polish as per specified item's manufacturer's specifications.
- Work complete including all types of tools, tackles, labour etc complete at any level and Height.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole Work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc. for fixing at all Heights and for all floors.
- The work done shall be measured in Square Meter for area of work done. The rate shall be For a unit of one Square Meter. Clear elevation area shall be measured and paid.

Item No: 81- Dressing Counter: Providing and fixing Dressing Counter as per drawing/Ref image 3500(L) x450(D) x 900(H) made up of 19mm thick BWR grade ply & finished of Veneer of approved make and shade. Rate shall be inclusive of providing, (hardware from Hettich like Auto Hinges, handle, Rod locks, Multipurpose lock, Telescopic channel S.s pipe oval Hettich (047 615) with ss socket), tower bolts, ball catches/Magnet, hydraulic hinges etc Rate shall be inclusive of internal shelves of 19mm thick IS 303 BWR ply and outer side veneer and inner side 1.5 mm thick laminate, with 4mm thick solid wooden beading on all around the shelve & 2 no's of drawer unit with both side 1.5 mm thick laminate finished complete as per the drawing. Shutter made made from SS finish olive or approved make frame and handle profile with 4 mm th toughened glass with opaque film All external & internal exposed woodwork to be finished in PU semi gloss paint finish polish as per specified item's manufacturer's specifications..Rate shall inclusive of providing mock up sample for approval of architect. Basic rate of Veneer is 150 /Sqft.

Ref Image



1. Material:

- IS 303 ply shall be used as per approved make and sample by EIC/Architect.
- Mirror shall be used as per approved make and sample by EIC/Architect.

- Veneer shall be used as per approved make and sample by EIC/Architect.
- Hardware's shall be used as per approved make list and confirming to relevant IS codes and Approved by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS Codes and approved by EIC/Architect.

2. Workmanship:

- mm th bevelled edge finish mirror fixed on BWR IS 303 ply by approved adhesive with Necessary solid wood frame work with polish,
- Drawer made from BWR IS 303 grade ply wood with veneer (Basic rate – 150/Sqft) finish both side as approved by EIC/Architect with all necessary work's complete.
- Work complete including all types of tools, tackles, labour etc complete at any level and height.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc. for fixing at all heights and for all floors.
- The work done shall be measured in Numbers for area of work done. The rate shall be for a unit of one Number.

Item No : 82- Magazine Rack : Providing and fixing Magazine rack as per drawing and ref image made from IS 303 BWR ply with veneer matt PU polish including all type of hardware , fittings , fixtures , as per detailed drawing and instruction of Architect/EIC. Basic rate of veneer -80/Sq ft. Providing and fixing/placing custom made furniture as per detail drawing/ref.image. The work shall be done as per the approved shop drawing (to be prepared by contractor), specifications, mock up sample approved and as directed by the Architect/EIC. The rate shall be for complete item inclusive of all material, labor, wastages, necessary tools & tackles, approved make for all floors, all heights, all levels and all places within campus. Contractor shall do all the needful and shall fulfill Architect's design intent. No additional claims will be entertained for this. The unit shall be manufactured in parts and these parts shall be assembled at site.

Ref Image



1. Material:

- IS 303 grade ply shall be used as per approved make and sample by EIC/Architect.
- Veneer shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS Codes and approved by EIC/Architect.

2. Workmanship:

- Made from IS 303 BWR ply with veneer matt PU polish
- All wooden and veneer surfaces finish with matt PU finish.
- Work complete as per above specification.
- Work complete including all types of tools, tackles, labour etc complete at any level and Height.
- The whole work is to be completed as per design; sample material & any other requirement Shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole Work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all Heights and for all floors.
- The work done shall be measured in Numbers for area of work done. The rate shall be for a Unit of one Numbers.

Item No : 83- TV UNIT / Projector Screen drawer unit : 3000(L)x400(D) Providing & fixing projector drawer unit as per detail shape & size with require accessories Basic rate of veneer is 150/Sqft. Top 35

MM th made from 12 mm th IS 303BWR ply & veneer finish with matt PU finish Storage body is made of 19mm 303 BWR ply with veneer finish and inner side 1.5 mm thick laminate finish including require nos of drawer with all type of fittings ,cutout for air circulation ,require fixtures, hardware Hettich/Haffle make etc complete .SS 304 grade conceal handle shall be provide as per approved selection &detailed drawing and instruction of Architect/EIC.Rate shall incisive require fabrication work considering load capacity of AV equipment. The work shall be done as per the approved specifications, sample approved and as directed by the Architect/EIC. The rate shall be for complete item inclusive of all material, labor, wastages, necessary tools & tackles, adhesives consumable hardware & required SS 304 grade hardware/accessories of approved make. Providing and fixing/placing custom made furniture as per detail drawing/ref.image.The work shall be done as per the approved shop drawing (to be prepared by contractor), specifications, mock up sample approved and as directed by the Architect /EIC. The rate shall be for complete item inclusive of all material, labor, wastages, necessary tools & tackles, approved make for all floors, all heights, all levels and all places within campus. Contractor shall do all the needful and shall fulfill Architect's design intent. No additional claims will be entertained for this. The unit shall be manufactured in parts and these parts shall be assembled at site.

Ref Image



1. Material:

- IS 303 ply shall be used as per approved make and sample by EIC/Architect.
- Veneer shall be used as per approved make and sample by EIC/Architect.
- Hardware's shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS Codes and approved by EIC/Architect.

2. Workmanship:

- Top 35 MM thick: made from 12 mm th IS 303 ply & veneer (Basic rate -150/Sqft) finish with matt PU finish.

- Storage body is made of 19mm 303 BWR ply with veneer finish and inner side 1.5 mm thick Laminate finish including require no's of drawer with all type of fittings, cut out for air Circulation, require fixtures, hardware Hettich/Haffle make etc. complete.
- SS 304 grade conceal handle shall be provide as per approved selection & detailed drawing and instruction of EIC/Architect. Rate shall inclusive require fabrication work considering Load capacity of AV equipment.
- Rate shall inclusive require fabrication work considering load capacity of AV equipment work complete including all types of tools, tackles, labour etc complete at any level and Height.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole Work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all Heights and for all floors.
- The work done shall be measured in Numbers for area of work done. The rate shall be for a Unit of one Number.

Item No : 84- SCREEN MDF LASER CUTTING WITH SOLID WOODEN FRAME WORK :
Providing and making and fixing as per detail drawing and reference image screen made fro 35x 50 mm solid teak wood frame with 18 mm th exterior grade MDF sheet as per suggested pattern CNC cutting work complete. All expose wooden surfaces finish with matt PU finish the work shall be done as per the specifications, sample approved and as directed by the Architect/EIC. The rate shall be for complete item inclusive of all material, labor, wastages, necessary tools & tackles, adhesives, consumable hardware & required SS 304 grade hardware/accessories of approved make. Providing and fixing/placing custom made furniture as per detail drawing/ref.image. The work shall be done as per the approved shop drawing (to be prepared by contractor), specifications, mock up sample approved and as directed by the Architect/EIC. The rate shall be for complete item inclusive of all material, labor, wastages, necessary tools & tackles, approved make for all floors, all heights, all levels and all places within campus. Contractor shall do all the needful and shall fulfill Architect's design intent. No additional claims will be entertained for this. The unit shall be manufactured in parts and these parts shall be assembled at site.

1. Material:

- Solid teak wood shall be used as per approved make and sample by EIC/Architect.

- Exterior grade MDF sheet shall be used as per approved make and sample by EIC/Architect.
- Hardware's shall be used as per approved make list and confirming to relevant IS codes and Approved by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS Codes and approved by EIC/Architect.

2. Workmanship:

- Screen made from 35x 50 mm solid teak wood frame with 18 mm th exterior grade MDF Sheet as per suggested pattern CNC cutting work complete.
- All expose wooden surfaces finish with matt PU finish the work shall be done as per the Specifications, sample approved and as directed by the EIC/Architect.
- The rate shall be for complete item inclusive of all material, labor, wastages, necessary tools & tackles, adhesives, consumable hardware & required SS 304 grade hardware/accessories of approved make.
- Work complete including all types of tools, tackles, labour etc complete at any level and Height.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole Work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc for fixing at all Heights and for all floors.
- The work done shall be measured in Square Meter for area of work done. The rate shall be for a unit of Square Meter. Clear Elevation area shall be measured & paid.

Item No: 85- Decorative Handle (pair): Providing & fixing CNC cutting and design on MDF/veneer fixed on ply with necessary accessories etc. with complete on glass/flush door finish with veneer. The work shall be done as per the approved shop drawing (to be prepared by contractor), specifications, sample approved and as directed by the Architect/EIC. Basic rate of gurjan base ply veneer is 75 /Sqft. (Second floor) Providing and fixing/placing custom made furniture as per detail drawing/ref.image. The work shall be done as per the approved shop drawing (to be prepared by contractor), specifications, mock up sample approved and as directed by the Architect/EIC. The rate shall be for complete item inclusive of all material, labour, wastages, necessary tools & tackles, approved make for all floors, all heights, all levels and all places within campus. Contractor shall do all the needful and shall fulfill Architect's design intent. No additional claims will be entertained for this. The unit shall be manufactured in parts and these parts shall be assembled at site.

1. Material:

- Decorative handle shall be used for as per approved make and sample by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS Codes and approved by EIC/Architect.

2. Workmanship:

- Fixing CNC cutting and design on MDF/veneer fixed on ply with necessary accessories etc with complete on glass/flush door finish with veneer.
- Work complete as per above specification.
- Work complete including all types of tools, tackles, labour etc complete at any level and Height.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole Work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The work done shall be measured in Pair for area of work done. The rate shall be for a unit of one Pair.

Item No: 88- Wooden Chair Multipurpose: MEETING Chair / Banquet Chair (Basic Rate Approx. 13500) Providing & placing chair as per reference image /approved by EIC/Architect Padding material shall be high resiliency polyurethane foam, The back shall be 3/4” thick. The seat shall be 1-1/2” thick. Seating fabric shall be approved by EIC/Architect All upholstery shall be first quality without creases, stretch lines, or wrinkles. The frame shall be teak solid wood. All wood shall be finished with semi-gloss PU finish The work shall be done as per the approved shop drawing (to be prepared by contractor), specifications, sample approved and as directed by the EIC/Architect . The rate shall be for complete item inclusive of all material, labour, wastages, necessary tools & tackles, approved make for all floors, all heights, all levels and all places within campus. Contractor shall do all the needful and shall fulfil EIC/Architect's design intent. No additional claims will be entertained for this. Rate shall inclusive of shop drawing, mock up sample, all materials, loading, unloading, all taxes, transportation, placing at all floors and for all leads, and all accessories as described in item description. As approval of EIC/Architect. Basic rate of fabric 500/ Rmt.

Ref Image



1. Material:

- Banquet Chair Type 10 shall be used as per approved make and sample by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS Codes and approved by EIC/Architect.

2. Workmanship:

- Padding material shall be high resiliency polyurethane foam, the back shall be 3/4” thick.
- The seat shall be 1-1/2” thick. Seating fabric shall be approved by EIC/Architect
- All upholstery shall be first quality without creases, stretch lines, or wrinkles. The frame shall be teak solid wood. All wood shall be finished with semi-gloss PU finish
- Work complete as per above manufacturers specification.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.
- Work complete including all types of tools, tackles, labour etc. complete at any level and Height.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate shall be inclusive of all materials, loading, unloading, all taxes, transportation, placing at all floors and for all leads, polishing and all accessories as described in item description
- The work done shall be measured in Numbers for area of work done. The rate shall be for a Unit of one Numbers.

Item No: 89- Chair (AV Room): - Features: Low Back with Upholstered Seat & Mesh Back, Adjustable Armrest, gas lift for height adjustment & nylon base.

Supplying and placing low Back Revolving Chair with Seat made out of PU molded foam upholstery in Fabric. The back is breathable Mesh (for breathing of back) provides elastic support, yet allowing ventilation for airily comfort. Lumber Support fits comfortably to the curve of your back to provide additional support for your lower back (fixed with the back for Long hours comfort). Foam Density 50+

5 mm. FULL BACK SIZE: 560 mm (ht). Back Height (Total Chair) = (415- 510) + 560 & Width 670 - 720 mm. Armrest: PP armrest with adjustable for height. Armrest parts of molded polypropylene & steel stamping, in black finish. Mechanism: Synchrony tilt mechanism with single angle locking facility Height Adjustment: High Adjustment up to 75mm, Base: 700mm Studio base allows extra clearance for your feet movement. This standard base is molded of polypropylene in black color & twin wheel castors. Model Similar to the picture attached Rate shall be inclusive of all materials, loading, unloading, all taxes, transportation, placing at all floors and for all leads, polishing and all accessories as described in item description. As approval of architect. (Make: Godrej or Equivalent)

Ref Image



1. Material:

- Chair (AV Room) shall be used as per approved make and sample by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS Codes and approved by EIC/Architect.

2. Workmanship:

- Work complete as per above manufacturers specification.
- Work complete including all types of tools, tackles, labour etc. complete at any level and Height.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate shall be inclusive of all materials, loading, unloading, all taxes, transportation, placing at all floors and for all leads, polishing and all accessories as described in item description.
- The work done shall be measured in Numbers for area of work done. The rate shall be for a Unit of one Numbers.

Item No: 90- PROVIDING AND PLNACIG 52.4MM THICK 1200 MM HIGH PANELS IN WISH SYSTEM. WITH COMBINATION OF METAL RACEWAY AT BOTTOM, TOP TILE - FABRIC TACKABLE, WHITE BOARD, FABRIC MAGNETIC. PROVIDING POWDER COATED LEGS. RECTA WORKSURFACE 900 X 600 MM. NOVA FREE STANDING 3 DR PEDESTAL WITH FLAT METAL FRONT, CENTRAL LOCKING. WITH CPU TROLLEY and KEYBOARD TRAY (Make: Godrej or Equivalent)

1. Material:

- Workstation shall be used as per approved make and sample by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS Codes and approved by EIC/Architect.

2. Workmanship:

- Work complete as per above specification.
- Work complete including all types of tools, tackles, labour etc. complete at any level and Height.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole Work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc. for fixing at all Heights and for all floors.
- The work done shall be measured in Numbers for area of work done. The rate shall be for a Unit of one Numbers.

Item No: 91- Echo Storage: 1219H x 1800 W x 450D. Body: Body is made from 18mm PLB with all the edges sealed with 0.8 mm Thick PVC Edge band. The Back panel is 9mm White PLT. The entire construction is ready to assemble unit and is assembled with suitable KD fittings. The shelves and separator panels (if available) is made from 18 mm white PLT And edges are sealed with 0.8 mm edge band. The bottom shelf is fixed and other shelves have one step adjustment for optimizing the space. Doors: Door Panels are made from 18 mm PLB with 2 mm Edge band on all Edges ad a flush Plastic handle is fitted vertically at the center of the door. The Hinge door has suitable hinges and HDU is fitted with an adjustable fitting for Height adjustment. The SDU runs in a PVC track mounted on the TOP and Bottom panel of the Body. (Make: Godrej or Equivalent)

Ref Image



1. Material:

- 18mm PLB with all the edges sealed with 0.8 mm Thick PVC Edge band. As per approved make and sample by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS Codes and approved by EIC/Architect.

2. Workmanship:

- Body is made from 18mm PLB with all the edges sealed with 0.8 mm Thick PVC Edge band.
- Sutter finished with both side 1.5 mm thick laminate.
- The Back panel is 9mm White PLT. The entire construction is ready to assemble unit and is assembled with suitable KD fittings
- The shelves and separator panels (if available) is made from 18 mm white PLT And edges are sealed with 0.8 mm edge band.
- The bottom shelf is fixed and other shelves have one step adjustment for optimizing the space.
- Door Panels are made from 18 mm PLB with 2 mm Edge band on all Edges ad a flush Plastic handle is fitted vertically at the center of the door.
- The Hinge door has suitable hinges and HDU is fitted with an adjustable fitting for Height adjustment.
- The SDU runs in a PVC track mounted on the TOP and Bottom panel of the Body.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole Work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc. for fixing at all Heights and for all floors.
- The work done shall be measured in Numbers for area of work done. The rate shall be for a Unit of one Numbers.

Item No: 91- Glass Partition : Providing and fixing in position Full height 12mm thick toughened glass partition using Saint Gobain or equivalent glass to false ceiling height ply boxing to hold glass at top & Aluminum C- channel of size 19mm x 19mm x 2.5mm at bottom side of approved make as per architect's instruction and as per detail drawing. Fixed panels of 12mm thick customized clear toughened glass, edge polished fixing with necessary cutting of glass as per drawing & specifications including providing and fixing EPDM quality rubber for aluminum sections / filling transparent neutral cure glazed & metal silicon sealant of approved make on the periphery of the glass & wood etc. Each glass panel secured to the ply box at top and C -Channel at floor. Item includes all necessary fitting / fixing etc. complete as per drawing, approval and instructions of the Architect. NOTE: Partition ht will be measured from finish floor to false ceiling level only. The rate shall be in sq.mt for all floors and at all heights including all costs. The rates are also inclusive of necessary scaffolding, tools, tackles, scaffolding etc. complete. Glass width size shall be as per suggestion by EIC/Architect.

1. Material:

- 12 mm thick toughened glass partition shall be used as per approved make and sample by EIC/Architect.
- Aluminium section shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- Work complete as per above specification.
- Glass partition shall be made by 12 mm thick clear toughened glass.
- Use Aluminium c channel at top and bottom as per detailed drawing.
- EPDM quality rubber for aluminium sections / filling transparent neutral cure glazed & metal Silicon sealant of approved make on the periphery of the glass & wood etc. each glass panel Secured to the ply box at top and C -Channel at floor.
- Work complete including all type of tools, tackles, scaffolding etc. complete at any level and Height
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.
- All the partition should be fitted to ensure accurate positioning & level of the ceiling, flooring, and Wall system as per the site/EIC requirements.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole Work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.

- Rate to be inclusive of all material, wastage, necessary tools tackles etc. for fixing at all heights and for all floors.
- The work done shall be measured in square meter for area of work done. The rate shall be for a unit of one Square meter.
- Partition ht will be measured from finish floor to false ceiling level only.

Item No: 92- Single Leaf Glass Door corner hinge system with pivot door: Providing and fixing in position full height 12 mm thick toughened glass door with all necessary Geze, Dorma hardware accessories as per approved selection by Architect. 12mm thick Saint Gobain make customized clear toughened glass, edge polished prepared with stainless steel patch fittings with locking arrangement / fixing Each glass panel secured to the floor by stainless steel patch fitting item includes all necessary fitting / fixing, fixtures- like Geze / Dorma Hardware system like (Corner hinges with pivot, Glasklar Lock, Door Handle, Keys ,round shape lock with aluminum cover , Door Stop) complete as per specification drawing approval and instructions of the Architect. Rate shall be inclusive of all material loading unloading at all height and all floor. Sample mock shall be approved from EIC/Architect.

Ref Image



1. Materials:

- 12 mm thick toughened glass shall be used as per sample approved by EIC/Architect.
- Hardware shall use of as per approved by EIC/Architect.
- All type of material shall be used for Door as per approved make list and confirming to Relevant IS codes and approved by EIC/Architect.

2. Workmanship:

- 12mm thick Saint Gobain make customized clear toughened glass, edge polished Prepared with stainless steel patch fittings with locking arrangement / fixing each glass Panel secured to the floor by stainless steel patch fitting.
- Item includes all necessary fitting / fixing, fixtures- like Geze / Dorma Hardware System with floor spring, handle with lock, door stop complete as per drawing.

- All door should be properly levelled without any sagging and with smooth opening and Closing. There should be no variation or deviation of any kinds.
- The whole work is to be completed as per design; sample material & any other Requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, finishing, labour, etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- Rate to be inclusive of all material, wastage, necessary tools tackles etc. for fixing at all heights and for all floors. Clear opening area shall be measured & paid in Square meter.

Item No: 93- HEAVY TRAFFICE AREA DOOR MAT (TYPE-1 -WIPING TECHNOLOGY): 3M Nomad - Wiping technology - Heavy Duty 7150 - or equivalent approved makes Grey Color: Open Contraction Loop Matting with Crush Resilient Vinyl with backing. Matting should be durable shouldn't Flatten over time. Thickness should be 13mm Min. Suitable for heavy traffic areas, where traffic is up to 4 lakh people per year. Work complete as per approved sample.

1. Material:

- Heavy traffic area door mat (Type -1: Wiping technology) shall be used as per approved Make and sample by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS Codes and approved by EIC/Architect.

2. Workmanship:

- Heavy Duty 7150 - or equivalent approved make Grey Colour: Open Contraction Loop Matting with Crush Resilient Vinyl with backing. Matting should be durable shouldn't Flatten over time.
- Thickness should be 13mm.
- Work complete as per above specification.
- Work complete including all types of tools, tackles, labour etc. complete at any level and Height.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole Work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.

- The work done shall be measured in Square Meter for area of work done. The rate shall be for a unit of one Square Meter.

Item No: 94- TOILET MAT: Removal of moisture and fine sand with absorption technology. Loop piled featuring tufted construction with two different synthetic fibres mat size 450mmX600mm. (Basic rate Rs. 500/-)

1. Material:

- Toilet mat shall be used as per approved make and sample by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS Codes and approved by EIC/Architect.

2. Workmanship:

- Work complete as per above specification.
- Fibres mat size 450mmX600mm.
- Work complete including all types of tools, tackles, labour etc. complete at any level and Height.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole Work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The work done shall be measured in Number for area of work done. The rate shall be for a Unit of one Number.

Item No: 95- (TYPE-3 ABSORPTION): Providing and placing in position Removal of moisture and fine sand with absorption technology. Loop piled featuring tufted construction with two different synthetic fibres namely polypropylene and nylon combined to maximize dirt removal, water pickup and holding capacity. Suitable for traffic of up to 4 lakh people per year.

1. Material:

- Door mat (Type -3: Absorption) shall be used as per approved make and sample by EIC/ Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS Codes and approved by EIC/Architect.

2. Workmanship:

- Work complete as per above specification.
- Work complete including all types of tools, tackles, labour etc. complete at any level and Height.

- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole Work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The work done shall be measured in Square Meter for area of work done. The rate shall be for a unit of one Square Meter.

Item No: 96- Providing and placing in position HAND KNOTED carpets made from 100% Newzeleand wool/Viscose, 100 knots approx. pile height 10 mm as required and approved by the Architect. (Basic rate of Carpet Rs. 1180 /sqft.)

1. Material:

- Hand Knotted carpet shall be used as per approved make and sample by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS Codes and approved by EIC/Architect.

2. Workmanship:

- Work complete as per above specification.
- Carpets made from 100% Newzeleand wool/Viscose, 100 knots approx. pile height 10 mm as required and approved by the EIC/Architect.
- Work complete including all types of tools, tackles, labour etc complete at any level and height.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole Work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The work done shall be measured in Square Meter for area of work done. The rate shall be for a unit of one Square Meter.

Item No: 97- Providing & placing in position DIGITAL CLOCK - WALL MOUNTED as per architect selection Ajanta Digital Wall Clock(Brown, Black, With Glass)Basic rate of Clock 1599/-

1. Material:

- Digital clock – wall mounted shall be used for as per approved make and sample by EIC/ Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS Codes and approved by EIC/Architect.
- 2. Workmanship:**
 - Work complete as per above specification.
 - Work complete including all types of tools, tackles, labour etc. complete at any level and Height.
 - The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.
- 3. Measurements:**
 - The rate shall be consolidated for all above items.
 - The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole Work satisfactorily as per instruction of EIC/Architect.
 - No extra payment will be given for any of the reasons.
 - The work done shall be measured in Number for area of work done. The rate shall be for a Unit of one Number.

Item No: 98- Providing and placing in position SS brush finish (5 LTS PEDAL BIN/ STEP BIN -) of karma Stainless Steel Dustbin (Silver) or Equivalent as per images and as selected by the Architect. (Basic rate Rs.700/-)

- 1. Material:**
 - SS brush finish (5LTS pedal bin/ step bin) shall be used as per approved make and sample By EIC/Architect.
 - All type of material shall be used as per approved make list and confirming to relevant IS Codes and approved by EIC/Architect.
- 2. Workmanship:**
 - Work complete as per above specification.
 - Work complete including all types of tools, tackles, labour etc. complete at any level and Height.
 - The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.
- 3. Measurements:**
 - The rate shall be consolidated for all above items.
 - The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole Work satisfactorily as per instruction of EIC/Architect.
 - No extra payment will be given for any of the reasons.
 - The work done shall be measured in Number for area of work done. The rate shall be for a Unit of one Number.

Item No: 99- VASE made of Stainless steel / Ceramic with artificial plant as per sample approved by architect .(Basic rate of Rs. 2500/Pcs)

1. Material:

- Vase shall be used as per approved make and sample by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS Codes and approved by EIC/Architect.

2. Workmanship:

- VASE made of Stainless steel / Ceramic with artificial plant as per sample approved by EIC/Architect.
- Work complete as per above specification.
- Work complete including all types of tools, tackles, labour etc. complete at any level and Height.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole Work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The work done shall be measured in Number for area of work done. The rate shall be for a Unit of one Number.

Item No: 100- Wall Painting (Canvas painting): Providing & fixing painting made from canvas painting Canvas –suitable for oil and acrylic paints. The 100% cotton plain-woven canvas 1.5 mm thick laminate with UV protection, abrasion & chemical resistance. With require stretching and/or framing. Work approved by Architect. The art work shall be hanged on the wall using heavy duty approved key-hole chaplas The concept of the painting work will be suggested by architect and interior designer and based on that offers from the artists to be invited for design and execution of the painting. The selection of the artist is to be done by architect and interior designer only. Main contractor is bind to follow the methodology suggested by architect and interior designer to be followed for development of commissioned art work. Rate are inclusive of artist appointing by main contractor. Basic Rate per Sqft 5000/- (Paintings Generic)

1. Material:

- Canvas painting shall be used as per approved make and sample by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS Codes and approved by EIC/Architect.

2. Workmanship:

- Painting made from canvas painting Canvas –suitable for oil and acrylic paints.
- The 100% cotton plain-woven canvas 1.5 mm thick laminate with UV protection, abrasion & Chemical resistance. With require stretching and/or framing. Work approved by EIC/Architect.
- The Painting shall be hanged on the wall using heavy duty approved key-hole chaplas.
- Work complete as per above specification.
- Work complete including all types of tools, tackles, labour etc. complete at any level and Height.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole Work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The work done shall be measured in Square Meter for area of work done. The rate shall be for a unit of one Square Meter.

Item No: 101- ART WORK: Providing and fixing in position commissioned art works inside the Building on the wall or ceiling and extension of the same till floor/ceiling. The composition of The commissioned art work shall be from any type of wood, metal like copper, brass, SS, MS, Fabric, polycarbonate sheets, acrylics, rubber, plastic, tough boards, cementations boards, fibres, Gypsum, POP etc. all. The commissioned art work may require any shade, finish and texture of Duco painting, specialty painting, PU painting, general painting to paintable surfaces, Galvanizing, powder coating, anodizing etc. The rate shall be inclusive of any type of lighting Features to be added into it includes LED lights, neon lights including its supporting and suitable Wiring for the same within the art works. Only one electrical control point connection will be Given as close to art works. The rate shall be inclusive of making necessary provisions within the Commissioned art works of fixing of the same. The provisions of the fixing of the art work may be in parts but it shall be inclusive of the all arrangements like LN key, studs, anchors, nuts and Bolts etc. all. The concept of the art work will be generated by EIC/Architect and interior Designer and based on that offers from the artists to be invited for design and execution of the Artwork. The selection of the artist is to be done by EIC/Architect and interior designer only. Main contractor is bind to follow the methodology suggested by EIC/Architect and interior Designer to be followed for development of commissioned art work. The overall outline area Covered by art work is to be considered for the measurement instead of actual area of art work. Deductions of the internal cut-outs, spaces in between of the art work shall not be made. For any Additional materials, process, and methodology no extra payments shall be made. Total payment of The artwork will be done as per basic rate and difference between actual cost per sqm and basic Rate per

sqm will added or deducted without any consideration of the taxes, overhead and profit Over the difference. It is the responsibility of the main contractor to provide scaffolding, power, Water, facilitating the areas required for developments and storage of the art work etc. The Protection and cleaning of the pre and post installation of the art work is the responsibility of the main contractor.

Basic Rate of art work: Rs. 1500/- sqft

1. Material:

- Artwork shall be made from as per approved materials and sample by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS Codes and approved by EIC/Architect.

2. Workmanship:

- Work complete as per above specification.
- Work complete including all types of fixing, tools, tackles, labour etc. complete at any level and height.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole Work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The work done shall be measured in Square Meter for area of work done. The rate shall be for a unit of one Square Meter.

Item No: 102- DIGITAL 2D/3D WALL PAPER : Providing & fixing 2d/3d digital printing on approved paper/canvas/fabric media as per suggested graphic work on suggested surface .Contractor shall provide graphic work detail & 5 sq mm sample for approval the work shall be done inclusive of all rate with accessories, tool tackle at all height complete

1. Material:

- Digital 2D/3D Wallpaper shall be used as per approved make and sample by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS Codes and approved by EIC/Architect.

2. Workmanship:

- Wall paper shall be used as per approved sample.
- Work complete as per above specification.
- Work complete including all types of fixing, tools, tackles, labour etc. complete at any level and height.

- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole Work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The work done shall be measured in Square Meter for area of work done. The rate shall be for a unit of one Square Meter.

Item No: 103- Sculpture: Providing and fixing in position commissioned sculpture works inside the building Sculpture work shall be made from any type of wood/Stone/metal - MS, SS, BRASS, COPPER, ALUMINIUM etc. /fiber glass /GRC The commissioned art work may require any shade, finish and texture of duco painting, specialty painting, PU painting, general painting to paintable surfaces, galvanizing, powder coating, anodizing etc. The rate shall be inclusive of any type of lighting features to be added into it includes LED lights, neon lights including its supporting and suitable wiring for the same within the art works. Only one electrical control point connection will be given as close to sculpture works. The rate shall be inclusive of making necessary provisions within the commissioned sculpture works of fixing of the same. The provisions of the fixing of the sculpture work may be in parts but it shall be inclusive of the all arrangements like LN key, studs, anchors, nuts and bolts etc. all. The concept of the sculpture work will be generated by architect and interior designer and based on that offers from the artists to be invited for design and execution of the artwork. The selection of the artist is to be done by architect and interior designer only. Main contractor is bind to follow the methodology suggested by architect and interior designer to be followed for development of commissioned art work. The overall outline area covered by art work is to be considered for the measurement instead of actual area of art work. Deductions of the internal cutouts, spaces in between of the art work shall not be made. For any additional materials, process, methodology no extra payments shall be made. Total payment of the artwork will be done as per basic rate and difference between actual cost per sqm and basic rate per sqm will added or deducted without any consideration of the taxes, overhead and profit over the difference. It is the responsibility of the main contractor to provide scaffolding, power, water, facilitating the areas required for developments and storage of the art work etc. The protection and cleaning of the pre and post installation of the art work is the responsibility of the main contractor. Basic rate of around Rs. 4000/SQ.M.

1. Material:

- Sculpture shall be made from as per approved materials and sample by EIC/Architect.

- All type of material shall be used as per approved make list and confirming to relevant IS Codes and approved by EIC/Architect.
- 2. Workmanship:**
- Made from any type of wood/Stone/metal - MS,SS, BRASS,COPPER,ALUMINIUM etc./fibre Glass /GRC The commissioned art work may require any shade, finish and texture of duco Painting, specialty painting, PU painting, general painting to paintable surfaces, galvanizing, Powder coating, anodizing etc. The rate shall be inclusive of any type of lighting features to be added into it includes LED lights, neon lights including its supporting and suitable wiring for the same within the art works. Only one electrical control point connection will be given as close to sculpture works. The rate shall be inclusive of making necessary provisions within the commissioned sculpture works of fixing of the same. The provisions of the fixing of the sculpture work may be in parts but it shall be inclusive of the all arrangements like LN key, studs, anchors, nuts and bolts etc. all. The concept of the sculpture work will be generated by EIC/Architect.
 - Work complete including all types of fixing, tools, tackles, labour etc. complete at any level and height.
 - The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.
- 3. Measurements:**
- The rate shall be consolidated for all above items.
 - The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole Work satisfactorily as per instruction of EIC/Architect.
 - No extra payment will be given for any of the reasons.
 - The work done shall be measured in Square Meter for area of work done. The rate shall be for a unit of one Square Meter.

Item No: 104- Signage's: Providing and fixing of the following signage's using make of cosign or equivalent approved make by architect. All the detailed work out as per the detailed drawing and instruction of Architect/EIC. Specifications and drawings as indicated there in to all heights and elevation including necessary scaffoldings / supports /permanent fixing with cement mortar if fixed to ground etc. complete in all respects. The Signage cost should be inclusive of panels, hanging system, bridges, primary & secondary fixings, vinyl, painting, powder coating self-glowing material as directed etc. All shop drawings and coordination with other services is in scope of contractor. (At all floor) Size (150 x 600mm) - FACE /WALL MOUNTED NAME PLATES/SIGNAGES/INFORMATION SIGNAGES

Ref Image



1. Material:

- Signages shall be used as per approved make and sample by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS Codes and approved by EIC/Architect.

2. Workmanship:

- Work complete as per above manufacturer's specification.
- Work complete including all types of tools, tackles, labour etc. complete at any level and Height.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole Work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The work done shall be measured in Square Meter for area of work done. The rate shall be For a unit of one Square Meter.

Item No: 105 & Item No:106- S.S FINISH POT: Providing & placing planter Pot made form SS suggested sizes & shapes & shade approved by architect with artificial plant as per selection by architect with artificial plant. Rate shall inclusive of sample, all materials, loading, unloading, all taxes, transportation, placing at all floors and for all leads, all accessories as described in item description. As approval of Architect / EIC.

A) Square 300x300x300

B) Square 600 x 300x 300

Ref Image



1. Material:

- SS finish pot shall be used as per approved make and sample by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS Codes and approved by EIC/Architect.

2. Workmanship:

- SS finish pot shall be used as per selection of EIC/Architect.
- Work complete including all types of tools, tackles, labour etc complete at any level and Height.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The work done shall be measured in Number for area of work done. The rate shall be for a unit of one Number.

Item No: 106- Artificial pebbles & stone: Providing & placing pebbles as per Architect selection by various sizes & various colors, various finishes.

1. Material:

- Artificial pebbles and stone shall be used as per approved sample by EIC/Architect.
- All type of material shall be used as per approved make list and confirming to relevant IS Codes and approved by EIC/Architect.

2. Workmanship:

- Artificial pebbles and stone shall be used as per approved sample.
- Work complete including all types of tools, tackles, labour etc. complete at any level and Height.
- The whole work is to be completed as per design; sample material & any other requirement shall be as per instruction of EIC/Architect.

3. Measurements:

- The rate shall be consolidated for all above items.
- The rate shall include the cost of all materials, labour, scaffolding etc. to complete the whole work satisfactorily as per instruction of EIC/Architect.
- No extra payment will be given for any of the reasons.
- The work done shall be measured in Kg for area of work done. The rate shall be for a unit of One Kg.

LIST OF APPROVED MAKES FOR CIVIL & INTERIOR ITEMS

| ENARCH CONSULTANTS PVT LTD. | | |
|------------------------------------|-----------------------------------|---|
| CIVIL & INTERIOR WORKS | | |
| S. NO. | MATERIAL | MAKES / MANUFACTURER |
| 1 | ANTI - TERMITE TREATMENT | BAYER PREMISE, RALLIS INDIA, TERMEX, PEST CONTROL INDIA LTD., INCASEPCIIS NOT ABLE TO UNDERTAKE THE WORK, IT SHOULD BE DONE BY PERMANENT MEMBERS OF IPCA AS APPROVED BY ENGR -IN- CHARGE. |
| 2 | CONCRETE ADDITIVE | SIKA/ / FOSROC / BASF / THERMAX |
| 3 | GLASS | SCHOTT/HNG/ AIS /ST.GOBIAN/ PILKINTON/GOLD PLUS |
| 4 | ADHESIVE FOR DOOR WORK | FEVICOL/VAMICOL/DUNLOP / ARALDITE |
| 5 | CURTAIN ROD/ DARPI ROD | VISTA / MAC DECOR / DECK / HUNTER DOUGLAS |
| 6 | ROLLER BLINDS | VISTA / MAC DECOR / DECK / PHIFER / HUNTER DOUGLAS |
| 7 | DASH FASTENERS | HILTI /KONCEPT M / FISCHER / BOSCH |
| 8 | DOOR LOCKS | DORMA / GEZE / ARCH / KITCH |
| 9 | DOORS & WINDOWS FIXTURES/ FITTING | DORMA / GEZE / ARCH / KITCH |
| 10 | FLUSH DOOR SHUTTERS | DURO / GREEN PLY / ARCHIDPLY / VIRGO |
| 11 | HARDWARE | DORMA / GEZE / ARCH / KITCH |
| 12 | LAMINATES | DURO/ GREENLAM / ARCHIDPLY / MERINO / FORMICA / VIRGO |
| 13 | VINEER | DURO/ GREENLAM / ARCHIDPLY / GREEN PLY |
| 14 | PLYWOOD/ BLOCKBOARD/ PLY BOARD | DURO/ GREENLAM / ARCHIDPLY / GREEN PLY / VIRGO |
| 15 | PRE- LAMINATED PARTICLE BOARD | DURO / GREENPLY / ARCHIDPLY / MERINO / ACTION |
| 16 | MDF BOARD | ARCHIDPLY/ DURO / MARINO / ACTION |
| 17 | STAINLESS STEEL D-HANDLES | D- LINE / KONCEPT / DORMA / DOR-SET / KICH /GIESSE |
| 18 | VENEERED PARTICLE BOARD | DURO/ GREENPLY/ ARCHIDPLY |
| 19 | DEAD LOCK | DORMA / GEZE / ARCH / KITCH |
| 20 | PANIC DEVICE 1 & 2 POINT | DORMA / GEZE / ARCH / KITCH |
| 21 | ACOUSTICAL SEAL | DORMA / GEZE / ARCH / KITCH |
| 22 | DOOR CLOSER | DORMA / GEZE / ARCH / KITCH |
| 23 | DOOR STOPPER | DORMA / GEZE / ARCH / KITCH |
| 24 | TOP & BOTTOM PATCH | DORMA / GEZE / ARCH / KITCH |
| 25 | UPVC DOOR & WINDOW | NCL WINTECH / REHAU / DUROPLAST / ENCRAFT |
| 26 | M.S. PIPE | TATA/ RINL/SAIL |
| 27 | ANTISTATIC EPOXY FLOOR | FOSROC/ BASF/ CICO/ SIKA/ PIDILITE |
| 28 | CERAMIC TILES | KAJARIA / RAK / NITCO / ORIENTBELL (SUPPLY TO BE MADE FROM THEIR AUTHORIZED WHOLSALE DEALER) |

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| 29 | PVC FLOORING | ARMSTRONG / GERFLOOR / TARKET / RESPONSIVE / FORBO |
| 30 | VITRIFIED TILES | KAJARIA / RAK / NITCO / ORIENTBELL (SUPPLY TO BE MADE FROM THEIR AUTHORIZED WHOLSALE DEALER AND DOUBLE CHARGED) |
| 31 | WOODEN PARQUET FLOORING | PERGO / ARMSTRONG /VISTA |
| 32 | POLYCARBONATE SHEETS | DPIDAYLIGHTING / RODECA / ALCOX / PALRAM (ALL STANDING SEAMLESS TYPE) |
| 33 | CEMENT BASED PAINTS | ALL TYPES OF PAINTS I.E.CEMENT BASED PAINTS,OIL BOUND DISTEMPER, ACRYLIC PAINTS, PLASTIC EMULSION PAINTS ETC SHALL BE FIRST QUALITY OF MAKES ICI, BERGER, SHALIMAR, GOODLASS NEROLAC, SPECTRUM, ULTRATECH, SKK, OIKOS AND JENSON & NICHOLSAN MAKE, FOR CEMENT BASED PAINT ADD SNOWCEM PLUS AND TATACEM MAKE. |
| 34 | CEMENT PAINT | |
| 35 | DRY DISTEMPER | |
| 36 | OIL BOUND DISTEMPER/ACRYLIC WASHABLE DISTEMPER | |
| 37 | OTHER PAINTS/ PRIMER | |
| 38 | SYNTHETIC ENAMEL PAINTS | |
| 39 | RESIN BASED PAINTS | |
| 40 | EXTERNAL EMULSION PAINT | ULTRATECH, BERGER, SPECTRUM |
| 41 | TEXTURE PAINT | ULTRATECH, BERGER, SPECTRUM |
| 42 | PLASTIC EMULSION PAINT | ULTRATECH, BERGER, SPECTRUM |
| 43 | EPOXY PAINT | ULTRATECH, BERGER, SPECTRUM |
| 44 | GYPSON BOARD | ST. GOBAIN (GYPROC)/ GYPSON INDIA LTD./ INDIA GYPSON / LAFFARGE / BORAL / KNOF / GYPSTONE / BERAL GYPSON |
| 45 | METAL FALSE CEILING | NEWAGE / DURLUM / LINDNER / HUNTEDUGLAS |
| 46 | CALCIUM CILICATE CEILING | AEROLITE, RAMCO - HILUX , ANUTONE |
| 47 | MINERAL FIBRE CEILING | NEWAGE / DURLUM / LINDNER / HUNTEDUGLAS |
| 48 | MODULAR SS-316 RAILING SYSTEM | KICH / KONCEPT / DORMA / DOR SET |
| 49 | POLYSULPHIDE SEALANT | BASF / PIDILITE/ FOSROC/ CHOKSEY/ CICO /SIKA |
| 50 | MODULAR TOILET CUBICALS | MERINO,DORMA,TRAESPA |
| 51 | FIRE DOOR (WOODEN / METAL) | SUKRITI / GODREJ / KUTTY |
| 52 | FIRE DOOR GLASS | SUKRITI / SCHOTT / PILKINGTON / ASAHI |
| 53 | GRC | BIRLA / EVEREST / VAR ENGINEERS |
| 54 | REINFORCEMENT BAR | TATA / SAIL / RINL / KAMDHENU |
| 55 | WATER PROOFING COMPOUND | BASF / THERMAX / FOSROC / SIKA |
| 56 | WEATHER SEALENT | BASF / THERMAX / FOSROC / SIKA |
| 57 | EPOXY GROUTING | MYK LATIKRATE / DUBOND / SEMITRONE |
| 58 | CLADDING STONE | AS PER APPROVED SAMPLE BY CLEINT/ARCHITECT/EIC |
| 59 | COMPOSITE MARBLE | NITCO/JOHNSON/CLASSIC/STONEX |

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| 60 | MOSAIC | BISAZZA / PERL / NITCO |
| 61 | CORIAN | ASPIRON, DU PONT MONTELI , NEONNEX, SAMSUNG |
| 62 | CARPET FLOORING | ECOSOFT, FLOTEX , UNITEX , SHAW |
| 63 | FALSE FLOORING | UNITILE, ARMSTRONG, FORBO |
| 64 | PAVER BLOCK | KK MANHOLES / UNI STONE PRODUCTS (INDIA) PVT. LTD/ HINDUSTAN TILES |
| 65 | CEMENT SHEET | EVEREST / RAMCO / KAMDHENU |
| 66 | ACOUSTICS PANELLING | HIMALYAN ACOUSTICS / HERA DESIGN / BAUX. |
| 67 | FABRIC | DE DECORA / PHIFER / MAK |
| 68 | GLASSFILM | 3MDINOCFILM, AVERY, GARVEY |
| 69 | ARTIFICIAL GRASS | ECOSOFT, NAMGRASS, ETURRF |
| 70 | INSULATION BOARD | STYOF OAM, ISOBOARD, FOAMULAR |
| 71 | EXTRUDED POLYSTYRENE INSULATION BOARDS | OWEN SCORNINGS, DOW CORNING, STYRO FOAM, SIKKA |
| 72 | ALUMINIUM SECTIONS | HINDALCO/DOMAL/SAPA/JINDAL |
| 73 | DOORCLOSER/ FLOORSPRING | DORMA/GEZE/ARCH/KITCH |
| 74 | GLASS DOORS (MOTORISED) | MODIGUARD ,ST.GOBIAN,AIS |
| 75 | NIGHT LATCH | DORMA/GEZE/ARCH/KITCH |
| 76 | CEMENT (OPC) | ACC (ASSOCIATED CEMENT CO.)/ULTRATECH/GUJRAT AMBUJA CEMENT/JK/L&T/JP CEMENT |
| 77 | READY MIX CONCRETE | ACC (ASSOCIATED CEMENT CO.)/ULTRATECH/GUJRAT AMBUJA CEMENT/JK/L&T/JP CEMENT |
| 78 | WHITECEMENT | BIRLA WHITE/J.K./GRASIM |
| 79 | ACP | ALUCOBOND/RENUBOND/ALPOLIC/ALSTONE |
| 80 | MODULAR FURNITURE | PEN WORKERS, FEATHERLITE, GODREJ, HAWORTH, VITRA, BENE |
| 81 | CHAIR | FEATHERLITE, GODREJ, HAWORTH, VITRA, BENE |
| 82 | CUSTOMIZE FURNITURE | CASA PARADOX/K2 INDIA/HOUSE OF RARO/CONCEPT & CREATIONS |
| 83 | COMPACTORS | WIPRO, FEATHERLITE, GODREJ, WALDNER, HNI |
| 84 | EXPANSION JOINT FILLING | CONSTRUCTION SPECIALTIES/BENTLEY/EMSEAL/VEDA/COURANEUF |
| 85 | LABFURNITURE | KEWAUNEE/WALDNER/CITIZEN/GODREJ/HNI |
| 86 | CEMENTBOARD | VBOARD/HIL/EVREST |
| 87 | GLASSWOOL | U.P.TW/GA/KIMMCO/ISOVER/JHONMANWILS |
| 88 | ROCKWOOL | LLOYD INSULATION/DHANBAD ROCK WOOL INSULATION PVT.LTD./ROXUAL ROCK |
| 89 | ANCHORFASTNER | HILTI/FISCHER/BOSCH |
| 90 | CALCIUM SILICATE BOARDS | HILUX/AEROLITE |
| 91 | CALCIUM SILICATE TILES | AEROLITE/HILUX |
| 92 | CERAMIC TILES ADHESIVE | BASF/SIKA/CICO/BELL/PIDILITE/SUNANDA |
| 93 | COMPRESSED | JOHNSON/JOHNSON/KAJARIAORIENT/RAK |

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| | CHEQUERED TILES | |
| 94 | DOORSEAL-WOOLPILE WEATHER STRIP | ANANDREDDIPLEX/ENVIROSEAL |
| 95 | E.P.D.M GASKETS | ANANDREDDIPLEX/ENVIROSEALS |
| 96 | EPOXY SLF FLOORING | SIKA/STONHARD/STP/PIDILITE |
| 97 | FIRE RETARDANT PAINT | VIPER FRS 881, NULLIFIRE, BURGER |
| 98 | FIRESEAL | SEALZ,ALSTROFLAM,ABACUS |
| 99 | FIRE:D-TYPE PULL HANDLES | BECKERFIRESOLUTION,DORMA,KICH |
| 100 | FIRE:HINGES, | BECKERFIRESOLUTION,INERSOLLRAND,DORMA |
| 101 | FIRE: PANIC EXIT DEVICE | DORMA/D-LINE/ARCH/KITCH |
| 102 | FIRE: PANIC EXIT DEVICES | BECKERFIRESOLUTION,INERSOLLRANDLCN SERIES,DORMA PHASERIES/ARCH/KICH |
| 103 | FIRE:TOWER BOLTS | SUZU,NULITE,ARCH/KITCH |
| 104 | GLASS :MIRROR | MODIGUARD/SAINTGOBAIN/ASAHIINDIASAFETY/MODIFLOA T/PILKINGTON |
| 105 | METALICLAMINATES | METLAM,HOMAPAL,DEKODUR |
| 106 | PRESSED STEEL DOORS FRAME | SUKRI / GODREJ / NAVAIR |
| 107 | SILICON SEALANTS /WEATHER SEALANT /STRUCTURAL GLAZING SEALANT | GE- SILICON / PIDILITE / CHOKSEY /WACKER / FORSOC / CICO/DOW CORNING / SIKA |
| 108 | STAINLESS STEEL | SALEM STEEL OR AS APPROVED E-IN-CHARGE |
| 109 | STAINLESS STEEL BOLTS, WASHERS AND NUTS | KUNDAN / PUJA / KONCEPT |
| 110 | STAINLESS STEEL CLAMPS | HILTI /INTELLOTECH /KONCEPT |
| 111 | STAINLESS STEEL CP GRATING | CHILLY / CAMRY |
| 112 | STAINLESS STEEL FRICTION STAY | EARL BIHARI / SECURISTYLE / EBCO |
| 113 | STAINLESS STEEL PRESSURE PLATE SCREWS | KUNDAN/ PUJA/ ATUL/KONCEPT |
| 114 | STAINLESS STEEL SCREW FOR FABRICATION AND FIXING OF WINDOWS | KUNDAN / PUJA / ATUL/KONCEPT |
| 115 | SUPER PLASTICIZER | CICO/PIDILITE INDUSTRIES |
| 116 | SUNKEN PORTION TREATMENT | CHOKSEY / SIKA / CICO |
| 117 | TILES: GLASS MOSAIC TILES | ITALIAS/ BISAZZA/ PACE INDIA |
| 118 | TILES: GLAZED TILES | KAJARIA / RAK / NITCO / ORIENTBELL (SUPPLY TO BE MADE FROM THEIR AUTHORIZED WHOLESALE DEALER) |
| 119 | VACUUM DEWATERED FLOORING | TREMIX / SUN BUILD / AVCON TECHNICS |
| 120 | P U WATER PROOFING | SIKA, PHOSROC |

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| 121 | T.P.O LAXER W.P. | PHOSROC, SIKA, FIRESTONE |
| 122 | ALUMINIUM LOUVERS / FACADES. | HUNTER DOUGLAS / LINDNER / CHICAGO METALS |
| 123 | WPC (HYBRID) | ALSTONE / CENTURY / GREENPLY |
| 124 | AAC BLOCK | FINE CREATE / ULTRATECH / ECOGREEN / INSTABLOCK / INFRABLOCK |
| 125 | HOSPITAL CUBICAL TRACKS AND CURTAINS | TRACKS 2 CURTAINS / MPS / ARISTRA HEALTHCARE |
| 126 | LOUVRE | HARSONS GREEN / HUNTER DOUGLAS / ARMSTRONG / USG |
| 127 | PUF OVER DECK INSOLATION | LLOYD INSULATION / HONEYWELL / ISOLLOYD / BAYER |
| 128 | ITALIAN MARBLE | NITCO / CMC KALINGA STONE / A-CLASS MARBLE |
| 129 | CORIAN STONE | DUPONT / CRAYON / AVANOITC / MARINO |
| 130 | LINOLEUM FLOORING | ARMSTRONG / TARKET / DUPOINT / FORBO |
| 131 | R.C.C PIPES | OM JI / INDIAN HUME PIPE / PRAGATI CONCRETE UDYOG /ISI MARKED PIPES/DAYA/KK / JSP |
| 132 | SFRC MANHOLE COVER | KKM / KK / ARZOO |
| 133 | GRASS GRID PAVERS | KKM / KK / ARZOO |
| 134 | PVC STRETCHER GUARD | SIO / ARKO / GRADUS |
| 135 | PVC CORNER GUARD | SIO / ARKO / GRADUS |
| 136 | SS CORNER GOURD | MADE IN INDIA |
| 137 | TERRAZZO TILES | NITCO, MODERN, HINDUSTAN. |
| 138 | CEMENT CONCRETE TILES | ULTRA, EUROCON, NITCO, DURACRETE |
| 139 | PAVEMENT TILES | PAVIT, ASIAN, ULTRA DESIGNER TILES |
| 140 | GLASS MOSAIC TILE | CORAL, BISAZZA. |
| 141 | WALL PUTTY | BIRLA, J.K |
| 142 | NON METALLIC HARDENER COMPOUND | CICO, RECRON, FAIRMATE |
| 143 | FRP DOORS | FIBERWYS TECHNOLOGY / PLYMOLDS/ECHON INDUSTRIES LIMITED / SYNTAX |
| 144 | ART WORK | ART INC / ART C / SIMRAN ARTS |
| 145 | CURING AGENTS | SIKA// FOSROC / BASF / THERMAX |
| 146 | SHUTRING OIL | SIKA// FOSROC / BASF / THERMAX |

Section 4. Tender Drawings

Section 5. Copy of Letter of Award and Acceptance

Section 6. Response to Queries, Addendum and Correspondences