

MINISTRY OF HEALTH & FAMILY WELFARE
(Department of AYUSH)

Tender

For

Supply, installation, testing & commissioning of Internal furnishing & related civil works etc for AYUSH at INA office Complex, New Delhi

Volume-III

Technical Specifications

APRIL 2012



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PQ tender No. HSCC/Fur/AYUSH/2012

TECHNICAL SPECIFICATION

Supply, installation, testing & commissioning of Internal furnishing & related Civil works etc for AYUSH at INA office Complex, New Delhi

❖ Following Basic Material to be Used in Office Furniture with prior approval of Client :

Material Requirements For All Revolving And Tubular Chairs :

1. Cushion chairs are made out of flexible polyurethane foam molded to have consistent hardness of 20-24 kg .
2. The polyurethane foam should be molded with density 45 +/- 2 kg/meter cube and hardness 20 +/- 2 kg on hampdness machine at 25% compression.
3. Armrest of chairs should be made out of integral skin polyurethane foam of shore hardness 'a' 50-70 and reinforced with ms steel insert except unless otherwise specified.
4. Gas lift mechanism for height adjustments tested for 100000 cycles of operation.
5. Chair base of the pedestal consists of 5 prongs made of 5 mm thick ms plates.
6. Plastic cladding is provided to make the pedestal look good aesthetically. The ms pedestal should be tested for load bearing.
7. Twin wheel castors are made of nylon and should be tested to carry a load upto 82 kgs on the chair.
8. All steel components should be powder coated conforming to :-
 - ❖ Dry film thickness more than 45 microns.
 - ❖ Salt spray test to withstand corrosion.
 - ❖ Adhesion as per din 53152 standards.
 - ❖ Scratch hardness as per bs 3900/e2
 - ❖ Impact test.
 - ❖ Pencil scratch test

Mandatory Tests To be Done By Manufacturer on Chairs :

- Seating Impact test.
- Arms Strength Test
- Back Durability Test.
- Castor/ Chair durability test.
- Base Test.
- Castor retention test.
- Castor Pull Out test.
- Castor Breakability Test.

Powder Coating Tests :

All MS components shall be epoxy polyester powder coated using the seven chamber pretreatment process with the powder thickness greater than 40 microns Dry Film Thickness.

Tests to Be Carried Out on Powder Coating :-

- Cross Cut Test- To check Adhesion
- Impact Resistance Test – To 150 kgs/cm as per BS 3900/E3.
- Scratch Hardness- Upto 4 kgs as per BS 3900/E2.
- Salt Spray Test.

Anti Rust Treatment To Be Followed For All Metal Components :

The manufacturer should have anti rust treatment facilities for treating all the metal components. The anti rust treatment shall consist of Removal of oil by treating metal Components with sodium carbonate and alkaline phosphate at 60 degrees centigrade followed by Rinsing with water at normal temperature. The rinsed components are to be dipped in phosphoric acid solution at 45 degrees centigrade for 10 minutes minimum for de-rusting followed by Rinsing. Components shall undergo phosphating by dipping in phosphating tank containing iron hydrogen phosphate dissolved in phosphoric acid at normal temperature for minimum 5 minutes followed by rinsing and finally Dipping components in chromic phosphatic acid reducing agent chemical at temperature of 80 degree centigrade(+/-10%) for minimum period of 60 seconds.

Specifications For Materials And Processes To Be Used On Furniture

Specifications For Steel Used In Chairs and Other Items :

- Cold rolled steel for MS sheet shall have thickness ranging from 0.63mm to 1.2mm as per IS:513-1994.
- Hot rolled steel for MS sheet shall have thickness ranging from 2.5mm to 3.15mm as per IS:10748 Group I.
- MS ERW tubes used for tubular components should satisfy IS-7138.

Specification For Fabric To Be Used For Upholstery :

<u>Material Type</u>	<u>Description/ Selection Criterion</u>
100% Polyester, fiber dyed	For a Span of 1.2 Meters shall have weight 330-grams/ meters.
100% poly Propylene	For a Span of 1.2 Meters shall have weight 230-grams/ meters.

Material Specifications :

1) Plain Particle Board (Medium Density) :

Particle boards conforming to IS 2380(1977) with physical characteristics as under

Density	:	600 –900 kg per meter cube.
Moisture content	:	5.10%
Water absorption	:	2 hour test – max 15% 24 hour test – max 40%
Swelling in water	:	2 hour – max. 5% thickness
Swelling due to water absorption	:	max 6%
Tensile strength perpendicular to surface square.(for all thickness)	:	min 0.3 Newton per millimeter
Tensile strength after cyclic test	:	min 0.3 N/mm square
Screw withdrawal strength on face	:	min 1250 N
Screw withdrawal strength on edge	:	min 850 N

2) Medium Density Fiber Boards :

Medium Density Fiber Board conforming to IS: 2380-1977 with following physical characteristics

Specific Gravity	:	0.5 to 0.9
Density	:	600 –900 kg per meter cube.
Moisture content	:	5 to 10%
Water absorption	:	2 hour test – max 7% 24 hour test – max 15%
modules of rupture upto 20mm thick	:	min 30 N/mm square.
Modules of rupture above 20 mm thick:	:	min 25 N/mm square.
Linear expansion in thickness due to surface absorption	:	max 5%
Swelling due to general absorption after 24 hour soaking in	:	
Thickness	:	max 4%
Length	:	max 0.4%
Width	:	0.4 % min.
Tensile strength perpendicular to surface thickness)	:	0.7 N/mm square.(for all
Screw withdrawal strength on face	:	min 1500 N
Screw withdrawal strength on edge	:	min 1250 N

3) Pre Laminated And Twin Particle Boards :

Prelaminated and twin particle boards as per IS:2380-1977.

Density	:	600 –900 kg per meter cube.
Moisture content	:	5 to 10%
Water absorption	:	2 hour test – max 15% 24 hour test – max 30%
Swelling in water	:	2 hour – max. 8% in thickness
Modules of rupture	:	min. 15 N/mm square.
Tensile strength perpendicular to surface (for all thickness)	:	min 0.5 N/mm square.
Screw withdrawal strength on face	:	min 1550 N
Screw withdrawal strength on edge	:	min 850 N

The following characteristics are according to annexure of IS:128323-1990.

Resistance to steam- No sign of blister, delaminating or change in surface finish.

Resistance to crack – No sign of crack and delamination.

Resistance to cigarette burn.

Resistance to stain.

Abrasion Resistance (min) in no of revolutions.

4) Post formed Laminate Sheets :

The pos formed (high pressure decorative laminate) one side bearing 0.6 or 0.8 mm thick decorative conform to NEMA specification- ANSI/NEMA/LD-3-1991.

The physical characteristics and test requirements are as per NEME-LD-3-1991.

Impact strength - Ball Impact resistance min 20”

Wear resistance - Min 400 cycles.

Gross dimensional change in machine direction - Max. 1.1%

Gross dimensional change in cross machine direction - 1.4% max.

High temperature resistance - slight effect is accepted on specimen at the final examination.

Stain resistance-No effect is acceptable on the specimen.

Formability - Min radius 12.5mm.

Blister Resistance - Min 40 Sec.

Boiling water immersion test (2 hour test) as per IS:2046-1969.

Increase in weight - Max. 30%.

Increase in thickness - Max 30%.

5) Decorative Laminated Sheets :

Decorative thermosetting synthetic resin bonded laminated sheets are used in 1.0mm thickness and are of type 1 with having one side bearing the decorative surface. The finish, shade, color and pattern shall be mutually decided by the purchaser and supplier. Physical characteristics and test requirements are as per appendix of IS:1046-1969. Resistance to dry heat – no blistering or appreciable surface deterioration or loss of gloss. Dimensional stability in low humidity test at 70+/- 2deg C for 24 hours.- less than 0.5% in length and width dimensions. Resistance to immersion in boiling water.

Increase in weight - max 5%
Increase in thickness - max 5%

Resistance to staining for 24 hours with standing against agents specified in IS 2046-1969. specimen should not show blistering at the final examination. Cross breaking strength for 0.6mm thick—2000 kg per CM Square.

Cross breaking strength for 1.0 mm and 1.5mm thick – min 4000 kg per CM square.

Impact strength - min 0.035 kg fm

Machinery test - no Slitting or cracking.

6) Epoxy Powder Coating.

Epoxy powder used for coating shall be of a standard shade or as specified at the time of tender. The specific gravity of powder 1.6(+/-0.2) gives a DFT of 50-60 microns. Pencil Hardness of 2H; Cross hatch Adhesion(DIN 553151) or GT – ‘O’ gloss @ 60 DIN 67530 of 80 +/- 5% for all standard except black for which it shall be 45 +/-5 for black. The coating should be able to withstand min 500 hour of salt spray test. Impact resistance of 150kgcm.

ITEM SPECIFICATIONS :

LOW HEIGHT PARTITION WITH WORKSTATIONS:

Providing & Fixing tile Based Partition System of overall thickness 65mm having inner framework of CRC steel covered with tiles on both sides and covered with aluminium powder coated trims on top and end sides. Partition has steel raceway at bottom and at middle level. Partition system provides option of various kinds of tiles like prelaminated board tiles, fabric tiles & white marker tiles. All metallic parts undergo a 7 stage antirust treatment and are powder coated in matt finish to a thickness of 40-60 microns. The modular partitions are independent and not grouted in the floors. The modular partitions are an assembly of the following parts:-

FRAME - Frame forms the basic support structure for all other components. The main vertical member of the frame bearing all the load is made of 1.2mm CRCA steel and the horizontal members are made of 1.0mm CRCA steel. The frames also has prefabricated slots for fixing brackets to support worktops, gable ends etc. The bottom module are mounted over a skirting of 135mm height. The skirting is designed so that switch cutout can be provided at the skirting level and are snap fitted on both sides with skirting plates made of 0.8mm thick CRCA steel.

LEVELLERS - Each frame is provided with two Nos. 12mm leveling bolts which allow 10-25mm adjustment for floor unevenness.

POST - The frames are connected at the junctions by aluminium connectors/posts. The posts are made of aluminium extrusions of 1.3mm thickness.

TRIMS -The exposed vertical and horizontal faces of the frames are snap fitted with curve trims. The trims are made of aluminum extrusions of 1.5mm thickness and 65mm width and are covered with ABS caps.

GROOVE COVERS - The vertical gaps between the tiles shall be properly and uniformly maintained and shall be vertically covered by fixing specially extruded aluminium section to maintain uniform groove on both the sides of the partition.

WIRE MANAGEMENT - Partitions system has concealed wire management capabilities to meet requirement and are engineered for responsive and safe operations of power, telecommunications and data (LAN) and has separate components for electrical, data and telephone cables having adequate capability of both the vertical and horizontal wire movements. Slots/cutouts are provided on Raceways to fix all electrical and data points.

TILES - The partition tiles shall be provided in Pre Laminated Particle Board/Fabric on Soft board/White Marker Laminate Finishes. The Prelaminated Particle Board tile are provided in 12mm Prelaminated Particle Board with decorative laminate on top and white balancing on unexposed face, having all exposed edges sealed with PVC edge banding tape, pressed at 200°C with hot melt glue on special edge banding machine. The tiles are supported with Tile Hook made of MS steel sheet duly galvanized to clip on to the partition frame

The Fabric Tiles are made of 9mm soft board inside and backed by 3mm MDF board & covered with fabric pasted on them by PVA glue. The tiles are supported with Tiles Hook made of MS steel sheet duly powder coated to clip on to the partition frame. The Marker Tiles are made up of 9mm particle board pasted with 1mm white marker laminate, on the exposed face having all exposed edges sealed with PVC edge banding tape, pressed at 180o C with hot melt glue on special edge banding machine. The tiles are supported with Tile Hook made of MS steel sheet duly galvanized to clip on to the partition frame.

WORK SURFACE (1200X600) :

Providing & fixing post formed work surface made of 25mm thick plain Particle Board with 0.7mm decorative laminate on top & 0.6mm thick balancing laminate on unexposed face with front edge profiled in desired shape. All exposed edges are sealed with 2mm thick PVC edge banding tape pressed at 200o C with hot melt glue on special machines. The worktop is supported with cantilever brackets made of MS steel duly powder coated. Work surface is also provided with ABS wire manager of 50mm dia.

CPU TROLLEY:

Providing & Fixing CPU trolley of 240mm height with adjustable width from 250 to 320mm width made of 1.6mm thick CRCA steel sheet duly powder coated with 2 Nos. lockable castors & 2 Nos. non lockable castors

KEY BOARDS :

Providing & fixing keyboard tray of size 500x220x75mm made up of 1.2mm thick CRCA steel sheet duly powder coated. The Keyboard tray runs on ball slides for smooth movement.

DRAWER UNIT :

Providing & Fixing drawer pedestal unit with 2 drawer & 1 filling of an over all sizes 380x575x725. The drawer unit is made of 18mm thick pre laminated particle board with all exposed edges sealed with 2mm thick PVC edge banding tape and unexposed edges sealed with 0.6mm PVC banding tape pressed at 200o C with hot melt glue on special machines. The inner drawer is made of 0.6mm CRCA steel duly powder coated & has proper locking arrangement with drawer sliding on nylon rollers channels.

HIGH EXECUTIVE TABLE:

Providing & Fixing CEO Series Table of an overall size 3000x1200x750 with top made of 36mm thick MDF board pressed with 0.4mm thick membrane foil clad pressed with PU

glue. The foil is precoated with a layer of polyurethane for better scratch resistance. The table has 2 former module on both sides, supported on steel vertical duly powder coated. The main table understructure has verticals and modesty made of 18mm thick prelaminated particle board with decorative laminate on both side. The modesty and verticals are supported by legs in curved shape. The modesty is provided with two metallic strips duly powder coated as per the photograph

SIDE UNIT

Providing & fixing CEO Series side unit of an overall size 1200x500x750 with top made of 36mm thick board pressed with 0.4mm thick membrane foil clad pressed with PU glue. The foil is be precoated with a layer of polyurethane for better scratch resistance. Side unit understructure body is made of 18mm thick prelaminated particle board with openable shutter on one side and 2 drawers + 1 filing on other side in 18mm membrane finish facia with proper locking arrangement. All the exposed edges sealed with 2mm PVC edge banding tape and all unexposed edges sealed with 0.6mm edge banding tape pressed at 200o C with hot melt glue on special machines.

BACK UNIT:

Providing & Fixing CEO Series back unit of an overall size 3000x500x750 with top made of 36mm thick board pressed with 0.4mm thick membrane foil and pressed with PU glue. The foil is precoated with a layer of polyurethane for better scratch resistance. Storage unit has body made of 18mm thick prelaminated particle with openable shutter storage on both side and 2 Drawer and 1 filing drawer unit in center with facia in membrane finish. All the exposed edges sealed with 2mm PVC edge banding tape and all unexposed edges sealed with 0.6mm edge banding tape pressed at 200o C with hot melt glue on special machines.

SECRETARY TABLE WITH SIDE & BACK UNIT :

Table with Drawer, Keyboard & CPU

Providing & Fixing Champhered Table of an overall size 2900x1050x750 with top made of 36mm thick board pressed with 0.4mm thick membrane foil clad pressed with PU glue. The foil is precoated with a layer of polyurethane for better scratch resistance. The main table has verticals made of 25mm thick postformed particle board and modesty made of 18mm thick prelaminated particle board having decorative laminate on both sides. All the exposed edges are sealed with 2mm PVC edge banding tape and all unexposed edges are sealed with 0.6mm edge banding tape pressed at 200o C with hot melt glue on special machines. The table also has a provision of drawer made up of 18mm thick pre laminated particle board body with facia made of 18mm thick membrane foiled with proper locking arrangement. Keyboard & CPU are made up of 18mm Pre Laminated Particle Board

SIDE UNIT :

Providing and fixing Champhered Side Table of an overall size 1200x500x750 with top made of 36mm thick board pressed with 0.4mm thick membrane foil clad pressed with PU glue. The foil is precoated with a layer of polyurethane for better scratch resistance. The understructure body is made of 18mm thick Pre Laminated Particle Board. The facia is made of 18mm thick membrane foiled with profiled edges with two drawers and one filing on one side and one openable shutter with shelf on other side with proper locking arrangement. All the exposed edges are sealed with 2mm PVC edge banding tape and all unexposed edges are sealed with 0.6mm edge banding tape pressed at 200o C with hot melt glue on special machines.

BACK UNIT :

Providing and fixing Champhered back storage unit of an overall size 2900x500x750 with top made of 36mm thick MDF board pressed with 0.4mm thick membrane foil clad pressed with PU glue. The foil is precoated with a layer of polyurethane for better scratch resistance. The body is made of 18mm thick Pre Lamianted Particle Board & facia is made of 18mm thick membrane foiled profiled with proper locking arrangement. The storage unit of size 2400x500x750 has two storages with openable shutters on both sides and lateral filing unit in center. All the exposed edges are sealed with 2mm PVC edge banding tape and all unexposed edges are sealed with 0.6mm edge banding tape pressed at 200 degree Centigrade with hot melt glue on special machines

SECTION OFFICER TABLE: (Table with Drawer, Keyboard & CPU Size 1500x750x750)

Providing and fixing Sr. P.P.S table of size 1500x750x750 with top made of 25mm thick plain particle board having post formed decorative laminate on top and balancing laminate on unexposed face. The understructure is made of 18mm thick pre laminated particle board with all exposed edges sealed with 2mm PVC edge banding tape and all unexposed edges sealed with 0.6mm edge banding tape pressed at 200o C with hot melt glue on special machines. Table has a provision for wire manager caps at top. The table also has a provision of drawer of size 450x575x725 made up of 18mm thick pre laminated particle board body with facia made of 18mm thick membrane foiled with proper locking arrangement. Keyboard & CPU are made up of CRCA Steel.

SIDE UNIT:

Providing & Fixing Side Storage Unit of overall size 900x450x725 with top made of 25mm thick postformed particle board and understructure made of 18mm prelaminated particle

board, having one openable shutter box on one side with shelf and two top drawers and one filing drawer on other side. All exposed edges are sealed with 2mm thick PVC edge banding tape and all unexposed edges sealed with 0.6mm edge banding tape pressed at 200o C with hot melt glue on special machines. The unit is provided with proper locking arrangement

UNDER SECRETARY TABLE (with Drawer, Keyboard & CPU Size 1350x600x750) :

Providing and fixing table of size 1350x750x750 with top made of 25mm thick plain particle board having post formed decorative laminate on top and balancing laminate on unexposed face. The understructure is made of 18mm thick prelaminated particle board with all exposed edges sealed with 2mm PVC edge banding tape and all unexposed edges sealed with 0.6mm edge banding tape pressed at 200o C with hot melt glue on special machines. Table has a provision for wire manager caps at top. The table also has a provision of drawer of size 450x575x725 made up of 18mm thick pre laminated particle board body with facia made of 18mm thick membrane foiled with proper locking arrangement. Keyboard & CPU are made up of CRCA Steel.

SIDE UNIT :

Providing & Fixing Side Storage Unit of overall size 900x450x725 with top made of 25mm thick postformed particle board and understructure made of 18mm prelaminated particle board, having one openable shutter box on one side with shelf and two top drawers and one filing drawer on other side. All exposed edges are sealed with 2mm thick PVC edge banding tape and all unexposed edges sealed with 0.6mm edge banding tape pressed at 200o C with hot melt glue on special machines. The unit is provided with proper locking arrangement

TABLE WITH DRAWER (Keyboard & CPU Size 1800x600x750) :

Providing and fixing table of size 1800x600x750 with top made of 25mm thick plain particle board having post formed decorative laminate on top and balancing laminate on unexposed face. The understructure is made of 18mm thick prelaminated particle board with all exposed edges sealed with 2mm PVC edge banding tape and all unexposed edges sealed with 0.6mm edge banding tape pressed at 200o C with hot melt glue on special machines. Table has a provision for wire manager caps at top. The table also has a provision of drawer of size 450x575x725 made up of 18mm thick pre laminated particle board body with facia made of 18mm thick membrane foiled with proper locking arrangement. Keyboard & CPU are made up of CRCA Steel.

SIDE UNIT :

Providing & Fixing Side Storage Unit of overall size 900x450x725 with top made of 25mm thick postformed particle board and understructure made of 18mm prelaminated particle board, having one openable shutter box on one side with shelf and two top drawers and one filing drawer on other side. All exposed edges are sealed with 2mm thick PVC edge banding tape and all unexposed edges sealed with 0.6mm edge banding tape pressed at 200o C with hot melt glue on special machines. The unit is provided with proper locking arrangement

TABLE FOR SECURITY/PA/PS : (900x600/1200x600)

Providing and fixing table of size 900x600x750/1200x600x750 with top made of 25mm thick plain particle board having post formed decorative laminate on top and balancing laminate on unexposed face. The understructure is made of 18mm thick prelaminated particle board with all exposed edges sealed with 2mm PVC edge banding tape and all unexposed edges sealed with 0.6mm edge banding tape pressed at 200o C with hot melt glue on special machines. Table has a provision for wire manager caps at top. The table also has a provision of drawer of size 450x575x725 made up of 18mm thick pre laminated particle board body with facia made of 18mm thick membrane foiled with proper locking arrangement. Keyboard & CPU are made up of CRCA Steel.

Table (Adviser/Directors)

Providing & Fixing Director Series table of an overall size 2300x1100x750 with top made of 36mm thick postformed particle board and former module made of 36mm thick MDF board pressed with 0.4mm thick membrane foil clad pressed with PU glue. The foil is precoated with a layer of polyurethane for better scratch resistance. The table understructure has vertical leg made of 25mm thick postformed particle board on one side and supported by three drawer unit made of 18mm thick Pre Laminated Particle Board with 50(D) studs made of steel duly powder coated. The modesty is made of 18mm thick prelaminated particle board having decorative laminate on both sides. All the exposed edges sealed with 2mm PVC edge banding tape and all unexposed edges sealed with 0.6mm edge banding tape pressed at 200o C with hot melt glue on special machines

Side Unit

Providing & Fixing Director Series side table of an overall size 1050x500x710 with top made of 36mm thick postformed particle board. The understructure body is made of 18mm thick Pre Laminated Particle Board. The side unit has with one shutter on one side made up of 18mm post formed particle board and shelves for placing CPU, UPS on the other side. The unit also has keyboard tray made of CRCA steel sheet duly powder coated. All the

edges are sealed with 2mm PVC edge banding tape and unexposed edges sealed with 0.6mm PVC edge banding tape pressed at 200o C with hot melt glue on special machines.

CEO Table

Providing & Fixing Eden table of an overall size 2000x1000x750mm with top & legs made up of 25mm prelaminated particle board in curvilinear shape and understructure made up of 18mm prelaminated particle board with all exposed edges sealed with 2mm PVC edge banding tape pressed at 200 degree C with hot melt glue on special machines. The top is supported on studs made up of CRCA steel duly powder coated.

SIDE UNIT :

Providing & Fixing Eden side unit of an overall size 1380x600x750 with top made up of 25mm prelaminated particle board in curvilinear shape and understructure made up of 18mm prelaminated particle board. The unit has 3 drawer pedestal unit made up of 18mm prelaminated particle board with inner draws in steel duly powder coated on one side and other side is supported with Gable end made up of 18mm Pre Laminated Particle Board. All exposed edges are sealed with 2mm PVC edge banding tape and unexposed edges sealed with 0.6mm PVC edge banding tape pressed at 200o C with hot melt glue on special machines.

Table For 1650x900x750mm + Former Module 1200x900x750mm

Providing and fixing presidential table of overall size of 2850x900x750 with top made of 36mm thick post formed particle board. The main table understructure has verticals made of 36mm thick post formed legs supported with 32mm (D) steel studs duly powder coated and modesty made of 18mm thick prelaminated particle board having decorative laminate on both side. The table has a former module of an overall size 1200x900 supported on steel vertical post of 65mm dia duly powder coated. The table has a former module of an overall size 1200x900 supported on steel vertical post of 65mm dia duly powder coated. The former module is made up of 36mm thick board pressed with 0.4mm thick membrane foil clad pressed with PU glue. The foil is precoated with a layer of polyurethane for better scratch resistance.

Storages (Openable shutter)

Providing & Fixing Storage Units of size 900x450x750Ht. with top made up of 25mm postformed particle board with 0.6mm decorative laminate pressed on it. The understructure is made of 18mm prelaminated particle board having openable shutters. All the exposed edges of the storage are sealed with 2mm thick PVC edge banding tape and all unexposed edges sealed with 0.6mm edge banding tape pressed at 200o C with hot melt glue on special machines, with proper locking arrangement. The shelves are made of 0.8mm thick CRCA steel sheet duly powder coated

Meeting Table (for 6 Person)

Providing & Fixing Meeting Table of an overall size 1800x900x750 with top made of 25mm thick prelaminated particle board. The table has understructure with verticals made of 25mm thick prelaminated particle board & modesty made of 18mm thick prelaminated particle board having decorative laminate on both sides. All exposed edges are sealed with 2mm PVC edge banding tape and unexposed edges sealed with 0.6mm PVC edge banding tape pressed at 200o C with hot melt glue on special machines

Conference Table :

Providing & Fixing Conference Table of height 750mm with two seater module of size 1350(W)x550(D). The top made of 36mm thick MDF board pressed with 0.4mm thick membrane foil clad pressed with PU glue. The foil is precoated with a layer of polyurethane for better scratch resistance. The table vertical are made of 25mm thick postformed particle board & modesty made of 18mm thick prelaminated particle board with decorative laminate on both sides. All the edges are sealed with 2mm PVC edge banding tape and unexposed edges sealed with 0.6mm PVC edge banding tape pressed at 200o C with hot melt glue on special machines. The Round corner piece is made up of 36mm thick MDF board pressed with 0.4mm thick membrane foil clad pressed with PU glue and supported with post of 65mm dia made of CRCA sheet duly powder coated. The complete table unit is made up of combination of tables and round corner pieces as per site measurements

PODIUM :

Providing & Fixing Podium of overall size 600x600x1050H made of 18mm prelaminated particle board. The top is made up of 25mm thick Particle Board having post formed edge with 0.6mm thick decorative laminate. The Podium also has a shelf below the top made up of 18mm Pre Laminated Particle Board to keep papers etc. All exposed edges are sealed with 2mm thick PVC edge banding and unexposed edges sealed and unexposed edges sealed with 0.6mm PVC edge banding tape pressed at 200o C with hot melt glue on special machines

Book case

Providing & Fixing Book Case of size 915(W)x325(D)x1745(H) made of 1mm thick CRC sheet with brass lock 6 lever with duplicate keys, duly powder coated. The Book Case is provided with top sliding 4 glass shutters

Reception Table with Side Module

Providing and fixing reception table of an overall size of 1500x700x1050 with top made up of 25mm thick Pre Laminated Particle Board having exposed edges sealed with PVC edge banding tape. The top is supported on steel vertical studs of 50mm(D) and lower Modesty in perforated steel sheet duly powder coated. The main table has a transaction top

made of 10mm thick toughened glass supported on steel studs and upper Modesty duly powder coated. The main table top is supported by two side tables with top in elliptical shape of size 500x300x585 made of 25mm thick Pre Laminated Particle Board duly supported by steel studs of 50mm(D), with perforated steel modesty underneath duly powder coated

Centre Table

Providing and supplying center table of size 900X450X450 with top made of 12mm thick bevelled glass and understructure with a shelf is made of 18mm thick prelaminated particle board with all exposed edges sealed with 2mm PVC edge banding tape and unexposed edges sealed with 0.6mm PVC edge banding tape pressed at 200o C with hot melt glue on special machines.

Side Table

Providing and supplying Side table of size 450X450X450 with top made of 12mm thick bevelled glass and understructure with a shelf is made of 18mm thick prelaminated particle board with all exposed edges sealed with 2mm PVC edge banding tape and unexposed edges sealed with 0.6mm PVC edge banding tape pressed at 200o C with hot melt glue on special machines.

SOFA :

Providing and supplying of steel sofa having chrome plated legs capsule pipe of 40x20 mm of 14 gauges. The pipe will be duly chrome plated with thickness of 45-50 microns. The seat and back will be made of good quality high density foam with a density of 32 kg per cum. The inner structure will consist of good quality wood and hot pressed ply of 12 mm thickness duly anti termite treated. The thickness of foam in seat and back will be 5 inches and upholstered with good quality of leatherite of approved colour/ shade.

RECEPTION SOFA

Wooden Sofa :- Fully upholstered sofa with good quality seasoned wood duly anti termite treated. In seat, good quality flat spring steel are used and are covered by "U" foam. Seat cushion has premium quality rubber. The back is made of high density foam duly upholstered with fabric or leatherite. Leatherite or fabric sofa having arm covered with leatherite or fabric.

CANTEEN TABLE

Providing and fixing square shaped meeting table with top made up of 25mm thick Pre Laminated Particle Board. The understructure is made up of 1.2mm thick CRCA steel of 60mm dia duly powder coated.

Canteen Counter Size 1500x600x750

Providing and fixing of Dining Table with top made of 25mm particle board having postformed edges with 0.6mm thick laminate pressed on one side & balancing laminate on other side with all exposed edges sealed with 2mm PVC edge banding tape pressed at 200 deg C with hot melt glue on special machines. The understructure of table is made up of 1.2mm CRCA steel pipes of 40x40, 40x20, 20x20mm duly powder coated. Leveller is provided for adjusting any unevenness of floor area

Single Bed 900X1800x450 (without box)

Supply & fixing single bed without box of an overall size 900(L)x1800(B)x450(H). The Head side of 900mm height & foot side of 500mm height are made up of 36mm (18+18) commercial board with half round postformed edge on top surface with 0.6mm postforming laminate. The sides of 300mm height are made up of 18mm commercial board with half round postforming edge on top surface. The base is made of 12mm commercial ply supported with wooden battens. All exposed edges are sealed with PVC edge banding tape and unexposed edges sealed with 0.6mm PVC edge banding tape pressed at 200o C with hot melt glue on special machines.

COMPACTOR (Including Rail Length)

Supplying & fixing modular steel mobile compactors of 2080mm height consisting of Single Faced Fixed Drive, Single Faced Mobile Drive, Double Faced Mobile Drive. Thickness of side sheet of body is 1mm and back and shelf thickness is 0.80mm. The compactor unit is provided in the following configuration:-

High Back Revolving Chair for Secretary/CEO

High Back Revolving Chair

Upholstery/Frame: One piece ply in seat & back with foam & polyfill and leatherite upholstery

Seat & back size : 520 mm (w) x 500 mm (D) , 520 mm (w) x 800 mm (H)

Arms: Wooden arms with melamine polish with chrome plated end caps

Mechanism: Central tilt mechanism/ Torsion bar mechanism

Height Adjustment : Gas Lift , Base : Chrome plated base with twin wheel castors

Visitor's Chair for Secretary/CEO

Visitor Chair

Upholstry/Frame: One piece ply in seat & back with foam & polyfill and leatherite upholstery

Seat & back size : 520 mm (w) x 500 mm (D) , 520 mm (w) x 580 mm (H)

Arms: Wooden arms with melamine polish with chrome plated end caps

Base : Chrome plated fixed base with PVC shoes

Chairs For (US/Dpty Sec/Dy.Director/Adviser/Jt.Adviser/officer staff)

Medium Back Revolving Chair :

Upholstry/Frame: One piece ply and ring type spring in seat & back with foam & polyfill and leatherite upholstery

Seat & back size : 520 mm (w) x 500 mm (D) , 520 mm (w) x 580 mm (H)

Arms: Wooden arms with melamine polish

Mechanism : Central tilt mechanism/ Torsion bar mechanism

Height Adjustment : Gas Lift

Base : Wooden base with twin wheel castors

Visitor Chair for (US/Dpty Sec/Dy.Director/Adviser officer staff Visitor chair)

Visitor Chair

Upholstry/Frame: One piece ply and ring type spring in seat & back with foam & polyfill and leatherite upholstery

Seat & back size : 520 mm (w) x 500 mm (D) , 520 mm (w) x 580 mm (H)

Arms: Wooden arms with melamine polish

Base : Powder coated fixed base

Chair for Section Officer/Assistant Advisor/PA

High Back Revolving Chair : Upholstry/Frame: 12 mm hot pressed ply covered with moulded PU foam in seat & Back with ABS/ PP Cover & Fabric upholstery

Seat & back size : 500 mm (w) x 460 mm (D) , 500 mm (w) x 720 mm (H)

Arms: D-shape steel inserted PU arms

Mechanism: Center tilt mechanism

Height Adjustment : Gas Lift Base : Steel Inserted nylon base with twin wheel castors

Visitor Chair

Upholstry/Frame: 12 mm hot pressed ply covered with moulded PU foam in seat & Back with ABS/ PP Cover & Fabric upholstery

Seat & back size : 500 mm (w) x 460 mm (D) , 500 mm (w) x 490 mm (H)

Arms: D-shape steel inserted PU arms

Base : Fixed steel base with PVC shoes

Reading Chair/Peon/Security

Visitor chair :

Upholstry/Frame: 12 mm hot pressed ply in seat and back with PU moulded foam and fabric upholstery with PVC lipping all around.

Seat & back size : 480 mm (w) x 440 mm (D) , 480 mm (w) x 460 mm (H)

Arms: Steel inserted PU arms, Base : Fixed steel base with PVC shoes

Chair for Workstation

Medium Back Revolving Workstation Chair

Upholstry/Frame: PU mould in seat & Back with ABS/ PP Cover & Fabric upholstery

Seat & back size : 490 mm (w) x 460 mm (D) , 430 mm (w) x 500 mm (H)

Arms: Steel inserted PU arms

Mechanism : Push back mechanism

Height Adjustment : Gas Lift

Base : Steel Inserted nylon base with twin wheel castors

Chair for Conference Table, Reception Table

Medium Back Revolving Chair

Upholstry/Frame: PU mould in seat & Back with polyprpylene Cover & Fabric upholstery

Seat & back size : 490 mm (w) x 460 mm (D) , 430 mm (w) x 470 mm (H)

Arms: Y-shape PVC arms

Mechanism: Push back

Height Adjustment : Gas Lift

Base : Steel Inserted nylon base with twin wheel castors

Chairs for Canteen

Cafeteria Chair having L-type moulded laminated ply with chrome plated base

FULL HEIGHT PARTITION (3000Ht. Approx.) - 65MM THICK.

Providing & Fixing minimum 65mm thick tile Based Partition having inner framework in CRC steel covered with tiles on both sides are covered with aluminium powder coated trims on top and end sides. Partition has Aluminium raceway at bottom and at middle level. Partitions are provided with 9 mm thk ply and finished with Decorative laminated sheets of 1.0 mm thickness with decorative laminated glass tiles, fabric tiles & white marker tiles. All metallic parts undergo a 7 stage antirust treatment and are epoxy powder coated and baked at 200^o temp. to a powder coating thickness of 50-60 microns. The modular partitions are independent and not grouted in the floors.

Frames - Frame forms the basic support structure for all other components. The main vertical member of the frame bearing all the load is made of 1.2mm CRCA steel and the horizontal members are made of 1.0mm CRCA steel. The frames also have prefabricated slots for fixing brackets to support worktops, sharer tops, gable ends, overhead hampers etc. The bottom tiles are mounted over a skirting of 135mm height. The skirting is designed so that switch cutout can be provided at the skirting level and are snap fitted on both sides with skirting raceway plates made of 1.0mm thick Aluminium sheet. The bottom raceway panels are epoxy powder coated and baked at 200° temp. to a powder coating thickness of 50-60 micron.

Levellers - Each frame is provided with two Nos. 12mm leveling bolts which allows 10-25mm adjustment for floor unevenness.
Post - The frames are inter connected at the junctions by aluminium connectors/posts. The posts are made of aluminium extrusions of 1.2mm thickness duly powder coated.
Top Trim Joinery - Full Height Partitions are provided with top adjustors which allows 10-50 mm adjustment for ceiling unevenness. L shaped top patti is provided to cover the adjustors and fix partition with the ceiling / Beam.

GROOVE COVERS - The vertical gaps between the tiles shall be properly and uniformly maintained and shall be vertically covered by fixing specially extruded aluminium section to maintain uniform groove on both the sides of the partition.

WIRE MANAGMENT - Partitions system has concealed wire management capabilities to meet requirement and are engineered for responsive and safe operations of power, telecommunications and data (LAN). It has seperate components for electrical, data and telephone cables having adequate capability of both the vertical and horizontal wire movements. Slots/cutouts are provided on Raceways to fix all electrical and data points

TILES - The Partition tiles are provided in ply /Fabric on Soft board/White Marker Laminate / Magnetic Tile /Glass finishes. The ply are provided in 9 mm Ply having decorative laminate on top and white balancing on unexposed face, having all exposed edges sealed with PVC edge banding tape, pressed at 200° C with hot melt glue on special edge banding machine. The tiles are supported with Tile Hook made of MS steel sheet duly galvanized to clip on to the partition frame.

The FABRIC TILES are made of 9mm softboard inside and backed by 3mm MDF board & covered with fabric pasted on them by PVA glue. The tiles are supported with Tile Hook made of MS steel sheet duly galaunised to clip on to the partition frame. The MARKER TILES are made up of 9mm ply pasted with 1mm white marker laminate, on the exposed face having all exposed edges sealed with PVC edge banding tape, pressed at 200° C with hot melt glue on special edge banding machine. The tiles are supported with Tile Hook made of MS steel sheet duly galaunised to clip on to the partition frame.

The MAGNETIC TILES are made up of fabric finish tile on CRCA sheet duly powder coated. The overall thickness of the tile is 12mm and is provided with magnetic coins is

required. The tiles are supported with Tile Hook made of MS steel sheet duly galvanized to clip on to the partition frame. The DOUBLE SKINNED GLASS TILE - is made up of 6mm thick clear / Glass of Modi / Asahi make and is fixed on both side of partition. The glass tile is provided with aluminium frame work and is fixed with aluminium section using transparent rubber beading. These glass tiles are completely inter changeable with other regular tile.

Door Unit

Providing and fixing minimum 35mm thick factory made Flush Door shutters in the full height partition made of machine cut seasoned hard wood battens held within a frame made of a strip of 29mm wide hard wood edge miter jointed and then faced with 3mm commercial ply on both sides pasted with suitable resin glue hot pressed in machine to produce an accurate and warp free plank. Further faced with 1mm laminate of approved shade to make the total thickness of flush shutter of 37mm and providing and fixing first class teak wood lipping along the edges of the shutters finished with melamine polish. The door unit is provided with the following fixtures in each door shutters.

1. ISI marked anodized aluminium butt hinges 4 Nos.
2. chromium plated brass 100mm mortice latch and lock with 6 levers and a pair off lever handles with necessary screws etc. complete - 1 No
3. Hydraulic door closure with double speed adjustment with necessary accessories and screws etc. - 1 No.
4. ISI marked anodized aluminium hanging floor door stopper - 1 No.

Venetian Blinds

100 mm wide vertical blinds comprising of rectangular channel with built in gear and clutch system. Vista/Mac or Equ. Make.

Fridge (185 Ltr) : 185 Ltr Fridge of Samsung/LG & Whirlpool make

LCD TV of approved make size 32" including electrical works/ wiring/ wall chasing.

Supply, installation, testing & commissioning of water cooler having capacity of 20/40. Voltas or equivalent as approved by Engineer

Providing & Fixing Split AC (1.5 ton) make Samsung or Equivalent as approved by engineers

wooden flooring of approved shade and colour with thickness 8.3mm including fixing the innermost layer with polythene

Supplying & placing of Overhead ceiling mount Projector of approx. 2500 lumens Panasonic/Sony make. Supplying & placing Roller screen having overall size 1800x1200

LIST OF APPROVED MAKES : PLUMBING WORKS

S.No.	Materials	Relevant IS Code	Manufacturers
1.	Vitreous China Sanitary ware	2556	Hindustan Sanitary ware, Cera, Kohler, American standard
2.	White Glazed Fire Clay Sink	771	Sanfire, Cera, Neycer, Hindware.
3.	Stainless Steel Sink		Jayna, Jaguar, Commander, Nirali
4.	Plastic seat cover of W.C	2548	Commander, Cera, Kohler Jaquar, American standard
5.	Geyser		Racold, Jaguar, Rheem, Usha Lexus
6.	C.P. Fittings Mixer/Pillar taps Washers, C.P. brass accessories	1795 4291/4827	Aquabaths, Othello, Jaquar, Kingston, Marc
7.	Centrifugally /Sand cast iron pipes & fittings	3989/1729	Neco, Hepco, SKF
8.	G.I. Pipes	1239 Part I	Jindal-Hissar, Tata, Prakash-Surya B.S.T., SAIL,
9.	G.I. Fittings	1239 Part I	Unik, K.S., Zoloto Zenith
10.	Gunmetal Valves	778	Zoloto, Leader,
11.	Brass stop & Bib Cock	781	Zoloto, Sant, L&K, Jaquar
12.	Ball valve with floats	1703	Zoloto, Leader, Sant, Jayco
13.	Stoneware pipes & Gully Traps	651	IS Marked pipes
14.	R.C.C. pipes	458	IS Marked pipes
15.	D.I. Manhole Covers	1726	RIF, NECO, SKF
16.	Water Tank		Sintex, Polycon, Uniplast
17.	Mirror		Golden, Atul, Modi guard Gujrat Guardian
18.	Hand drier		Kopal, Automat, Euronics
19.	PVC flusing cistern		Commander, Parryware, Duralite
20.	Insulation of Hot water pipes		Vidoflex insulation, Superlon, Paramount

Kaiflex

21.	PVC Rain Water Pipes.		Supreme, Prince, Finolex. Oriplast
22.	D.I pipes		Jindal, Tata, Electrosteel.
23.	Sluice valve / NRV		Kirloskar, Kilburn, Zoloto Castle,
24.	Water supply pumps	:	KIRLOSKAR, WILO, GRUNDFOS
25.	Submersible pumps	:	KIRLOSKAR, GRUNDFOS, KSB, Mather & Platt
26	UPVC pipes & fittings	;	Finolex , Prince, Supreme, Oriplast
27.	Chlorinator	:	ALFA, USA, Ion exchange, Sigma DH Combine Inc.
28.	HDPE Solution tank	:	WATCON, ION EXCHANGE, Water Supply Specialist P (Ltd)
29.	C.P Flush Valves	:	Jaquar, DOCOL(Germany) marketed by GEM, Ideal
30	C.P Angle Valves, bib cock	:	Othello, Jaquar, Marc, Kingston ,Aquabaths
31	Decorative bath room fittings	:	Jaquar (Florentine range), Marc (equivalent) Aquabaths (equivalent)