

**TECHNICAL SPECIFICATIONS FOR MODULAR FURNISHING WORKS AT
7TH FLOOR, GIFT ONE, GIFT CITY, GANDHINAGAR**

PREAMBLE :

1. The detailed specifications given hereafter are for items of works described in the Schedule of quantities attached herein and shall be guidance for proper execution Of work to the required standards.
2. It may also be noted that the specification are of generalized nature and these shall Be read in conjunction with the description of item in schedule of quantities and Drawings.
3. The work also includes all minor details of furniture which are obviously and fairly Intended and which may not have been referred to in these documents but are Essential for the entire completion in accordance with standard engineering practice.
4. The architects and the Employer shall be the sole deciding authority as to the Meaning interpret and implication for various provisions of the specifications and his Decision in writing shall be final and binding on all concerned.
5. In case any difference or discrepancy between the tender specifications and the Description in the bill of quantities, the bill of quantities shall take precedence.
6. In case any difference or discrepancy between the tender specifications and the Tender drawing, the tender specification shall take precedence
7. Unless specifically otherwise mentioned, all the applicable latest codes and standard Published by the bureau of Indian standards and all other standards ,shall govern in All respects of design, workmanship, quality, properties of materials ,method of Testing and method of measurements.
8. **MATERIALS TO BE APPROVED /BEST QUALITY:** The whole of the materials. deployed in connection with the permanent work, shall be new and the best of Its kind. All materials shall be in accordance with these specifications and shall Be in approved by the architect /PMC
9. **STANDARDS:** Except where otherwise specified and permitted by the architect, All materials shall conform to the latest edition of Indian standard specification.
10. The payment shall be made as per actual execution of works.
11. All or any extra work involved shall be got approved in writing from CANARA BANK / architect -consultant / PMC before executing the same.
12. The rate for individual item shall include the cost of materials, labour, finishing etc.to Complete the whole work satisfactorily as par instructions of CANARA BANK/ SAPC /PMC.
13. For any of the BOQ individual items, no extra payment will be given for any of the Reasons.
14. Item rate to be inclusive of all material, wastage ,groove, adhesives, hardware , necessary tools tackets ,erection ,execution ,polishing, painting ,finishing ,cleaning ,etc with contractor profit and taxes all. And Works at all heights and for all floors.
15. Contractor shall arrange for all type of sample mockup and shop drawings as par BOQ item without any extra cost, for approvals.
16. The measurement shall be as per mode of measurements are given in tender specifications.

TECHNICAL SPECIFICATION

This specification are for the work to be executed items to be supplied and materials to be used in the works as shown and deafened on the drawings and described here in all under the supervision and to the satisfaction of the Architect / BANK AUTHORITY

The workmanship is to be the best available and of a high standard. Use must be made of specialist tradesmen in all aspects of the works, and allowance must be made in the rates for doing so.

The materials and items to be provided by the contractor shall be the best of their respective kinds, approved by the architect in accordance with any samples which may be submitted for approval and generally in accordance with the specifications. Where materials or products are specified in this specification and or / bill of quantities by the name of the manufacture or the brand trade name or catalogue reference the contractor will be required to obtained the approval of the architect / AUTHORITY before using a material or product other than the specified. The contractor shall produce all invoices, vouchers or receipted accounts for any materials if called upon to do so by the Architect.

Sample of all material are to be submitted to the architect for his approval before the contractor orders or delivers in bulk to the site. Also, the contractor will be required to submit specimen finishers of colors, fabrics etc, for the approval of the architect before proceeding with the works. Should it be necessary to prepare shop drawings, then four copies of such drawings shall be submitted for the approval of the architect who will retain two copes all at the contractor's expense

Except for the items, for which Particular Specifications are given or where it is specifically mentioned otherwise in the description of the items in the schedule of quantities, the work shall generally be carried out in accordance with the Particular Specifications, Architectural drawings and as per instructions of Engineer-in-Charge.

All Technical Specifications in respect of all material to be used, method of execution, workmanship and quality for each item of the work shall be as per specifications and latest Indian Standard unless otherwise specified.

Any reference made to any Indian Standard Specifications, shall imply to the latest version of that standard, including such revisions / amendments as issued by the Bureau of Indian Standards up to last date of receipt of tenders.

The Contractor shall keep at his own cost all such publications including relevant Indian Standard Codes applicable to the work at site.

ITEM DISCRPTION

Cubical Workstation – (Size: 1500 (W) x 1500 (D) 1200 (H)

Manufacture, Supply and Installation in position 'L' shape Cubical Workstation as directed Modular workstation comprising of partitions, work surface, Cubical work station will be made of Wood based interior Grade Prelaminated Particle board with

matching PVC edge band on edges pressed by hotmelt glue on required temperature by Through feed machine.

SIZE :- 1500 (L) x 1500 (W) x 750mm /1200mm (H)

1 Panel based Partitions :-Vertical partition members made of aluminium extrusion alloy of minimum 60x60 mm size having thickness of **min 1.4mm** for vertical members and for horizontal members duly finished with powder coating in desired shade/colour. Both the faces of vertical partition to be finished with prelaminated MDF finished on both sides. Top caps of partition shall be slightly curved/flat shape of 18mm thick extruded aluminium alloy duly finished with powder coating in desired shade/colour. The partition should have the raceways for carrying voice and data wire and power cable, which should be separate from each other in the panel (One switch to control the UPS sockets below the desk and two raceways below the desk for power and data). Above table Panel in four part. Left - Magnetic panel, 2nd and 3rd panel for socket, 4th panel for writing BPG glass. Exposed passage side panel is also covered with suggested dual color soft fabric in suggested pattern. The height of partition shall be of min. 1200mm. All partition should have the provision of level adjuster to adjust the height of +/-10mm. All metal components will be finished with powder coated in desired shade/colour. 100mm high metal skirting.

1200mm min. high partition thick panel based systems 1200mm(HT).Base shall be formed as approved powder coating on aluminium.

2 WorkTop:- Worktop shall be of 25mm thick prelaminated particle board with 2mm thick PVC edge banding finish with as per approved laminate color. along with keyboard tray on telescopic channels. Work Tops should be of 25mm laminated.

The table tops in workstations/ cubicles should be mounted with necessary brackets like end support, corner, cantilevered as per the requirement of layout. The entire table top should be provided with gable ends & the gable ends should be attached to the partitions and table with the help of necessary brackets. All working tops to be provided with PVC CABLE MANAGER

3 Type

Removable panel based system with overall thickness 60 to 70 mm (Size provided to match with standard pattern/make type of the manufacturer as well as to match with Low Height Partition systems. So as both Full ht. partition & Low ht. partition are provided in same thickness, as approved by project in charge). Low heights partitions should be made in same style so that it can be connected with each other whenever required

4 Skeleton:

Should be made from Aluminum extruded sections minimum 1.4 mm thick (Size provided to match with standard pattern/make type of the manufacturer, as approved by project in charge), interlinked with each other to form complete knock down joinery for required size. No screwing, welding or riveting should be done between partition panel

skin with partition panel structure for easy reconstruction and flexibility. All sections should be powder coated in matt/glossy effect with minimum 50 microns. All section should have 7 tank processes as anti-rust treatment before processing for powder coating.

It should have facilities for wire management, Supporting cantilever work tops, Storage units etc.

All Horizontal & Vertical aluminum section should be epoxy powder coated in matt/glossy effect with 45 to 60 microns. All section should have 7 tank processes as anti-rust treatment before processing for powder coating.

5. Panels:

Solid panels should be made from Double Fascia having each face of 9 mm thick (Size provided to match with standard pattern/make type of the manufacturer, as approved by project in charge) both side 0.8 mm thick laminate to be fixed by hot pressed process on MDF boards with edge banding glued by hot melt glue applied with automatic machine for efficient sealing. Panels are removable for facilitating services. The band should be stuck to the surface at 200 Centigrade under high pressure for better adhesion. Outer surface of panel will be with selected shade of 0.8mm thick laminate & back/inner surface will be provided with similar hot pressed process on MDF board with any shade of 0.8mm thick laminate.

Panel should be removable for the facilitating services.

Glazed panels should be made of 5mm float BPG Glass panels with removable locking system and not glued.

Fabric panels with soft board should be provided.

White Boards, BPG Glass Panels should be provided.

6. BODY

Should be made from 18mm MDF Board covered with one side 0.8 mm thick Laminate & other side 0.8mm thick backer laminate as directed by the consultants. All visible edges are covered by 0.8mm thick PVC edge bends glued with hot melt glues on auto hot bending machines. All panels should be knock-down to facilitate assembly at site. The shelves are connected with body through adjustable shelf supports. The band should be stuck to the surface at 200 Centigrade under high pressure for better adhesion.

7. Utility panels / Race-Way: (Wire Management)

A separate trench with removable panels of 100 to 150mm size should be provided at bottom level for Networking, Telephone Sockets & above Work Top or Below Work Top levels will be for Electrical Sockets to follow the norms of keeping both i.e. data and power services at the minimum distance of distance of 2 feet for respective needs. Cutouts should be provided to run cables throughout the partitions where-ever

required under the concern of E-I-C.

8. LEVEL ADJUSTORS:

Provision of level adjustors with height adjustment facilities should be provided in order to match every point of vertical & horizontal partition alignment in case of uneven floor constructions.

No screwing or Grouting on floor will be allowed while adjusting with level adjustors.

Inserting of any type of packing material for above said purpose will not be allowed.

9. POWDER COATING.

- (a) The powder coating to be done on aluminum surface shall be with Epoxy powder of a standard shade or as required. The Finish shall be Matt, glossy /semi-glossy, textured or structure types which shall be as approved by the authority. The variation in thickness of coating shade of the color and finishes shall be achieved varying the temperature of heating. The following seven step phosphate process treatment shall be conducted before powder coating.

- (i) Hot water rinse
- (ii) Knock of Degreasing
- (iii) De-rusting
- (iv) Cold water rinse
- (v) Activation
- (vi) Phosphate
- (vii) Passivation

- (b) . The quality / color / shade of the powder used shall be of reputed approved manufacturer. The contractor shall submit to the authority a sample for approval before finally placing an order. The thickness of powder coating shall be based on the surface being coated and the resilience to weathering effects required for the particular item. The specific gravity of powder should be such that it gives DFT (Dry Film Thickness) of 50 – 60 micron.

. The temperature of oven heating shall be around 185°C. The specialists/manufacturers' specification in using the product shall strictly be adhered to in preference to the specification in the tender.

SCRATCH HARDNESS TEST as per DIN 53153 shall be conducted and results should be such that no scratch shall show bare metal with a load of 3 kgs.

10 .NAIL AND SCREW SPOTTINGS: This process fills any indentation left by the hammer or screw head when fixing the board. With the layer of jointing compound which is struck off level with the face of the board and allow drying. The operation is completed with one more similar application.

11. DRAWER BOX :- Drawer box unit having overall size as required with 3 Equal Drawer (metabox- Hettich) having locking arrangement as per directives of E-I-C The Inside Drawer sides should be made of CRCA Steel of 18G duly powder coated finish with soft roller bearings make of "HETTICH". The bottom should be made of 8mm MDF board which is screwed on to the drawer sides. Drawer should be with locking arrangement. Front Fascia of drawer and shutter are post formed laminated. As per drawing & as directed by the E-I-C.

12. Key Board Tray (Supply with assembling & fixing)

Supplying, Providing & fixing Keyboard tray of minimum 0.8 mm thick steel of approved size and colour. The trays shall be mounted on telescopic channels of ball bearing type mounted on the underside of the worktop.

It shall also have in built LHS/RHS mouse pad, made of 0.8 mm thick MS Sheet with textured black High impact polystyrene pad 3 mm thick. Minimum Length of keyboard tray must be 550mm (width)x 350mm(depth)

14 . Pedestal unit (Supply with assembling & fixing)

Pedstal unit having overall size of 400 X 450 x 650 mm. height with three drawers and as per Requirement or as directed by the E-I-C.

1. **Pedestal unit of size: 450mm X 450mm X 650mm ht.**
2. Pedestals are made from 19mm thk prelaminated plywood with matching colour Edge binding.
3. Drawer unit shall consist of 2 nos 19mm thk prelaminated plywood with approved colour edge binding of 300mm & 350mm ht. over foolscap filing drawers have full extension ball bearing slides.
4. The drawers shall be provided with 19mm thick prelaminated plywood fascia with matching colour edge binding.
5. Mobile pedestals to have an anti-tilt castor and all pedestals shall have an individual locking system.
6. All pedestals and flipper bins have quality locks with removable inner cylinders and are master keyed up to 2000 different combinations.

The sides of drawers be made of 0.80 mm thick CRCA/MS sheet & Bottom / base and back of drawers shall be of 12 mm thick pre laminated MDF board. The filing drawer to fitted with Telescopic sliding channel & Box Drawers with Roller Slides of self-closing action with central

locking system and 100 mm long brush finish Stainless Steel handles for each drawer. All the edges of Drawer Fascia be provided with 2 mm thick edge bending

15 . Back Panel:

Should be made of 8mm MDF Board pressed on both side 0.8mm thick lamination, hold in slit formed in the body / or fitted with standard modular fitting process. Back panel will be slide while covering back portion of HDC. Screwing or “L” brackets are strictly not allowed while final finish. Fitments of back panels will not be from outer surface.

16 . Magnetic Board:

Magnetic Board Shall Be made up of 0.25 mm thk GI sheet over MDF board to match up with the thickness of other tiles or shall be made out of 0.80 mm thk GI Sheet if MDF board is not provided as base The Magnetic Board shall be covered with fabric of approved shed & finish.

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TECHNICAL SPECIFICATIONS OF ‘SUPPLY & INSTALLATION OF OFFICE FURNITURE ITEMS ALONG WITH OTHER INTERIOR WORKS’

1. GENERAL

- a) Testing of materials / works shall be carried out as per latest specification / BIS codes from approved test laboratory. The contractor shall carry out all such tests at his own cost & time. The nos. of samples to be submitted for testing and the frequency of testing shall be as specified in the specifications / standards or codes.
- b) All the works shall be carried out in accordance with drawings, specifications, description of item in schedule of quantities or as per the direction of ARCHITECT to his full satisfaction. If the substitution of any approved / specified material and make, due to its non – availability, with an alternative one, becomes necessary, the agency must get specific approval of the same before placing order for purchase of materials.
- c) Providing and operating necessary measuring and testing devices and materials are included in the Contractor's scope of work. The quoted price shall be inclusive of the cost of all such tests, which are required to ensure achievement of specified quality. No separate payment for testing shall be made.
- d) All finished work must be truly vertical & horizontal or in any other plane as specified. The rates quoted by the agency must include the cost for taking necessary measures to achieve it.
- e) Any scaffolding used shall be of double vertical supports and no portion of

scaffolding shall touch the wall surface.

- f) The workmanship is to be the best available and of a high standard. Use must be made of special trades men in all aspects of the work and allowance must be made in the rates for so doing. Contractor shall maintain uniform quality and consistency in workmanship throughout.
- g) Any work not conforming to specifications or workmanship shall be rejected and the same shall be rectified or removed and replaced with work of the required standard of workmanship at no extra cost to the employer.
- h) Rates quoted for the items shall be valid for carrying out the item of work at any and/ or all floor heights.

MATERIAL DETAILS

1. PLYWOOD

- i) ELASTICITY: - Cross grain 200N/mm²
- j) DENSITY: - 0.75gm/cc
- k) BENDING RADIUS: -

6mm	10mm diameter
8mm	12MM diameter
12MM	30mm diameter

2. MDF BOARDS

- a) MDF is a Medium Density Fibre Board, laminated on both surfaces by synthetic resin-impregnated base papers under the influence of heat pressure. Pre-laminated MDF boards are available in Interior Grades, in both One side Laminated and Both Side Laminated (BSL) varieties
- b) MDF of interior grade with no VOC content shall be used. All MDF board where specified shall be Phenol Formaldehyde bonded and generally conform to IS code and shall bear IS marking.
- c) At every joint of the cladding an expansion gap of 3mm to 6mm should be provided.

PRE LAMINATED MEDIUM DENSITY FIBER BOARDS

PROPERTIES	UNITS	Prelam mdf board specs as per is 14587:2003 grade 2 interior grade
1) Density Variation (Max.)	%	+ / – 10
2) Water absorption (Max.)	%	—
a) 2 hours	—	9
b) 24 hours	—	18
3) Thickness swelling (Max.) 2 hours	%	7
4) Modulus of rupture (Min)	N/mm ²	—
a) Up to 20mm thickness	—	—
Average	—	28
Minimum individual	—	25
b) Above 20mm thickness	—	—
Average	—	25
Minimum individual	—	22
5) Modulus of elasticity	N/mm ²	—
a) Up to 20mm thickness	—	—
Average	—	2800
Minimum individual	—	2500
b) Above 20mm thickness	—	—
Average	—	2500

Minimum individual	—	2300
6) Tensile strength perpendicular to surface	N/mm2	—
a) Up to 20mm thickness	—	—
Average	—	0.8
Minimum individual	—	0.7
b) Above 20mm thickness	—	—
Average	—	0.7
Minimum individual	N/mm2	0.6
7) Tensile Strength Perpendicular to surface	—	—
a) After cyclic test*	—	—
Average	—	—
Minimum individual	—	—
b) After accelerated water resistance**	N	—
Average	—	—
Minimum individual	—	—
8) Screw withdrawal strength (Min.)	N	—
a) Face	—	1500
b) Edge	—	1250
9) Abrasion resistance (Min.) in number of revolutions:	—	—

a) Type I	—	1000
b) Type II	—	450
c) Type III	—	250
d) Type IV	—	75

3. PRE-LAMINATED BOARDS

Pre-laminated boards / high / medium density Fiber boards shall be Phenol Formaldehyde bonded and conforming to IS and shall be with exterior quality adhesive only. Thickness shall be as specified.

PRE LAMINATION / VENEERING TREATMENT

Before Lamination/Veneering the Commercial Flush board with Laminate/ Veneer sheet, the surface to be laminated/veneered should be thoroughly cleaned, all cracks and nails holes filled as directed. The laminate sheet shall be fixed using approved quality adhesive recommended by the manufacturer and applied strictly in accordance to their instruction/specifications. The adhesive shall be applied in a thin layer and while still tacky, it shall be spread evenly with steel in all directions .

4. LAMINATE SHEETS

Laminate shall be of the brand, catalogue surface finish, colour as specified and approved by the Architect. All laminates shall be in finish as per design intent unless mentioned otherwise. Laminates shall comply with standards and specifications.

5. All fittings and fixtures shall be as specified in Schedule of Items or on drawing by Architect. Approved makes only shall be used for respective items. Fittings shall be guaranteed by the manufacturer for its performance.

6. Adhesives and glue shall be as per IS for interior quality and water repellent.

7. Fabric shall be of approved make and shade and fixed with approved adhesive as specified by Architect. Wall fabric shall achieve Class 1 surface spread of flame.

8. FASTENERS

All fixing anchor, bolts, screws, nuts, washers or other miscellaneous anchoring / fixing

devices shall be of non-magnetic stainless steel and approved by Architect and shall provide adequate strength.

GENERAL CONDITIONS

9. SHOP DRAWINGS

- a) The contractor shall prepare detail drawing for site measurement. Drawings shall indicate each material, its installation, fixing details, finishing, etc. all in plan, elevation, section and typical details and will have to get the same approved from the Architect before execution of work.
- b) Shop drawings should be submitted showing the location of each item, dimensioned plans and elevations, large-scale details, attachment devices and other components.
 1. Show details in full size.
 2. Show locations and sizes of furring, blocking and hanging strips, including concealed blocking and reinforcement specified in other sections.
 3. Show locations and sizes of cutouts and holes for cabling fixtures plumbing fixtures, faucets and other items installed in Architectural woodwork.

10. MOCK-UPS

Before fabricating and installing interior Architectural work, mock-ups should be built for each form of construction and finish required to verify selections made under sample submitted and to demonstrate aesthetic effects and qualities of materials and execution. Build comply with the following requirements, using materials indicated for the completed work:

1. Mock-ups should be built in the location and size indicated or, if not indicated, as directed by Architect
2. Notify Architect seven days in advance of dates and times when mock-ups will be fabricated and installed.
3. Mock ups should demonstrate the proposed range of aesthetic effects and workmanship.
4. Approval of Architect for the mock-ups must be obtained before starting interior architectural work fabrication
5. Mock-ups should be maintained during construction in undisturbed conditions as a standard for judging the completed work.
6. Demolish and remove mock-ups when directed.
7. Approved mock-ups may become part of the completed work if undisturbed at time of substantial completion.

12 FABRICATION & INSTALLATIONS

- a) Fabrication shall be plumb, straight and level. Surfaces shall be milled plane and finished smooth. For jointing prepare clean cutout and house / joined in best manner using approved adhesive and concealed pins/screws. Mitre joints shall be preferred but basically shall be as shown in shop drawing and approved by Architect. Joints shall be fitted with due accuracy and hairline tight.
- b) Work to be installed and fitted in contact of adjoining concrete / masonry shall be fabricated with due allowance for site adjustments but within acceptable tolerances.

Fabrication and assembly shall be completed as far as possible in work shop. Prepared items shall be marked prior to shifting for perfect level, align and fix at site.

- c) Counter tops, counter fronts, shelves, cabinets, dividers, drawers, shall be constructed with specific core and shall be finished as specified in drawing or Schedule of Items or as approved by the Architect at site.
- d) Prior to start of any fabrication actual site measurements shall be taken and detail shop drawing corrected accordingly with approval of the Architect.
- e) All work shall be finished free from runs, sags or other visual defects, wood shall be thoroughly smoothened and sanded to remove all traces of machines and tool marks. Surface preparation shall be as per IS code of practice or ready to receive specified finish.
- f) Supervision and workmen employed shall be experienced in field of carpentry works and shall be able to guarantee workmanship and finish of standards as established and approved by the Architect.
- g) Items specified from specific manufacturer with code no. And of approved manufacturer shall be with quality assurance certificate from manufacturer.
- h) The installation should be done by an experienced installer who has completed architectural woodwork (Furniture) similar in material, design and extent to that indicated for this project and whose work has resulted in construction with a record of successful in service performance.
- i) Fabricator should be experienced in producing architectural woodwork similar to that indicated for this project and with a record of successful in service performance, as well as sufficient production capacity to produce required units.

13. FITTINGS AND FIXTURES

- j) All fittings and fixtures shall be detailed in shop drawings, conforming to specification and shall be fixed as per manufacturer's instructions.
- k) Fittings and fixtures shall make assembly sturdy and securely placed.
- l) Where finishes are to be done on installation remove fixtures and allow painter / polisher to work and on completion refix them.

14. PRODUCT HANDLING AND STORAGES

- m) All materials and work shall be protected from damage until final acceptance of work. Cover, ventilate and protect from damage caused by weather, moisture, heat, staining, dirt, abrasions and other causes which may adversely affect appearance or use, or which may cause deterioration of finish warpage, distortion, twisting, opening of joints and seams, delamination, loosening etc of woodwork.
- n) Do not deliver woodwork, until painting, wet work, grinding and similar operations which could damage, soil or deteriorate woodwork have been completed in installation areas.
- o) Damaged or defective items of work in this section are subject to rejection and replacement with new items by contractor at no cost to the Employer.
- p) All materials shall be carefully stored at all times and fully protected from external conditions or contamination.
- q) Wood particle boards shall be stored in packs on a level flat surface in a clean, dry and covering surface with free circulation of air. The edges of boards in a pack shall be in a straight vertical plane.

15. FINISHING

- r) All completed works shall be delivered fully finished in neat and clean condition without any stains, marks, defects, etc. and shall meet with the approval of the Architect. Unless otherwise stipulated all work shall include priming and protective treatments and finishing as required
- s) During the course of work regularly all debris swash excess material shall be cleared and removed from site. On completion clean all places / spaces thoroughly.
- t) Wood work shall be protected from defacement, marring till final completion and hand it over to the Employer.
- u) Repair and replace all defective work prior to final inspection.
- v) Prior to final inspection by the Architect / Employer the contractor to check to ensure proper operations, finish and surroundings.
- w) The approval of work do not relieve the contractor of his liability to maintain to

defects liability period at contractor's cost.

- x) Before fabric wall covering is started in any area, it shall be broom cleaned and excessive dust shall be removed. After wall covering operations begin in a given area, broom cleaning will not be allowed. Cleaning shall then be done only with commercial vacuum cleaning equipment.
- y) The Contractor shall be responsible for protecting all the mirrors & glasses fixed by him till handing over of mirrors & glasses forming part of this contract. The contractor shall replace at his own expense any broken or damaged mirrors glasses caused through lack of adequate protection or care in installation or handling. All installed materials shall be left in perfect condition to the satisfaction of Architect/ Owner.
- z) Upon completion of work, the contractor shall remove all adhesive from the floors, glass and other surfaces. Remove from the premises all rubbish and accumulated materials of whatever nature, not caused by others, and leave this part of the work in clean, orderly and acceptable conditions.
- aa) All paints / polish shall have VOC within limit as specified in Tender Documents as per Green Building requirements. Paints used in the works shall conform to the respective IS or equivalent, other international standard (if specially specified) and code of practices. These shall be the latest revised.

16 FURNITURE

- bb) This section of the specification shall be read in conjunction with the Drawings and other contract documents, and other sections of specifications which shall be deemed to be complimentary to one and another, in particular the technical specifications, painting section etc. The Contractor carrying out this work shall be responsible for providing all labour, plant, tools, materials and everything necessary for the proper execution, completion and maintenance of these works. All furniture shall be of contract quality and suitable for commercial use.
- cc) DIMENSIONS
All wood sections are approximate and are given for reference to prepare the sample. The size of sections is likely to vary 15%. No deduction or enhancement of rate shall be considered on this account. Figured dimensions shall be taken in preference to scaled dimensions in all cases. Before commencing any works, the Contractor shall verify all measurements on the site.
- dd) All loose furniture items brought at site shall be kept in wrappers (polythene) sheets to avoid any damage to the item. All materials to be insect and vermin free.
- ee) HARDWARE

Hinges, locks, latches, door handles, nails, etc., shall be as specified or as approved substitute equal or be better than the specified. For fixing drawer slides (runner slides), auto closing hinges etc. hole pattern as recommended by the manufacturer. Cup holes shall be punched very accurately mechanically only using a drill bit, drilling template. Drilling positions shall be to suit the kind of hardware used. Marking of drill holes shall be corresponding to hinge type.

ff) JOINTS & ADHESIVE

All joints shall be standard mortise and tenon dowel, dovetail, cross halved, tongued & grooved or rebated. Nailed butt joints will not be permitted. Where mortise & tenon joints are used tenons shall fit the mortise exactly. Adhesive shall be as approved for Carpentry and joinery. Lap joints with glue shall be permitted in wood skirting. The designer may require these joinery and joints to be accentuated in various components. Joints shall be allowed only as shown in the drawings. No joint shall be allowed in a structural member of the furniture such as legs, bracing members etc.

gg) FASTENINGS & ZIPPERS

Screws, nails etc. shall be of standard iron or wire. Pillow cases shall have concealed non rusting zippers for easy removal of casing and cleaning. All rearms must be double safety shifted with quality matching threads.

hh) STORAGE, PROTECTION, DELIVERY & INSTALLATION OF FURNITURE & FURNISHINGS ON COMPLETION

Wherever and whenever required all items of loose furniture shall be installed in the positions shown on the drawings, during period inspections (if desired by the Owner) and on completion. All expenses towards transportation (cartage etc. shall be borne by the contractor).

The contractor shall provide storage, protection and guard all fixed items and loose items of furniture, textures, fittings and all other furnishing from dust, fire, damp, theft or any other damage until the date of hand over of the completed works.

The contractor shall make his own investigations to guard against local sources of attack and damage and take all necessary precautions for protection. On the completion of the installation of all work the Contractor shall leave all work clean and perfect. Visual Inspection before covering up: - Timber shall be treated with approved wood preservative before use. Before starting the carpenters work, the contractor shall have the rough timber approved by the Owner

17. The contractor shall submit for approval of the following:

- a) Literature / Catalogue of product to be used.
- b) Test certificates from independent laboratories conforming that product

meets standards specified.

- c) Manufacturers certification that product meets / exceeds specification for the project.
- d) Include data for wood preservative treatment and chemical treatment from manufacturer and certification by treating plant that treated materials comply with requirement.
- e) Literature describing each fabric wall covering product and its suitability for the surface intended shall be submitted. List materials composition of fabric materials including backing.
- f) Samples: 3 nos each of:
 - Alu Sections
 - Laminates - 300x300 with shade samples
 - Prelaminated board of interior quality - 300 X 300 mm
 - MDF Board of interior quality - 300 x 300mm
 - Samples with polish / paint finish as specified.
 - Fittings and fixtures samples
 - 600 x 600mm samples for each type of fabric wall covering

Approved make for Panel based furniture and Partition system:

- **Aluminum : Hindalco, Balco, Jindal**
- **Decorative Laminate : Formica, Merino, Green lam, Century**
- **MDF Board : Nuwud, Dura tuff, Action tyesa**
- **Edge bands : Rehau Or Dolken Make**
- **Eccentric Locking : Hafles, Hettich**
- **Powder Coating : Jotun**
- **Metabox : Hettich**
- **Hinges : Hettich, Hafles**
- **Hot melt Glue: Ici, Jowat**
- **Adhesive : Fevicol**
- **Miscellaneous Hardware :- Hettich, Hafles**
- **Back painted Glass :- Modiguard, Saint–Gobain**
- **Locks : Aries**
- **Telescopic channel :- Ebco, Hettich**
- **Plywood BWR Grade := Century, Archid Ply, Green Ply**
- **Softboard : Celotax Or Equivallent.**

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Remarks: Above mentioned brand is tentative however equivalent brands can be utilized with the approval of Engineer-in-charge