

SECTION E**JOINERY WORKS****1.0 GENERAL**

- 1.1 All joinery works shall be specified herein and in relevant clauses with the General Specification of this tender.
- 1.2 Based on the Tender/Construction drawings prepared by the Designer, which show the overall dimensions of the cabinets and general layouts. Contractor is to submit three (3) sets of shop drawings for the entire furniture, clearly indicating all dimensions, inclusive setting out data, details of the materials, installation accessories, fixing, hard wares, etc. and all other constructional requirements.
- 1.3 All joinery work is to be accurately set out, framed and executed in accordance with the detail drawings and finished in a proper and workmanship manner. All opening sizes and dimensions are to be taken out from site and on detail drawings and not from these Bills of Quantities. The Contractor is to take all measurements for joinery works at site and not from the drawings for fabrication and installation.
- 1.4 In the event of any uncertainty about the intentions and details of the work the Contractor is to consult Designer
- 1.5 Samples of all materials and fittings intend to be used in the Works shall be submitted before commencement of work. These samples or any alternative thereof if approved by the Designer shall be retained to form the bases for checking against the actual materials and fittings used in the Works. All samples submitted shall be free of cost.
- 1.6 Contractor is responsible for ascertaining and ensuring that the building operations are arranged in all respects so that the joinery works may be carried out in accordance with the instructions contained in this Specification or as shown on the drawings. In the event of any uncertainty about the intentions and details of the work, the Contractor is to consult the Designer.
- 1.7 Joinery work is to be executed in the best possible manner, properly screwed. Tensioned, moulded, wedged, pinned and glued with all exposed faces wrought and sandpapered as required and the heads of all screws are to be countersunk and pelted over in grain.
All timber is to equal samples submitted by the Contractor and approved by the Designer.
- 1.8 Where the joinery works are specified or shown to be fixed-in, it is the responsibility of the Contractor to ensure that the necessary fittings are incorporated in the carcass. Or alternatively, the Contractor may construct such ground works as are required to provide a suitable base and fixing for the joinery works.
- 1.9 The Designer / PM reserves the right to inspect any item of the Works at any time to determine whether the Works are or have been performed or constructed in accordance with this Specification, the Tender Drawings and/or approved shop drawings. In the event such inspection determines that any of the Works do not comply with this Specification or with the Tender Drawings and/or approved Shop Drawings. Contractor shall pay all costs of the initial inspection and subsequent re-inspections and shall forthwith make good all of such works that do not comply at no additional cost and time to the Client.

- 1.10 Defective products will be rejected regardless of previous inspections. Inspection does not relieve the Contractor's responsibility, but is a precaution against oversight or error. The Contractor shall remove and replace defective products at his own expense and be responsible for delays and expenses caused by rejection.
- 1.11 Any portion that warps, is winding or develops shakes or other defects within fifteen months after the completion of the works shall be removed and new portions fixed in its place together with all other work which may be affected thereby all at the Contractor's own expense.

2.0 DOORS

- 2.1 All flush doors shall come with acoustic requirements as required under the general specification. Dimensions indicated in the drawings or door schedules are for reference only, contractor shall verify site constraint and submit shop-drawing for approval by PM / Designer.
- 2.2 Colour/surface and material finishes for the doors as per specified in tender drawings. All doors shall have hardwood ripping around the edges, mitre at intersections and rebated to receive all finishes.
- 2.3 New solid timber door jamb as shown in drawing shall come in selected finishes and to be secured to brick or concrete surface with holdfast, screwed to re-inforced framework of all partitions.
- 2.4 All hinges used shall be of cam-lift type with selection to the PM's approval. All door concealed closers and hinges shall operate smoothly on door closing and opening.
- 2.5 All door handles and mortise locksets shall be selected by PM / Designer. All mortise lockset shall come with thumb-turn on the internal side and key-hole on the exterior side. 3 keys shall be provided for each door with master key system for all doors.
- 2.6 Where necessary, the doors shall be provided to meet the fire rating requirement. The Door Specialist Contractor shall produce Certificate of Conformity issue by PSB upon completions. Labels indicating the hour rating shall be provide on all doors.
- 2.7 Doors with viewing Panels of any size shall come in minimum of 6 to 10mm thickness. The Contractor shall ensure that no condensation will take place in the glazing cavity upon installation of the viewing panels.
- 2.8 Sliding timber door shall come with approved type sliding mechanism, if required, contractor shall provide mock up samples for PM/Designer to test.
- 2.9 Glass doors shall come in minimum 12mm thick tempered clear glass panel with approved frosted pattern as per tender drawings. Frosted film sample and artwork for pattern shall be submitted for Designer's approval before installation. Approved floor spring, pivot, handles and iron mongeries shall be submitted for Designer's selection along with waist-height glass door lock in stainless steel finish.
- 2.10 Sliding Glass doors shall come in minimum 12mm thick tempered clear glass panel with approved frosted pattern as per tender drawings. Frosted film sample and artwork for pattern shall be submitted for Designer's approval before installation. Designer's sliding mechanism shall be submitted for approval along with handles, iron mongeries waist-height glass door hook lock in stainless steel finish.

- 2.11 Fire rated glass doors where specified, shall be provided to meet the fire rating requirements. The Door Specialist Contractor shall produce certificate of conformity upon completion. Labels indicating hour rating shall be provided on all doors.

3.0 SKIRTING

- 3.1 All skirting profile where specified under the tender drawings shall be submitted for Designer's approval. Colour, material and surface finishes on all skirting shall be included for selection and endorsement
- 3.2 Skirting shall be provided throughout the entire walls and partition's base of each and every floor. Contractor shall seek Designer's clearance on skirting joints at areas where abutting to adjacent finishes is not ideal.
- 3.3 There shall be no joints for skirting between each individual straight stretch of wall/partition. Contractor shall allow for diagonal butt joint on areas where joints are unavoidable due to length limitation.
- 3.4 Skirting shall be accurately scribed to fit the contour of any curve surface against which they are required to form a close butt connection.

4.0 VENEER PANELLING

- 4.1 Veneers shall be approximately 1.0mm thick and straight grained and properly bonded to the backing. Samples of the veneer shall be submitted to the Architect for approval prior to production
- 4.2 No veneer face work to be filled or pelted. Clean splits allowed if paper tapped prior to application. Surface of face veneers to be dampened and fine sanded prior to application of finishes.
- 4.3 Surface varnishing shall base methods as per specified under Section D of this document.

5.0 FABRIC PANELLING

- 5.1 The extent of internal fabric acoustic lining and panel to walls shall be as indicated in the drawings. All fabric acoustic lining shall be installed on a backing plywood baseboard. Clearance must be given by PM/Designer should contractor feel that the wall for the intended lining is flat and do not require the baseboard.
- 5.2 The lining shall skip over light fittings, aircon diffusers & return grilles, power sockets, viewing panels and doors. The Contractor shall be responsible to finish the lining neatly around them.
- 5.3 The acoustic absorptive lining shall be cosmetically covered with selected fabric.
- 5.4 The fabric liner to the acoustic lining shall be minimum 0.8-1.0mm thick. The Contractor shall submit selected range of fabric samples for approval by Designer.
- 5.5 Fixing of fabric to aluminium or timber framing with backing plywood baseboard shall be by stapling or nailing with beading. No gluing is allowed. Where necessarily, all visible nail holes shall be plugged and sealed to match the surface Colour finish.

- 5.6 Fabric covering shall be maintained and match the direction of weave of fabric to achieve sequential and uniform installation.
- 5.7 The Contractor shall ensure that the installation of fabric onto the securing framework shall be stretched tightly, firmly and smoothly and be free of defects and flaws to the satisfaction of the Designer, or shall be equivalent to the approved sample finish.
- 5.8 All materials selected shall be subjected to the approval or compliance to fire safety codes in regard to flame spread and retardant.
- 5.9 The Contractor may submit alternative internal lining installation method. The proposed must result in neat, firm and equivalent finish. The Contractor shall not proceed with the alternative system for the actual installation without the formal approval of the Designer.

6.0 METAL WORKS

- 6.1 All stainless steel shall be of high chromium and nickel steels in accordance to American Iron and Steel Institute (AISI) stainless steel grade 316. The stainless steel shall contain 18% chromium, 10% nickel and 2% molybdenum. It shall be coated with 86% lead and 14% tin. The stainless steel shall be resistant to acidification of rain and atmospheric corrosion. It shall have a tensile strength of 550 to 700 N/mm².
- 6.2 All stainless steel shall be factory fabricated to the best standard of workmanship and under factory supervision and control. They shall be free from defects, impairing strength and durability. All weld shall be stainless steel weld.
- 6.3 All stainless steel bolts used will include heads, nuts and washer.
- 6.4 All stainless steel shall come either in hairline finish or high-polish finish unless otherwise indicated in the tender drawings. All exposed surfaces shall be free from scratches and other surface blemishes.
- 6.5 Shop drawings of all stainless steel components specify throughout the areas will have to be submitted before fabrication.

7.0 CARPENTRY DETAILING

- 7.1 All carpentry work is to be accurately set out, framed and executed in accordance with the detail drawings and finished in a proper and workmanship manner. All dimensions are to be taken out from site and verify base on dimensions indicated on drawings.
- 7.2 Unless otherwise specified, provide finger edge pull grooved into top, bottom or vertical edges of drawers or cabinet doors. All built-in joinery, fittings shall also include for the necessary adjustable shelves with adjustable metal supports and all fixing accessories.
- 7.3 All cabinet carcasses shall be finished in selected laminate, veneer or others. All edging to carcasses shall be in 0.5mm PVC to match Surface laminate. All internal finishes of cabinet/ furniture shall be white polykem finishes unless otherwise stated.
- 7.4 All cabinet if specified shall come with individual key lock, each lock shall be provided with 2 keys together with a master key system of minimum 5000 combinations.

- 7.5 All full height cabinet as specify inside tender drawings shall come with 50mm clearance for top and bottom carcasses to avoid cabinet doors rubbing against ceiling or floor. Minimum 6mm thick clear float glass shall be incorporated at cabinets for display. Expose surface of all display cabinet shall come with matching finishes as per specified inside tender drawings.
- 7.6 Low height cabinet or worktop shall come with 2 standard height of 750mm or 850mm. Areas where equipment will be placed or for seating work place shall come in 750mm height. Areas where work task is carry out base on standing position shall come in 850mm height. Contractor shall verify with designer if a discrepancy is spotted inside construction drawing.
- 7.7 Solid surface worktops for all wet area shall come with 35mm flat surface edging with 50mm height back-splash. All joints between solid surface and plywood shall be completely sealed with silicon in-fills.
- 7.8 Top hung cabinet shall come in standard 350mm depth and shall be between 1350 to 1500ht above floor level depending on usage per areas. Top hung cabinet shall be fixed on partition/wall with re-inforcement added.
- 7.9 Freestanding cabinet shall come completely finished on all 4 sides of the cabinet excluding surface worktop. Surface worktop shall come in selected plastic laminate or solid surface finish.
- 7.10 Matching solid wood edging shall be added for all expose veneer finished on worktops and meeting/board room table. Contractor shall submit sample profile of solid wood edging for Designer's approval.
- 7.11 Freestanding desk shall come with adjustable guides below all bases to suit the existing uneven floor level.

8.0 NOTICE BOARD / WHITEBOARD

- 8.1 The installation of the notice board and white boards shall be in accordance with the manufacturer's recommendations.
- 8.2 Notice board shall come with selected fabric upholstery at all areas as specified inside tender drawings. Notice board shall come with plywood back and cort board as per indicated inside drawings.
- 8.3 All whiteboard surfaces shall come with furnishing and installation of 0.65mm thick Alliance ceramicsteel Whiteboardo N-reflective Surface, P3 bonded onto 18mm thk plywood backing.

The Non-Reflective Surface shall give a distortion of less than 16.02 or equivalent, measured on a specific wavelength (Wd of 3-10mm) at a distance above 3m.

The DRY ERASABILITY (dE*measured color change) shall be better than 1.0 or equivalent.

Samples 300 x 600mm to be submitted upon approval of design details approved by Designer.

Shop drawings to be submitted for Designer's approval before fabrication. Approval of shop drawings will not relieve the Contractor of any responsibility including accuracy of dimension and detail.

- 8.4 Surface Appearance
- (a) The surface shall be specially formulated for use with dry markers and must be dry erasable.
 - (b) All surface hardness shall be between 3-5 of Mohr's scale and according to DIN-EN 101. Average hardness shall be 1500 N/mm²
 - (c) All surfaces shall be free of exfoliation, cracks, pits, blister, buckling and rippling. Any other blemish shall not be visible at a distance of 1.5m or more from the board when viewed at eye level. nor penetrate more than one coat of enamel.
 - (d) Board faces shall be free of chipping.
- 8.5 Solid wood or stainless steel or aluminium trimming surround all notice board shall be as per specified inside tender drawings. Marker tray for whiteboard shall come in matching framework finishes.
- 8.6 Glass whiteboard surface as specified shall come with stainless steel studs suspended 25mm away from wall surfaces. Wall surfaces shall be finished in white polykem, plastic laminate or paint finish. All glass panel shall come with a layer of frosted film as indicated inside tender drawings.