
1.0 **GENERAL**

1.1 **GENERAL INSTRUCTIONS**

- .1 Work of this Section shall conform to the requirements of the Contract Documents.

1.2 **QUALITY ASSURANCE**

- .1 Grade stamp lumber prior to delivery by the manufacturer.

1.3 **DELIVERY, STORAGE AND PROTECTION**

- .1 Protect materials from weather while in transit and on site.
- .2 Store materials on site to prevent deterioration or loss or impairment of structural or other essential properties. Avoid rapid changes in moisture content.
- .3 Cover materials with tarpaulins or polyethylene sheeting.
- .4 Protect fire retardant treated materials from dampness.
- .5 All doors and frames will be delivered to the site at ground level. Receive, check and store doors and frames in a suitable area protected from the weather. Store in accordance with manufacturer's directions to prevent warping and damage. Cover and protect from damage resulting from other work.
- .6 Ironmongery will be delivered to the site at ground level. Receive, check and store on suitable shelving in a locked dry storage room. Be responsible for the safekeeping of all ironmongery.

2.0 PRODUCTS

2.1 MATERIALS

- .1 Materials containing borer holes that have been caused by powder-post beetles will be rejected.
- .2 Wood Materials: straight, sawn square, true, dressed four sides, properly sized and shaped to correct dimensions from nominal sizes indicated or specified. All wood materials well seasoned, free from defects, which impair strength and durability. Moisture content limit, S-DRY: Maximum 19%.
- .3 All materials referred to shall be as per the respective classifications identified in the Malaysian Forest Service Trade Leaflet #38. Grading of materials shall be in accordance with the 1984 edition of the Malaysian Grading Rules.
- .4 Blocking, Grounds: shall comply with above designation, Schedule No.1 - Group A and Group B.
- .5 Rough Hardware: nails, screws, bolts, lag screw anchors, special fastening devices and supports required for the erection of all carpentry items. Rough hardware occurring exterior to the building vapour barrier shall be stainless steel.
- .6 Fire - Retardant Treated Lumber and Plywood: pressure treated with fire retardant where indicated. Provide identification from a testing laboratory or producer certifying to the performance. Minimize fabrication of the lumber after treatment.
- .7 Plywood: for interior and exterior purposes shall be manufactured with moisture resistant bond and weather and boil-proof bond respectively, in compliance with MS 228: 1974. Plywood shall be Grade 3.
- .8 Wood Preservative:
 - .1 All materials, except the heartwood of the naturally durable wood shall be impregnated by means of vacuum pressure process in accordance with MS 360 using copper/chrome/arsenic wood preservatives confirming to MS 733 in the treatment plant approved by the Malaysian Timber Industry Board.

Use		Minimum nett dry Salt retention
(i)	Interior and above the ground	5.6 kg/m3
(ii)	Exterior and above ground	8.0 kg/m3
(iii)	Exterior and in Contact with the ground ... (Other than foundation piles).	12.0 kg/m3
(iv)	Foundation piles.	16.0 kg/m3
.2	Cut all materials to final dimensions before treatment. Where cross cutting or further dressing cannot be avoided, coat exposed surfaces with approved preservative.	

3.0 **EXECUTION**

3.1 **PREPARATION**

- .1 Examine surfaces to receive this work and proceed only when conditions are satisfactory for a proper installation.

3.2 **INSTALLATION - GENERAL**

- .1 Properly frame material with tight joints and secure in place. Design construction methods for expansions and contraction of the materials. Erect work plumb, level and square and to requires lines.
- .2 Do not regards blocking and other rough carpentry indicated as complete or exact. Provide rough carpentry items required for the installation of the work of other trades.

3.3 **BLOCKING, SHEATHING, STRAPPPING AND CANTS**

- .1 Provide rough carpentry, including carpentry for temporary enclosures.
- .2 Provide temporary ladders as required.
- .3 Make special reference to wood blocking at roof and supply and install to sizes and centres indicated. Wood to be pressure-treated and installed with staggered joints for air breathing.

3.4 **ROUGH CARPENTRY**

- .1 Provide rough carpentry, including carpentry for temporary enclosures.
- .2 Provide fasteners long enough so that at least half their length penetrates into the second member, staggering the fasteners in the direction of the grain and keeping fasteners well in from edges. Use spiral or annular nails for plywood.
- .3 Fasten to hollow units with toggle bolts; to solid masonry or concrete with lead expansion shields and lag. Do not use organic fibre or wood plugs.

3.5 **STEEL FRAMES**

- .1 Set up steel door frames for building into masonry partitions to suit Construction Schedule. Accurately locate, set plumb and square, anchor to floor and properly brace to maintain alignment while masonry is being erected. Remove bracing after masonry has been completed.

3.6 **DOORS AND HARDWARE**

- .1 Distribute doors to correct locations and install using ironmongery.