

position in which they are to weld and the qualifications and specifications for workmanship shall comply with the AWS requirements "AWS Structural Welding Code – Steel"

#### **Delivery and Storage**

- Exercise Care during unloading, storage and erection to avoid damage, dumping on the ground is not permitted.
- Support material stored at the site completely free of the ground, and cover to avoid damage from the elements.

#### **Materials**

- General: Materials shall be new, of uniform quality, suitable and without defects affecting the strength or service of the structure.
- Structural Steel, Pipes, Tubes and bolts: in accordance with General Structural Notes on drawings.

#### **Execution**

##### **Examination:**

- Verify anchor bolt locations, grouting, and elevation of base and setting plates and other material set by other trades before commencing work.

##### **Erection:**

- Erect work to the proper lines and levels, plumb and true, and in correct relation to other work and maintain this condition to completion.

##### **Connections:**

###### **• Machine Bolting:**

- Fair-up holes with pins to align holes before bolting.
- Ream unfair holes to obtain alignment or drill new holes.
- Enlargement of holes with drift pins or burning of new holes is not permitted.
- Draw bolt up tight after members are aligned and leveled, and set or deformed threads to prevent loosening.

###### **• Welding:**

- Weld by shielding arc method as per AWS standard code for arc and gas welding in building construction.
- Submit certification that welders have passed Welder's qualification test.
- Certification must be dated no earlier than 3 months prior to beginning of project.
- Close joints exposed to weathering with continuous 1/8" weather welds.
- Grind smooth exposed welds, but grinding shall not reduce weld strength or required cross section.
- Connect members temporarily and align completely before making permanent connections.
- Temporary connections shall consist of bolts on no less than 1/3 of the holes and in no case less than 3 bolts in any single connections.
- Surfaces in contact shall be thoroughly clean when assembled.

- Provide necessary temporary bracing and guying to align the structure properly for permanent connections, and to safely resist erection dead load and wind stress.
- Take particular care to have the work plumb and level (maximum tolerance 1- 500 for interior members, 0- 1000 for exterior members) before making permanent connections
- Remove bracing and guys only after permanent alignment and assembly and structure area capable of completely sustaining design and temporary construction loads.

#### **Cleaning**

- During the course of the work and on completion of the work, remove excess materials equipment and debris and dispose of away from premises in a legal manner.

### **Division 6 – Wood & Plastic**

#### **06100 Rough Carpentry**

##### **Scaffoldings**

- Provide sample for approval. Appropriate scaffoldings and related framing system shall be the contractor's account.

### **Division 8 – Doors & Windows**

#### **Doors**

##### **Scope of Work**

- The work covered by this Item shall consists of furnishing all fabricated door and jambs, equipped with fixing accessories and locking devices in accordance with Plan and/or shop drawings and as herein specified.

##### **Material Requirements**

- **(D-1) DOUBLE PANEL STEEL FLUSH DOOR**
  - Description: Double Panel Steel Flush Door w/ steel jamb, stainless vertical pull handle, stainless butterfly ball bearing hinges, door closer and lock cylinder (One side cylinder, one side knob)
  - Dim: 1.80m x 2.40m
  - Quantity: 2 sets
- **(D-2) SINGLE PANEL FIRE RATED STEEL DOOR**
  - Description: Galvanize sheet GA#18, Jamb GA#16 complete w/ panic device rated as BS476 w/ door closer powder coated finish
  - Dim: 0.90m x 2.10m
  - Quantity: 1 set
- **(D-3) FLUSH DOOR W/ VIEWING GLASS**
  - Description: Solid Core HDF, Laminated w/ PVC & Melamine sheets complete with lever type door lockset
  - Dim: 0.90m x 2.10m
  - Quantity: 3 sets



- **(D-4) FLUSH DOOR W/ LOUVER**
  - Description: Solid core HDF, Laminated w/ PVC & Melamine sheets complete with lever type door lockset and wood louver.
  - Dim: 0.65m x 2.10m
  - Quantity: 3 set(s)
- **(D-5) STEEL FLUSH DOOR**
  - Description: Galvanize sheet GA#18, JambGA#16 complete w/ lever type door handle w/ door closer powder coated finish.
  - Dim: 0.90m x 2.10m
  - Quantity: 1 set
- **(G-1) DOUBLE STEEL GATES**
  - Description: Wrought iron grills complete with gate bolt, heavy duty hinges, black paint finish.
  - Dim: 3.04m x 3.40m
  - Quantity: 3 sets
- **(G-2) STEEL GATES**
  - Description: Wrought iron grills complete with gate bolt, heavy duty hinges, black paint finish.
  - Dim: 2.28m x 2.10m
  - Quantity: 1 set

#### **Windows / Glass Structure**

##### **Scope of Work**

- The work covered by this Item shall consists of furnishing all fabricated windows, including materials, labor, tools and equipment required in undertaking the proper installation as shown on the Plans and in accordance with this Specifications.
- **(W-1) STEEL CASEMENT WINDOW**
  - 6mm thk clear tempered clear viewing glass on steel casement frame painted finish including accessories.
  - Dim: 4.50m x 1.20m
  - Quantity: 1 set
- **(W-2) AWNING WINDOW**
  - 6mm thk Tempered clear viewing glass in aluminum powder coat finish including accessories.
  - Dim: 0.80m x 2.10m
  - Quantity: 4 sets
- **(W-3) AWNING WINDOW**
  - 6mm thk Tempered clear viewing glass in aluminum powder coat finish including accessories.
  - Dim: 0.80m x 0.60m
  - Quantity: 2 sets

- **(W-4) SWING TYPE WINDOW**
  - 6mm thk Tempered clear viewing glass in aluminum powder coat finish including accessories.
  - Dim: 2.50m x 1.20m
  - Quantity: 1 sets
- **(W-5A) AWNING WINDOW (24 Panels)**
  - 6mm thk Tempered clear viewing glass in aluminum powder coat finish including accessories.
  - Dim: 5.74m x 2.20m
  - Quantity: 9 sets
- **(W-5B) Mesh Barrier**
  - Refurbishing and modification of existing mesh barrier
  - Dim: 5.74m x 2.20m
  - Quantity: 9 sets
- **(W-6) MANUALLY OPERATED LOUVER PANELS**
  - Metal Fabricated frame using 1-3/4" x 4" and 1-3/4" x 6" painted finished, w/ aluminum weather strip including accessories.
  - Dim: 7.41m x 2.99m
  - Quantity: 2 set
- **(W-7) MANUALLY OPERATED LOUVER PANELS**
  - Metal Fabricated frame using 1-3/4" x 4" and 1-3/4" x 6" painted finished, w/ aluminum weather strip including accessories.
  - Dim: 5.74m x 2.20m
  - Quantity: 9 set
- **(W-7.10) MANUALLY OPERATED LOUVER PANELS**
  - Metal Fabricated frame using 1-3/4" x 4" and 1-3/4" x 6" painted finished, w/ aluminum weather strip including accessories.
  - Dim: 7.41m x 2.20m
  - Quantity: 2 set
- **(W-8) SLIDING WINDOW**
  - 6mm thk Tempered clear viewing glass in aluminum powder coat finish including accessories.
  - Dim: 2.00m x 1.20m
  - Quantity: 3 set
- **(W-9) FIXED VIEW WINDOW**
  - 6mm thk Tempered clear viewing glass in aluminum powder coat finish including accessories.
  - Dim: 2.00m x 1.20m
  - Quantity: 1 sets

## Division 9 – Finishes

### 09500 Ceiling

#### Scope of Work

The work covered by this Item shall consists of furnishing all ceiling finishes, equipped with fixing accessories in accordance with Plan and/or shop drawings and as herein specified.

#### Material Requirement

- Use 600mm x 600mm x 6mm bio-composite board moisture and fire resistant: 1000kg/m<sup>3</sup> normal dry density, 14N/mm<sup>2</sup> flexural strength & 2.5kj/mm<sup>2</sup> impact strength , on powder coated T-runner, painted finish.
- Use 6mm bio-composite board on metal furring puttied, sanded and painted finished.

#### Construction Requirements

- Provide all the necessary preparation of ceiling.
- Hanger rod with adjustable clip shall be at 1.00 m maximum interval both ways but provide additional hanger and support on critical areas.
- Provide all the necessary accessories and framing for proper installation.
- Ensure adequate hanger and support to all the utilities on the area.
- Restore all affected areas.

### 09600 Flooring

#### Scope of Work

This Item shall consist of furnishing all floor finishes, labor, tools, equipment and the satisfactory performance in undertaking the proper application of epoxy paint as shown on the Plans and in accordance with this Specifications.

#### Material Requirement

- **(FF-01)**
  - 300mm x 300mm x 3mm thk homogeneous vinyl tiles
- **(FF-02)**
  - Rolled Vinyl Sheets (2mm thick)
- **(FF-03)**
  - Heterogeneous Compact Indoor Sports Flooring (5mm thick)
- **(FF-04)**
  - Heterogeneous compact indoor sports flooring (8.3mm thick)
- **(FF-05)**
  - Self-leveling Epoxy, Non-slip, High Traffic floor finish
- **(FF-06)**
  - 600mm x 600mm Porcelain Tiles