



## TECHNICAL SPECIFICATIONS

- Project Title:** Proposed Installation of Tempered Glass Wall / Partition & Waterproofing of Roof Deck of I.D.R.U. Office
- Project Location:** Science Garden Complex, BIR Road East Triangle, Diliman Quezon City

### SECTION 01

#### GENERAL REQUIREMENTS

##### 1.1 Entry onto The Site

- The Contractor shall keep records of the dates of his entry onto and departure from PAGASA Science Garden Complex.
- All temporary buildings the Contractor proposes to erect on site shall be subject to the approval of PAGASA in respect of size, construction and position

##### 1.2 Procedure for complaints and claims for damage

- The Contractor shall notify PAGASA in writing immediately following any damage or injury arising out of the execution of works.

##### 1.3 Protection against damage

- The Contractor shall take all necessary precautions to avoid causing any unwarranted damage to roads, properties, trees and other features and, during the currency of the Contract, shall deal promptly with any complaints by owners or occupiers.
- Should any leakage or damage be discovered, the Contractor shall at once notify PAGASA or owner concerned, as appropriate and the Contractor shall afford every facility for the repair or replacement of the facilities affected.

##### 1.4 Tidiness of site

- The Contractor shall be responsible for the tidiness of the Site at all times.



#### 1.5 Electricity Distribution on the Site

- Temporary Electrical installation shall not proceed until approval is obtained.

#### 1.6 Personal Safety Equipment

- The Contractor shall provide its personnel and visitors with appropriate safety equipment, such as helmets, safety footwear, gloves, waterproof clothing, dust masks and safety belts. The use of such safety equipment shall be compulsory.

#### 1.7 Uniform

1. All employees of the Contractor working at the site shall be in uniform at all times.

## SECTION 02

### MATERIALS

#### 2.1 Storage and Stockpiling of Materials

- Materials and components shall be stored and stockpiled in such a manner as to preserve their quality and condition to the standards required by the Contract.
- The quantity of materials stored and stockpiled on the site shall be consistent and sufficient as required for the efficient implementation of work. as scheduled.

#### 2.2 3mm. thick Torch-on, Sheet waterproofing membrane

##### 2.2.1 Material Requirements

Length:	10m.
Width:	1.0m.
Thickness:	3.0mm.
Water Tightness:	> 60kPa
Water Vapor Pressure:	< 0.2g/24 hours/m <sup>2</sup>

##### 2.2.2 Application Procedure

- Clean, sound and dry, homogeneous, free from oils and grease, dust and loose or friable particles.
- Application by brush, roller or airless spray. Waiting time is dependent on the temperature, for the primer to complete evaporation. (Note: Priming is not required for the second and further membrane layers)
- The membrane is fully bonded to the substrate by the torch-on method using a gas torch.
- Unroll and position the membrane roll with polyethylene film surface on the substrate.
- Roll out half a roll length, heating the membrane reverse with the gas flame until it melts the polyethylene film and bitumen mass, allowing continuous unrolling.
- A bead of liquid bitumen must be visible on the underside of the roll.



- The torch-on membrane must be firmly pressed onto the substrate in order to avoid air entrapment using a special roller or heavy brush.
- Repeat the procedure with the second half of the roll.
- All membranes must be overlapped by a min. 100mm. The seams must be finished with a roller to prevent the formation of any gaps or voids.

### 2.2.3 Membrane Waterproofing Cement topping

- Provide concrete cement topping of at least 50mm. thick on the membrane after five days where protective coatings have been applied.
- Concrete cement topping should be class “A” (3000psi) with 9mm. pea gravel and preferably provided with Ga. #8 2’x4’x8’ B.I. Steel Matting.

### 2.2.4 Basis of Payment

Pay Item Number	Description	Unit Measurement
1016(2), 1021(3), (1032(1)a	Waterproofing Bituminous Torch-Membrane w/ 2" concrete topping incl. cleaning and removal of molds	L.S

## 2.3 Tempered Glass

### 2.3.1 Material Requirements

#### 2.3.1..1 Kind FT, Fully Tempered Glass

- Shall have minimum surface compression of 69MPa (10000 psi) or an edge compression of not less than 67Mpa (9700 psi)
- Thickness = 10mm. (partition, sliding doors and swing type doors)

#### 2.3.1..2 Break Test Requirement for Kind FT Glass

- Test and interpret in accordance with ANSI Z97.1

### 2.3.2 Installation

- Safety precaution and procedure shall be taken in determining the sizes and providing the required clearances by measuring the actual opening to receive the glass. Movable items shall be kept in closed and locked position until glazing has thoroughly set.
- Set glass in aluminum frames of interior partitions in felt channel insets or edded in putty to prevent any rattle.
- Glass breakage caused in executing the work or by faulty installation shall be replaced by the contractor without extra cost.
- Improperly set glass which does not fully meet the requirements of its grade shall not be accepted and shall be replaced without extra cost.
- Putty shall be neatly run in straight lines parallel with inside of glazing rebate; corners shall be carefully made; all excess putty shall be removed and surfaces left clean.

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- Clean all glass on both sides after putty has been applied completely. Do not disturb edge of putty with scrapper. At completion of work leave glass and glazing works free from cracks and rattles and clean on both sides.
- The contractor shall submit for approval duplicates sample (150mm. x 250mm.) of each type of glass bearing manufacturer's label and a can of each type of putty.

### 2.3.3 Basis of Payment

Pay Item Number	Description	Unit Measurement
1012	Glass and Glazing (Tempered Glass Partition & Door)	L.S

## 2.4 9mm. Gypsum Board on Metal Framing

### 2.4.1 Material Requirements

- Gypsum board shall comply with the Standard Specification for Gypsum Board, ASTM C1396 regular and type x (special fire-resistant gypsum board) with thickness as indicated in the drawings, 1200mm. wide by maximum practical length, ends square cut and edges beveled.
- Joint materials shall be as recommended by gypsum board manufacturer for intended purpose.
- Drywall furring channels shall be 0.5mm. core thickness galvanized steel channels for screw attachment of gypsum board.
- Nails shall conform to ASTM C 1002.
- Laminating compound shall be as recommended by the manufacturer, asbestos free.
- Joint compound shall conform to ASTM C 475, asbestos free.

### 2.4.2 Installation

- Gypsum board shall be installed in accordance with ASTM C 840 and manufacturer's instruction, except as otherwise specified.
- Gypsum board shall be brought into contact, but shall not be forced into place.
  - For Ceilings:
    - For single-ply construction, perpendicular application shall be used.
    - For two-ply assemblies:
      - Perpendicular application shall be used.
      - Face ply gypsum board shall be applied so that joints of face ply do not occur at joints of base ply with joints over framing members.
  - For Accessories:
    - Accessories shall be set plumb, level and true to line, neatly mitered at corners and intersections and securely attach to supporting surfaces as specified.
    - Install in one piece without the limits of the longest commercially available lengths.
    - Corner Beads:

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- Shall be installed at all vertical and horizontal external corners and where shown.
- Use screws only. Do not use crimping tool.
- Edge trim (casing beads):
  - At both sides of expansion and control joints unless shown otherwise.
  - Where gypsum board terminates against dissimilar materials and at perimeter of openings, except where covered by flanges, casing or permanently built-in equipment.
  - Where gypsum board surfaces of non-loadbearing assemblies abut load bearing members.

#### 2.4.3 Basis of Payment

Pay Item Number	Description	Unit Measurement
1003(1)e	9mm. gypsum Board on Metal Frame Ceiling	sq.m.

#### 2.5 Hardware

This item shall consist of furnishing and installing building hardware required to: (1) ensure rigidity of joints/connections of the different parts of the structure; and (2) equip in a satisfactory operating condition parts of the structures such as doors, windows, cabinets, lockers, drawers and other similar operating parts as indicated on the plans and in accordance with this specification.

- Rough Hardware
  - All rough hardware such as nails, screws, lag screws, bolts and other related fasteners required for carpentry work shall be first class quality and locally available.
- Finishing Hardware
  - All finishing hardware consisting of locksets, latches, bolts and other devices, door closers, knobs, handles, hinges and other similar hardware shall be first class quality available locally and conforming with the following specifications.
- Door Lockset
  - Door locks appropriate for particular functions shall be of durable construction, preferably the product for single reputable manufacturer for consistent quality and master keying.
- Hinge
  - Hinge unless otherwise indicated on the plans shall be brass coated wrought iron steel for interior doors and wrought bronze for exterior doors with non-rising loose steel pins with button tips and mounting screws of the same materials.

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2.5.1 Basis of Payment

Pay Item Number	Description	Unit Measurement
1004(2)	Hardware (Door Knob)	set
1004(2)	Hardware (Hinge)	set

2.6 Painting

This item shall consist of furnishing all paint materials, varnish and other related products, labor, tools, equipment and plant required in undertaking the proper application of painting related works indicated on the plans and in accordance with this specification.

2.6.1 Material Requirements

- Paint Materials
  - Use the following approved and tested brand name: Boysen, Davies, Dutch Boy or any approved equal)

2.6.2 Application Procedure

- Follow the manufacturer's recommended instruction.

2.6.3 Basis of Payment

Pay Item Number	Description	Unit Measurement
1032(1) a	Painting Works (ceiling, 2 coats)	sq.m.

2.7 Tables w/ filing cabinets and revolving and tilt chairs (107 x 54cm.)

2.7.1 Basis of Payment

Pay Item Number	Description	Unit Measurement
-	Tables w/ filing cabinets and revolving and tilt chairs (107 x 54cm.)	set

2.8 Steel Cabinets w/ glass and sliding doors (176 x 118 x 40cm.)

2.8.1 Basis of Payment

Pay Item Number	Description	Unit Measurement
-	Steel Cabinets w/ glass and sliding doors (176 x 118 x 40cm.)	set



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