

## SECTION \_\_\_\_\_

### 91R FACTORY PREFABRICATED "PLANK" GLASS AND STEEL PANELS

#### PART 1 - GENERAL

##### 1.1 DESCRIPTION OF WORK

- A. Extent of the Glass and Steel Panels as indicated on the drawings.
- B. Principal Work in this section includes:
  - 1. 91R Steel Framed Composite Glass Panels
  - 2. Reinforcement, anchors, fasteners and similar items
  - 3. Glazing materials and sealant for panels
  - 4. Fasteners at perimeter of panels

##### 1.2 DESCRIPTION OF PANELS

- A. Panels shall be Circle Redmont factory prefabricated and glazed 91R Panels manufactured at Circle Redmont production facility, Melbourne, Florida. Panels shall be of overall sizes as detailed on the drawings. Steel framework shall be produced to meet or exceed the specified structural performance. Glass units shall be Circle Redmont standard, traffic bearing, composite glass units. Glass units shall be initially factory installed in respective cell openings using Circle Redmont standard waterproof sealant and bedding material.

##### 1.3 QUALITY ASSURANCE

- A. Structural: Design, engineer and fabricate the panels to provide live load capacity as required.
- B. Thermal Movement: Design the framing system to provide for such expansion and contraction of component materials as will be caused by the surface temperature range of 10 degrees F to 130 degrees F, without causing buckling stresses on glass, failure of joint seals, undue stress on structural elements, damaging loads on fasteners, reduction in performance, or other detrimental effects.
- C. Water Penetration: Water penetration is defined as the appearance or damage from water, other than condensation, on the underside of the panels. The panels shall be totally watertight.
- D. Manufacturer of Panels: The manufacturer of the shop fabricated panels shall be a firm with not less than ten (10) years of successful experience in supplying the same type of panels as required for this project and solely employs and is responsible for all of the personnel required for all facets of production required in manufacturing the units required at its production facility.
- E. Design Criteria: The drawings and specifications are based on a specific type of panel by a single manufacturer. Equivalent type panels by another manufacturer may be acceptable only if deviations in dimension, profile, appearance and performance history are minor and do not materially detract from the design concept of intended performances, as judged solely by the Architect.
- F. In addition, if a substitute is being offered as an "Or Equal" to the specified products, in order to be considered, the Contractor will notify the Architect within 5 business days of such intent of substitution and upon notification by the Architect the Contractor will have three business days to provide adequate proof of equivalency, i.e.; documentation that the "Or Equal" meets the minimum characteristics of the ordering description or specification. Submission of proof of equivalency and samples shall be at the bidders expense and no compensation shall be offered by Architect or Owner.

Failure to provide this documentation which must include Substitute's [Manufacturer History, Technical Specifications, Specifications, Brochures, Samples, Catalogues, Etc.] will render your substitution non responsive and ineligible for award.

G. Warrant: Submit written warranty signed by the manufacturer, installer and contractor, agreeing to repair or replace defective materials and workmanship during the warranty period. Manufacturer must be able to document its warranty based upon at least 50 projects with at least 5 years of successful field performance. Defective materials and workmanship include:

1. Abnormal deterioration, aging or weathering of all work.
2. Leakage of water, structural failure, deterioration or dislocation of finishes in excess of normal weathering and aging.
3. Glass breakage.

The manufacturer's warranty does not include damage caused by improper handling or use, vandalism, abuse or natural conditions exceeding the performance requirements.

The warranty period shall extend for one (1) year after final acceptance.

#### **1.4 SUBMITTALS:**

- A. Shop Drawings: Submit shop and erection drawings at large scale clearly showing sections of panels with all fasteners, joinery techniques, provisions for expansion/contraction, metal thickness and profiles. Identify all materials including metal alloys and fasteners. Locate and identify shop and field sealants on drawings. Show adjacent structural elements.
- B. Structural Calculations: Submit structural calculations for live and dead loads on framing members confirming the panels capacity to withstand the specified load requirements.

### **PART 2 - PRODUCTS**

#### **2.1 MATERIALS**

- A. Panels shall be factory fabricated Circle Redmont 91R Glass Block and Steel Panels as manufactured by Circle Redmont, Inc., 2760 Business Center Blvd., Melbourne, Florida, 32940 (321-259-7374) (800-358-3888). Panels by other manufacturers will be considered only if the manufacturer and the panels comply fully with this specification and the drawings.
- B. The factory prefabricated panels shall consist of the following:
  1. Circle Redmont standard traffic bearing glass properly spaced according to Circle Redmont standard dimensions.
  2. Finish of exposed structural steel grid with Circle Redmont standard factory applied epoxy prime and 2 part urethane top coat paint finish.
  3. Exposed top glass joints weather sealed with sealant of a type recommended and warranted by the panel manufacturer.
  4. Metal flashings, frame and accessories as shown, or as recommended by the panel manufacturer where not indicated.

## **2.2 FABRICATION AND WORKMANSHIP**

- A. Maintain the visual design concept including member sizes, profiles and alignment components. Coordinate this work with that of other trades.
- B. Shop assemble each panel in the manufacturing facility employing qualified personnel solely engaged in prefabricated panel production.
- C. Fit joints accurately in exposed metal work, and secure rigidly with hairline contacts.
- D. Fabricate and fasten metal work so that the work will not be distorted nor the fasteners overstressed from expansion and contraction.
- E. Grind exposed welds smooth and finish to match and blend with finish on adjacent metal.
- F. Do not use exposed fasteners.

## **PART 3 - EXECUTION**

### **3.1 STORAGE AND HANDLING**

- A. Handle panels in a manner which will prevent undue stress on component parts, sealants and structural members. Do not rack, torque, or cause load forces in an inappropriate manner. Lift panels from top only unless specifically instructed by manufacturer. Prevent damage to finished surfaces. Do not install components which have been damaged or stained.
- B. Store panels in a dry place, off the ground. Bear fully along all supported edges on level and true structural supports.

### **3.2 PANEL INSTALLATION**

- A. Contractor shall set panels into prepared openings and shall bear fully along all supported edges on structural framing supports. Top of panels shall finish flush with adjoining surfaces unless shown otherwise on drawings. Where necessary, build up support ledges and beams as required with materials similar to support framing members, prior to placement of panels. Panels shall be set to proper pitch and crossfalls to ensure proper drainage of surface water and avoid ponding and fastened as indicated on shop drawings.
- B. Allow 1/2" spacing between panels and adjacent surfaces and between adjoining panels to permit installation of backer rods and sealants. All joints which are exposed to the weather and to surface traffic shall be sealed with manufacturer's recommended sealant.
- C. Protect installed panels from damage during ensuing construction operations. Prior to date of substantial completion replace any cracked, broken or otherwise damaged glazing units.

### **3.3 FIELD TESTING**

- A. After panel installations are completed they shall be field tested for leakage. Test shall be conducted by flooding the surface of panels with a sprinkler hose for a period of 15 minutes while observations are made of the undersides. Correct any deficiencies which are found in a manner to make panels completely water tight. Conduct testing in the presence of the Architect or the Architect's designated representative.

### **3.4 PAINTING**

- A. All interior surfaces of the prefabricated steel grid which are exposed to view shall be finished after installation in accordance with the requirements of special coating section. Care shall be taken so that the coating will not extend onto the glazing units. If spray application is used, mask all glazing.

### **3.5 CLEANING**

- A. Maintain installed panels, including glazing, in reasonable clean condition during construction operations. Remove any stains or materials which may have an adverse effect on panel materials and finishes. Remove any excess glazing compound and sealants.
- B. Immediately prior to date of substantial completion clean glazing units to remove any accumulations of dirt, paint stains, etc. Glazing shall be cleaned on both inside and outside surfaces.

### **END OF SECTION**

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