

## **SECTION 10 73 13**

### **CANOPIES**

#### **PART 1 - GENERAL**

##### **1.1 SUMMARY**

A. Section Includes:

1. Fixed wall hung canopies.

##### **1.2 SUBMITTALS**

A. Product Data: For each type of product.

1. Include styles, material descriptions, construction details, fabrication details, dimensions of individual components and profiles, hardware, fittings, mounting accessories, features, and finishes for canopies.
2. Include rated capacities and furnished specialties and accessories.

B. Shop Drawings:

1. Include plans, elevations, sections, mounting heights, and attachment details.
2. Detail fabrication and assembly of canopies.
3. Show locations for blocking, reinforcement, and supplementary structural support.

C. Samples: For each exposed product and for each color and texture specified.

D. Samples for Verification: For the following:

1. Frame Finish: Not less than 6 inch (150 mm) lengths.

E. Product Schedule: For canopies. Use same designations indicated on Drawings.

F. Delegated-Design Submittal: For canopies.

G. Operation and Maintenance Data: For canopies to include in operation and maintenance manuals.

##### **1.3 QUALIFICATIONS**

A. Qualification Data: For Installer, fabricator and professional engineer.

B. Welding certificates.

C. Evaluation Reports: For anchors and fasteners, from ICC-ES.

D. Sample Warranty: For special warranty.

##### **1.4 QUALITY ASSURANCE**

A. Fabricator Qualifications: Shop that employs skilled workers who custom-fabricate products similar to those required for this Project

and whose products have a record of successful in-service performance.

1. Fabricator's responsibilities include fabricating canopies and providing professional engineering services needed to assume engineering responsibility.

B. Installer Qualifications: Fabricator of products.

C. Welding Qualifications: Qualify procedures and personnel according to the following:

1. AWS D1.2/D1.2M, "Structural Welding Code - Aluminum."

#### **1.5 FIELD CONDITIONS**

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit installation of canopies in exterior locations to be performed according to manufacturers' written instructions and warranty requirements.

B. Field Measurements: Where canopy installation is indicated to fit to other work, verify dimensions of other work by field measurements before fabrication and indicate measurements on Shop Drawings. Allow clearances for fenestration operation throughout the entire operating range. Notify Architect of discrepancies. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

#### **1.6 WARRANTY**

A. Special Warranty: Manufacturer and fabricator agree to repair or replace components of canopies that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Structural failures including framework.

b. Deterioration of metals, metal finishes, and other materials beyond normal weathering.

2. Canopy Warranty Period: Five years from date of Substantial Completion.

### **PART 2 - PRODUCTS**

#### **2.1 MANUFACTURERS**

A. Source Limitations: Obtain canopies from single source from single manufacturer.

#### **2.2 PERFORMANCE REQUIREMENTS**

A. Delegated Design: Engage a qualified professional engineer registered in the state of Pennsylvania to design canopies.

B. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.

1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.
- C. Regulatory Requirements: Provide canopies complying with load values listed on structural drawings, and other requirements and limitations of authorities having jurisdiction that are within Contractor's control.

### **2.3 CANOPY FRAMES**

- A. Aluminum Frames: Alloy and temper recommended by canopy manufacturer for type of use and finish indicated and with not less than the strength and durability properties of alloy and temper required by structural loads.
  1. Aluminum Plate and Sheet: ASTM B209 (ASTM B209M).
  2. Aluminum Extrusions: ASTM B221 (ASTM B221M).
  3. Extruded Structural Pipe and Round Tubing: ASTM B429/B429M, standard weight (Schedule 40) unless another weight is indicated or required by structural loads.
  4. Drawn Seamless Tubing: ASTM B210 (ASTM B210M).
  5. Aluminum Finish: Fluorocarbon.
- B. Anchors, Fasteners, Fittings, Hardware, and Installation Accessories: Complying with performance requirements indicated and suitable for exposure conditions, supporting structure, anchoring substrates, and installation methods indicated. Corrosion-resistant or noncorrodible units; weather-resistant, compatible, nonstaining materials. Provide as required for canopy assembly, mounting, and secure attachment. Number as needed to comply with performance requirements and to maintain uniform appearance; evenly spaced. Where exposed to view, provide finish and color as selected by Architect from manufacturer's full range.
  1. Expansion Anchors: Anchor bolt and sleeve assembly of material indicated below with capability to sustain, without failure, a load equal to six times the load imposed when installed in unit masonry assemblies and equal to four times the load imposed when installed in concrete as determined by testing according to ASTM E488 conducted by a qualified independent testing and inspecting agency.
    - a. Material: Stainless steel with bolts and nuts complying with ASTM F593 and ASTM F594, Alloy Group 1 or 2 (ASTM F738M and ASTM F836M, Grade A1 or A4).
  2. Adhesive-Bonded Anchors: Anchor bolt and sleeve assembly of

material indicated below with capability to sustain, without failure, a load equal to six times the load imposed when installed in unit masonry assemblies and equal to four times the load imposed when installed in concrete as determined by testing according to ASTM E1512 conducted by a qualified independent testing and inspecting agency.

a. Material: Stainless steel with bolts and nuts complying with ASTM F593 and ASTM F594, Alloy Group 1 or 2 (ASTM F738M and ASTM F836M, Grade A1 or A4).

C. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D1187.

### **PART 3 - EXECUTION**

#### **3.1 EXAMINATION**

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for supporting members, blocking, inserts, installation tolerances, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

#### **3.2 INSTALLATION**

- A. General: Install canopies at locations and in position indicated, securely connected to supports, free of rack, and in proper relation to adjacent construction. Use mounting methods of types described and in compliance with Shop Drawings and fabricator's written instructions.
- B. Install canopies after other finishing operations, including joint sealing and painting, have been completed.
- C. Slip fit frame connections accurately together to form hairline joints, and tighten to secure.
- D. Weld frame connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations.
  - 1. Field Welding: Comply with the following requirements:
    - a. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
    - b. Obtain fusion without undercut or overlap.
    - c. Remove welding flux immediately.
    - d. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.

- E. Anchoring to In-Place Construction: Use anchors, fasteners, fittings, hardware, and installation accessories where necessary for securing canopies to structural support and for properly transferring load to in-place construction.
- F. Corrosion Protection: Coat concealed surfaces of aluminum that come in contact with grout, concrete, masonry, wood, or dissimilar metals with a heavy coat of bituminous paint.
- G. Coordinate canopy installation with flashing and joint-sealant installation so these materials are installed in sequence and in a manner that prevents exterior moisture from passing through completed exterior wall and roof assemblies.

**3.3 NOT USED.**

- - - E N D - - -