SECTION 10 73 13 - AWNINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
1. Fixed awnings.
2. Retractable awnings, manually operated.

B. Related Requirements:
1. Section 055000 "Metal Fabrications" for blocking, shims, reinforcing, and supplemental Support members for connecting to awning frame and anchorage.
2. Section 061000 "Rough Carpentry" for blocking, nailers, shims, reinforcing, framing, and furring for connecting to awning frame and anchorage.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.
1. Include styles, material descriptions, construction details, dimensions of individual components and profiles, hardware, fittings, mounting accessories, features, and finishes for awnings.

B. Shop Drawings:
1. Include plans, elevations, sections, mounting heights, and attachment details.
2. Detail fabrication and assembly of awnings, including seam layout, spacing, and orientation of awning fabric.
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. Awning Fabric: 12-inch- square section of fabric from dye lot to be used for the Work, with specified treatments applied. Mark face of fabric.
2. Seam, Edge, and Corner Condition: Not less than 12-inch- long section showing seam, edge, and corner treatment.
3. Valance: Full-size unit, not less than 12 inches long.
4. Frame Finish: Not less than 6-inch lengths.
5. Frame Corner and Frame Intersections: Not less than 12-inch sections showing finished joint construction and fabric and valance attachment to awning frame.
6. Exposed Hardware Finishes: Manufacturer's standard-size unit, not less than 3 inches square.
7. Accessories: Manufacturer's full-size unit.

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

F. Delegated-Design Submittal: For awnings.

1.4 INFORMATIONAL SUBMITTALS

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

B. Welding certificates.

C. Product Certificates: For each type of awning fabric. Evaluation

D. Reports: For anchors and fasteners, from ICC-ES. Sample

E. Warranty: For special warranty.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For awnings to include in operation and maintenance manuals.
   1. In addition to item s specified in Section 017823 "Operation and Maintenance Data," include the following:
      a. Methods for maintaining awning fabrics and finishes.
      b. Precautions about cleaning material s and methods that could be detrimental to fabrics, finishes, and performance.
      c. Operating hardware.

1.6 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 is a member in good standing with the Industrial Fabrics Association International.
   2. Fabricator's responsibilities include fabricating and installing awnings and providing professional engineering services needed to assume engineering responsibility.

B. Installer Qualifications: Fabricator of products.

C. Welding Qualifications: Qualify procedures and person net according to the following:
   1. AWS DI.1/D1.1 M, "Structural Welding Code - Steel.
   2. AWS DI.2/DI.2M, "Structural Welding Code - Aluminum.

D. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects, to set quality standards for materials and execution, and to set quality standards for fabrication and installation.
   1. Build mockup of typical awning as shown on Drawings.
   2. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 FIELD CONDITIONS

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

B. Field Measurements: Where awning 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.

1.8 WARRANTY

A. Special Warranty: Manufacturer and fabricator agree to repair or replace components of awnings 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. Faulty operation of operator.
      c. Deterioration of fabric including seam failure.

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

2. Fixed Awning Frame Warranty Period: 5 years from date of Substantial completion.
3. Retractable Awning Frame Warranty Period: 10 years from date of Substantial completion.
4. Fabric Warranty Period: 10 years from date of Substantial Completion.
5. Thread Warranty Period: Lifetime of fabric or 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Fabricators, Fixed Awnings: Subject to compliance with requirements, provide products by one of the following:
1. Heartland Awning & Design, Inc. 14550 Grover Street, Omaha, NE 68144. www.heartlandawning.com . Contact: Steve Moyer steve@heartlandawning.com 402-330-9270

B. Basis-of-Design Product, Operable Awnings: Futureguard Building Products, Inc.; G150 Retractable Awnings.

C. Source Limitations: Obtain operable awnings from single source from a single manufacturer.

2.2 PERFORMANCE REOUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements" to design of awnings.

B. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.
1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

C. Regulatory Requirements: Provide awnings com plying with limitation s of authorities having jurisdiction.

2.3 AWNING FABRICS

A. Basis-of-Design Product: Sunbrella; TriVantage Mayfield Collection.

B. Fabric Fiber Content: 100-percent solution-dyed acrylic.
1. Fabric Weight: 9.US oz per yd.
2. Width: 60 inches
3. Bottom Hem: As indicated in an Awning Schedule.
4. Trim: As indicated in an Awning Schedule.
5. Fringe: As indicated in an Awning Schedule.
6. Color: As selected by Architect from full range of samples from Sunbrella TriVantage.
7. Applied Treatment: Factory repellent.
8. Performance Characteristics: As follows:
a. Mildew Resistance: Showing no growth when tested according to ASTM G21.

C. Thread: 100 percent expanded PTFE, UV-light, mildew, and rot resistant, to last the lifetime of the fabric.
1. Basis of Design: Gore Tenera or Sunbrella approved heat seal process.

2.4 AWNING FRAMES

A. Steel Frames:

1. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
2. Cold-Formed Steel Tubing: ASTM A 500/A SOOM, grade as required by structural loads.
3. Steel Pipe: ASTM A 53/A 53M, standard weight (Schedule 40) un less another weight is indicated or required by structural loads.
4. Steel Mechanical Tubing: Cold-rolled, electric-resistance-welded carbon or alloy steel tubing com plying with ASTM A 51 3 or steel tubing fabricated from steel com plying with ASTM A 1011/A 1011 M and complying with dimensional tolerances in ASTM A 500/A SOOM.
5. Steel Finish: Hot-dipped galvanized following fabrication, with powder-coat finish. Com ply with finish manufacturer's written instructions for surface preparation including pretreatment, application, baking, and minimum dry film thickness.

B. Aluminum Frames: Alloy and tern per recommended by awning manufacturer for type of use and finish indicated and with not less than the strength and durability properties of alloy and tern per required by structural loads.
1. Aluminum Plate and Sheet: ASTM B 209.
2. Aluminum Extrusions: ASTM B 221.
3. Extruded Structural Pipe and Round Tubing: ASTM B 429/B 429M, standard weight (Schedule 40) unless another weight is indicated or required by structural loads.
4. Drawn Seamless Tubing: ASTM B 210.
5. Aluminum Finish: Powder-coat finish com plying with finish manufacturer's written instructions for surface preparation including pretreatment, application, baking, and minimum dry film thickness.

C. Anchors, Fasteners, Fittings, Hardware, and Installation Accessories: Com plying with performance requirements indicated and suitable for exposure conditions, supporting structure, anchoring substrates, and installation methods indicated. Corrosion-resistant or non-corrodible units; weather-resistant, waterproof, vandal- and theft-resistant, compatible, non-staining materials. Provide as required for awning 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. Wood Screws: ASME BI 8.6.1.
2. Lag Bolts: ASME BI 8.2.1..
3. Bolts: Steel bolts com plying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and, where indicated, flat washers.
4. 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 inn posed when installed in unit masonry assemblies and equal to four times the load inn posed when installed in concrete as determined by testing according to ASTM E 488 conducted by a qualified independent testing and inspecting agency.
   a. Material: Stainless steel with bolts and nuts com plying with ASTM F 593 and ASTM F 594, Alloy Group 1 or 2.
5. 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 inn posed when installed in unit masonry assemblies and equal to four times the load inn posed when installed in concrete as determined by testing according to ASTM E 1512 conducted by a qualified independent testing and inspecting agency.
   a. Material: Stainless steel with bolts and nuts com plying with ASTM F 593 and ASTM F 594, Alloy Group 1 or 2.
6. Grommets: Zinc-coated brass, No. 2.
   a. Grommet Spacing: 6 inches o.c.
7. Lacing: 100 percent polyester, braided No. 4.

D. Galvanizing Repair Paint: High-zinc-dust-content paint for re-galvanizing welds in steel, com plying with SSPC-Paint 20.

E. Bituminous Paint: Cold-applied asphalt emulsion com plying with ASTM D 1 187.

2.5 AWNING FABRICATION

A. Fabrics: Reinforce wear points and hardware attachment points with nonwoven webbing. Seam fabrics as follows:
   1. Fabric Edges and Seams: Fold and stitch selvedge and cut fabric edges. Cut and sew, do not staple fabric to frame.

B. Decorative Trims: As indicated in Awning Schedule.
   1. Colors:
      a. Basis of Design: Sunbrella; Tri Vantage Mayfield Collection. Actual fabric to be selected by Architect from Sunbrella TriVantage Mayfield Collection.

C. Frames: Preassemble awning frames in the shop to greatest extent possible. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.
   1. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.
   2. Form exposed work true to line and level with accurate angles and surfaces and straight edges.
   3. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners where possible. Fabricate slip-fit connections that will be exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.
   4. Weld corners and connections continuously. Obtain fusion without undercut or overlap. Remove welding flux immediately. At exposed corners and 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.
   5. Provide for anchorage of type indicated; coordinate with supporting structure. Space anchoring devices to secure metal fabrication s in place and to properly transfer loads.

D. Colors of Metal and Plastic Components Exposed to View: As selected by Architect from manufacturer's full range.

2.6 RETRACTABLE-AWNING OPERATORS

A. Manual Operation: With gear and crank operator.
   1. Manual Operation Assist Mechanism: Manufacturer's standard spring assist for operating heavy awnings.
   2. Crank Handle: One per building address, detachable.
   3. Awning Coupler System: Not required.
   4. Operating Function: Stop and hold awning at any position, at any angle, in ascending or descending travel

B. Awning Hood: Sheet metal enclosure sized to fit awning roller and operating hardware inside and designed for UV-light, dust, weather, and vandal protection. Finish and color to match awning framing unless otherwise indicated.

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, operational clearances, and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory condition s have been corrected.

3.2 INSTALLATION

A. General: Install awnings 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 awnings after other finishing operations, including joint sealing and painting, have been completed.

C. Attach fabric to frames as recommended by fabricator, using lacing method as required to conceal ends of lacing to ensure tight, wrinkle-free fit of fabric to frame.

D. Join frame connections accurately together to form hairline joints, and tighten to secure.

E. Anchoring to In-Place Construction: Use anchors, fasteners, fittings, hardware, and installation accessories where necessary for securing awnings 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 awning installation with flashing and joint-sealant installation so these material s are installed in sequence and in a manner that prevents exterior moisture from passing through completed exterior wall and roof assemblies.

3.3 ADJUSTING

A. Adjust hardware and moving parts to function smoothly, and lubricate as recommended by retractable-awning manufacturer.

14 CLEANING AND PROTECTION

A. Touch up Painting: Immediately after erection, clean field welds, connections, and abraded areas. Paint uncoated and abraded areas with same or compatible material as used for shop-applied finish painting.
   1. Apply by brush or spray to provide a minimum 2.0-mil dry film thickness.

B. Galvanized Surfaces: Clean field welds, connections, and abraded areas and repair galvanizing to comply with ASTM A 780.

3.5 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance person net to adjust, operate, and maintain retractable awnings.

END OF SECTION 10 73 13