

## SECTION 10530 – METAL CANOPIES - PROTECTIVE COVERS

Specifier Note: This Section uses the term "Architect". Change this term to match that used to identify the design professional as defined in the General Conditions and Supplementary Conditions.

Specifier Note: Verify that Section titles referenced in this Section are correct for this Project's Specifications, Section titles may have changed.

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

- A. CAD Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

## 1.2 SUMMARY

- A. This Section includes a freestanding, pre-engineered metal canopy with integral concrete foundation, steel framing, metal roof, roof drains and leaders, vertical fascia and metal ceiling.
- B. Related Sections include the following:

Specifier Note: List below only products, construction, and equipment that the reader might expect to find in this Section but are specified elsewhere.

1. Division 3 Section "Cast-in-Place Concrete" for concrete islands and curbing.
2. Division 5 Section "Metal Fabrications".
3. Division 16 Sections for electrical wiring and connections.

Specifier Note: If alternates, allowances, or unit prices apply to Work of this Section, insert brief paragraphs here to alert Contractor and reference appropriate Division 1 Sections for specific details.

## 1.3 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Provide a pre-engineered metal canopy capable of withstanding the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:

Specifier Note: Insert requirements under each set of performance criteria below to suit Project. Consult a licensed design professional to quantify design loads applicable to Project. Verify compliance with codes.

1. Wind Loads: Determine loads based on the following minimum design wind pressures:
  - a. Uniform pressure of <Insert number> lbf/sq. ft. (kN/sq. m), acting inward or outward.

Specifier Note: Delete subparagraph above or first paragraph below. If retaining below, indicate pressures on Drawings.

b. Uniform pressure as indicated on Drawings.

2. Snow Loads: <Insert number> lbf/sq. ft. (kN/sq. m).

Specifier Note: Revise first paragraph below to indicate specific loads determined by Project's structural engineer or refer to loads indicated on drawings. Model building codes and ASCE establish criteria for buildings subject to earthquake motions. Verify requirements of authorities having jurisdiction.

- B. Seismic Performance: Provide pre-engineered metal canopy capable of withstanding the effects of earthquake motions determined according to [ASCE 7, "Minimum Design Loads for Buildings and Other Structures": Section 9, "Earthquake Loads."] <Insert applicable code requirement.>
- C. Thermal Movements: Provide pre-engineered metal canopy that allows for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

Specifier Note: Differential values below (for aluminum in particular) are suitable for most of the U.S. Revise to suit local conditions.

1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

#### 1.4 SUBMITTALS

- A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for pre-engineered metal canopy.
- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work. Canopy supplier to furnish complete canopy CAD drawings signed and sealed by a professional engineer licensed in the state where the canopy will be installed.
- C. Samples for Initial Selection: For pre-engineered metal canopy with factory-applied color finishes.

Specifier Note: Delete paragraph above if colors are preselected and specified or scheduled. Retain first paragraph below with or without above.

- D. AustinMohawk and Company, Inc. offers a one-year warranty on products of its manufacture to be free of defects in materials, leaks, and workmanship for one year from date of shipment. In addition, AustinMohawk offers a 5-year limited warranty on anodized Aluminum surfaces against oxidation, a 20-year limited warranty against peeling, flaking, and chipping of deck and fascia when properly maintained by owner, and the manufacturer's warranty on all accessory items such as, but not limited to, air conditioning, lights, and heating units.

No other warranties, either expressed or implied are applicable unless stated in writing. AustinMohawk and Company, Inc. is not responsible for damage caused by improper use, installation (unless installed by Beechgrove Construction, Inc.), or handling.

## 1.5 QUALITY ASSURANCE

- A. Source Limitations: Obtain pre-engineered metal canopy through one source from a single manufacturer who will manufacture and install the canopy and provide both post-installation inspection and installation inspection report.
- B. Product Options: Information on Cad Drawings and in Specifications establishes requirements for system's aesthetic effects and performance characteristics. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction. Performance characteristics are indicated by criteria subject to verification by one or more methods including preconstruction testing, field testing, and in-service performance.

Specifier Note: Retain paragraph above or below. Retain below to allow drawing details based on AustinMohawk and Company, Inc. to establish requirements and still allow competition. Coordinate with Division 1 requirements.

- C. Product Options: CAD Drawings indicate size, profiles, and dimensional requirements of pre-engineered metal canopy and are based on the specific system indicated. Refer to Division 1 Section "Product Requirements."

Specifier Note: Retain subparagraph below with either "Product Options" paragraph above or revise to suit Project.

1. Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If modifications are proposed, submit comprehensive explanatory data to Architect for review.

Specifier Note: AWS states that welding qualifications remain in effect indefinitely unless welding personnel have not welded for more than six months or there is a specific reason to question their ability.

- D. Welding: Qualify procedures and personnel according to the following:
1. All welding shall be in accordance with ANSI/AWS D1.1, "Structural Welding Code—Steel" (with E70XX Electrodes).
  2. All structural shop welding shall be done by certified AustinMohawk welders.
  3. Steel shop connections will be welded and field connections will be bolted unless otherwise noted on plans. AustinMohawk, with the approval of the project engineer, may change shop welds to field welds.
  4. All slag shall be cleaned from all welds and inspected. Steel to be painted with rust inhibitive primer (Red oxide).
- E. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

Specifier Note: Delete below if Work of this Section is not extensive or complex enough to justify a Preinstallation conference. If retaining, coordinate with Division 1.

- F. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 1.

## 1.6 PROJECT CONDITIONS

- A. Field Measurements: The General Contractor shall verify actual locations of walls, columns, and other construction contiguous with pre-engineered metal canopy by field measurements before fabrication and indicate measurements on Shop Drawings.

**Specifier Note: Delete below if not allowed.**

1. Established Dimensions: The General Contractor shall, where field measurements cannot be made without delaying the Work, establish dimensions and proceed with fabricating metal canopy without field measurements. Coordinate wall, floor, and other contiguous construction to ensure that actual dimensions correspond to established dimensions.

## 1.7 COORDINATION

- A. The General Contractor shall prepare for and pour the concrete footers for the pre-engineered metal canopy. Manufacturer shall furnish recommended footing CAD drawings and prints and rebar details for concrete floors, as well as provide anchor bolts to be embedded in footer. Such items to be delivered to project site in time for installation.

## 1.8 WARRANTY

**Specifier Note: Verify available warranties and insert number below.**

1. AustinMohawk and Company, Inc. offers a one-year warranty on products of its manufacture to be free of defects in materials, leaks, and workmanship for one year from date of shipment. In addition, AustinMohawk offers a 5-year limited warranty on anodized Aluminum surfaces against oxidation, a 20-year limited warranty against peeling, flaking, and chipping of deck and fascia when properly maintained by owner, and the manufacturer's warranty on all accessory items such as, but not limited to, air conditioning, lights, and heating units.

No other warranties, either expressed or implied are applicable unless stated in writing. AustinMohawk and Company, Inc. is not responsible for damage caused by improper use, installation (unless installed by Beechgrove Construction, Inc.), or handling.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:

**Specifier Note: Select one of the subparagraphs below as they pertain to the Project.**

1. Manufacturers: Subject to compliance with requirements, provide products by the manufacturers specified.
- a. AustinMohawk and Company, Inc., 2175 Beechgrove Place, Utica, New York 13501; Phone: 1-800-765-3110; Fax: 315-793-9370. Email: info@austinmohawk.com; Website: www.austinmohawk.com

2. Basis-of-Design Product: The design for each type of pre-engineered metal canopy indicated is based on the product named. Subject to compliance with requirements, provide either the named product or a comparable product by one of the other manufacturers specified.

## 2.2 MATERIALS

### A. Structural Steel:

1. All material and work shall conform to the latest AISC Specifications for Design, Fabrication, and Erection of Structural Steel for Buildings.
2. Wide flange I beam: Shall conform to ASTM A572 GR.50, Fy= 50 ksi. Other rolled sections shall conform to ASTM A36, Fy= 36 ksi.
3. Square and rectangular tubing: Shall conform to ASTM A500, Grade B, Fy= 46 ksi.
4. Plate Steel: Shall Conform to ASTM A36, Fy= 36 ksi
5. All structural steel shall be painted with a rust inhibitive (red oxide) primer.

Specifier Note: Subparagraph No. 5 above: AustinMohawk also makes available: Zinc chromate or hot-dip galvanized as a rust inhibitor.

### B. Sheet Metal:

1. Decking: 3" X 16" X 20 gauge smooth white, ASTM A653 GR40, Fy= 40 ksi, galvanized steel with baked enamel finish.

Specifier Note: Contact AustinMohawk and Company, Inc. for additional available decking colors, finishes, profiles and thicknesses.

2. Center and Tapered Gutter: 24 gauge hot dipped galvanized steel baked enamel finish.
3. Perimeter Gutter: 20 gauge hot dipped galvanized steel baked enamel finish.
4. External downspouts: 3" x 4" x 24 gauge hot-dipped galvanized steel with baked enamel finish.
5. Manufacturer must be capable of providing seamless gutter profiles up to 40' in length.

## 2.3 PRE-ENGINEERED METAL CANOPY, GENERAL

Specifier Note: Manufacturer's pre-engineered metal canopy and their components are available in a range of styles, shapes, configurations, and options. Revise this Article and subsequent articles, which include the most common construction, to suit Project.

- A. General: Provide a complete, integrated set of manufacturer's standard, mutually dependent components that form a completely pre-engineered canopy, ready for construction on Project site. Pre-engineered metal canopy shall be capable of withstanding structural and other loads indicated, thermally induced movement, and exposure to weather without failure or infiltration of water.

## 2.4 PRE-ENGINEERED METAL CANOPY

Specifier Note: Retain "Basis-of-Design Product" or "(Available) Manufactures" paragraph and list below. Visit [www.austinmohawk.com](http://www.austinmohawk.com) for a listing of applications.

- A. Basis-of-Design Product: <Insert manufacturer's name; product name or designation> or a comparable product by one of the following:

Specifier Note: Delete paragraph above or first paragraph below. Retain list of manufacturers with either paragraph. Retain "Available" for nonproprietary and delete for semiproprietary specifications.

- B. [Available ]Manufacturers:

1. AustinMohawk and Company, Inc., 2175 Beechgrove Place, Utica, New York 13501
2. <Insert manufacturer's name.>

Specifier Note: Prefabricated metal canopies are available in two types from AustinMohawk. Options are listed below.

3. Canopy Fascia:
  - a. 2-inch Laminated Foam Core Fascia: Panel face is 24 gauge hot-dipped galvanized steel with a baked enamel finish. All finishes are warranted against cracking, checking, peeling or adhesion failure. Warranties for 5, 10, 20 years are available depending on color selection. The foam core is 2"- 1# expanded virgin polystyrene. The backing is 24 gauge galvanized steel.
  - b. Aluminum Composite Panel (ACM): Available with a fluorocarbon paint finish, masked on one side. Warranted for 10 or 20 years depending on color and finish.
  - c. Various custom fascia to meet design requirements.

## 2.5 FINISHES

- A. Comply with National Association of Architectural Metal Manufacturers (NAAMM) "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. A work area is required extending 10 feet beyond buildings and canopies in all directions to the extent practical. The work area shall be flat, comprised of hard packed soil or gravel, asphalt, or concrete, and free of open excavation, debris, construction equipment and construction

workers. An additional flat work space a minimum of 25 feet by 25 feet or as practical shall be provided adjacent to the canopy and/or building for unloading and storing materials.

- B. Set pre-engineered metal canopy plumb and aligned. Level base plates true to plane with full bearing on concrete bases.
- C. Fasten pre-engineered metal canopy columns to [**anchor bolts**] [**foundation bolts**].

Specifier Note: Corrosion resistant stainless steel fasteners are also available upon request.

D. Anchor bolts:

1. Anchor bolts or foundation bolts are to be set by the Owner in accordance with approved site specific AustinMohawk CAD drawings. They must not vary from the size and dimensions shown on the erection CAD drawings. Use of a plywood template is recommended. Remove template prior to column erection.
2. Anchor bolts shall conform to ASTM A307; and shall have a minimum of 7-inches of exposed thread and a 6-inch bottom hook.
3. Shrinkage-Resistant Grout: ASTM C 1107, factory-packaged, aggregate grout, non-corrosive, non-staining, mixed with water to consistency suitable for application and a 30-minute working time.

E. Bolted Connections:

1. All structural erection bolts to conform to ASTM A325
2. A minimum diameter of  $\frac{3}{4}$  inch erection bolts shall be used for crossbeam-to-column connections and a minimum of  $\frac{5}{8}$  inch diameter bolts for all other connections.
3. All drilled holes in structural steel shall be deburred.
4. Flat structural washers (minimum of one) shall be used on all bolted connections.
5. All bolts shall be tightened using AISC turn-of-the-nut method (unless otherwise specified).

F. Screws:

1. Fastening shall be performed per installation prints provided by the manufacturer.
2. Installation screws shall be furnished with electrode deposited cadmium coating unless otherwise noted.
3. Self-drilling and self-tapping screws shall have a sufficient cut point and a  $\frac{1}{2}$ -inch O.D. dished tapping metal backed neoprene washer.

G. Provide pedestrian protection and warnings during construction which comply with all local, federal and OSHA codes.

H. Prior to steel erection of any kind, the General Contractor shall grade, back-fill and otherwise prepare the job site to allow for rolling scaffold and ensure safe working conditions including the removal or relocation of overhead power lines.

I. Any grade or elevation situations which deviate from the approved manufacturer's plans must be conveyed to the manufacturer prior to fabrication.

- J. All anchor bolts and/ or leveling plates shall be set within ¼-inch tolerance on layout and grade level.
- K. Temporary electrical power is to be provided.
- L. Connect electrical power service to power distribution system according to requirements specified in Division 16.
- M. Dumpster for trash and debris shall be provided by the General Contractor.

3.2 ADJUSTING AND CLEANING

- A. After completing installation, inspect exposed finishes and repair damaged finishes.

END OF SECTION 10530