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## Product Guide Specification

Specifier Notes: This product guide specification is written according to the Construction Specifications Institute (CSI) 3-Part Format, including *MasterFormat*, *SectionFormat*, and *PageFormat*, as described in *The Project Resource Manual—CSI Manual of Practice, Fifth Edition*.

This section must be carefully reviewed and edited by the Architect to meet the requirements of the project and local building code. Coordinate this section with other specification sections and the Drawings. Delete all “Specifier Notes” after editing this section.

Section numbers and titles are from *MasterFormat 2010 Update*.

### SECTION 13 34 23.19

#### FABRICATED DOME STRUCTURES

Specifier Notes: This section covers Lancaster Level-Flo, Inc. “Lancaster Domes™” metal dome roofs. “Lancaster Domes” are weather resistant, not watertight. If a watertight installation is required, an underlying roof must be included in the design by the Architect.

Engineering design of the metal dome roofs is the responsibility of the project structural engineer. Wind and static load test data is available from the manufacturer for use by the engineer.

Consult Lancaster Level-Flo, Inc. for assistance in editing this section for the specific application.

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Metal dome roofs.

##### 1.2 RELATED REQUIREMENTS

Specifier Notes: Edit the following list of related sections as required. Limit the list to sections with specific information that the reader might expect to find in this section, but is specified elsewhere.

- A. Section \_\_\_\_\_ – \_\_\_\_\_: Supporting structure.
- B. Section 07 90 00 – Joint Protection: Weather-sealing materials.

### 1.3 REFERENCE STANDARDS

Specifier Notes: List standards referenced in this section, complete with designations and titles. Delete standards not included in the edited section. Including a standard in this list does not require compliance with that standard.

- A. ASTM A 36/A 36M – Standard Specification for Carbon Structural Steel.
- B. ASTM A 653/A 653M – Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- C. ASTM A 792/A 792M – Standard Specification for Steel Sheet, 55 % Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.
- D. ASTM A 1011/A 1011M – Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength.
- E. ASTM B 370 – Standard Specification for Copper Sheet and Strip for Building Construction.
- F. ASTM B 601 – Standard Classification for Temper Designations for Copper and Copper Alloys—Wrought and Cast.

### 1.4 SUBMITTALS

Specifier Notes: Edit submittal requirements as required. Delete submittals not required.

- A. Comply with Section 01 33 00 – Submittal Procedures.
- B. Product Data: Submit manufacturer's product data, including installation instructions.
- C. Shop Drawings: Submit manufacturer's shop drawings, including plans, elevations, sections, and details, indicating dimensions, tolerances, materials, components, fabrication, fasteners, hardware, finish, options, and accessories.
- D. Samples: Submit manufacturer's samples of Kynar 500 coating standard colors.
- E. Manufacturer's Certification: Submit manufacturer's certification that materials comply with specified requirements and are suitable for intended application.

- F. Manufacturer's Project References: Submit manufacturer's list of successfully completed metal dome roof projects, including project name and location, name of architect, and type and quantity of metal dome roofs furnished.
- G. Installer's Project References: Submit installer's list of successfully completed sheet metal roofing projects, including project name and location, name of architect, and type and quantity of sheet metal roofing installed.
- H. Warranty Documentation: Submit manufacturer's standard warranty.

## **1.5 QUALITY ASSURANCE**

- A. Manufacturer's Qualifications: Manufacturer regularly engaged, for past 5 years, in manufacture of metal dome roofs of similar type to that specified.
- B. Installer's Qualifications:
  - 1. Installer regularly engaged, for past 5 years, in installation of sheet metal roofing.
  - 2. Employ persons trained for installation of sheet metal roofing.

Specifier Notes: Edit pre-installation meeting as required. Delete meeting if not required.
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- C. Pre-installation Meeting:
  - 1. Convene pre-installation meeting 2 weeks before start of installation of metal dome roofs.
  - 2. Require attendance of parties directly affecting work of this section, including Contractor, Architect, installer, and manufacturer's representative.
  - 3. Review examination, installation, adjusting, protection, and coordination with other work.

## **1.6 DELIVERY, STORAGE, AND HANDLING**

- A. Delivery and Acceptance Requirements: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Storage and Handling Requirements:
  - 1. Store and handle materials in accordance with manufacturer's instructions.
  - 2. Keep materials in manufacturer's original, unopened containers and packaging until installation.
  - 3. Store materials in clean, dry area.
  - 4. Do not store materials directly on ground.
  - 5. Protect materials and finish during storage, handling, and installation to prevent damage.

## **PART 2 PRODUCTS**

### **2.1 MANUFACTURER**

- A. Lancaster Level-Flo, Inc., 25 Eby Chiques Road, Mount Joy, Pennsylvania 17552. Toll Free 800-635-8708. Phone 717-653-2239. Fax 717-653-9806. [www.lancasterdomes.com](http://www.lancasterdomes.com). [info@lancasterlevel-flo.com](mailto:info@lancasterlevel-flo.com).

## 2.2 FABRICATED DOME STRUCTURES

### A. Metal Dome Roofs: "Lancaster Domes".

Specifier Notes: Edit the metal dome roof description for the specific application.

1. Description: Custom-designed, field-assembled, [free-standing,] hemispherical, metal dome roofs with multiple, curved, pie-shaped panels with 1-inch ribs.
2. Shipped knocked down.

### B. Dome Materials and Finish:

Specifier Notes: Specify the material and finish for the metal dome roofs. For the color-coated steel, the material will be galvanized or Galvalume steel, depending on the selected steel sheet supplier.

1. Acrylic-Coated Galvalume Steel: 24-gauge, "Galvalume Plus" steel, ASTM A 792, FS, Type B, AZ55.
  - a. Color: Silver.
  - b. Coating: Pre-finished, clear acrylic coating.
2. Color-Coated Steel: 24-gauge; galvanized steel, ASTM A 653, SS, Grade 40, G90 or Galvalume steel, ASTM A 792, SS, Grade 40, AZ50.
  - a. Finish: Pre-finished, architectural-grade Kynar 500 coating.

Specifier Notes: Choose from more than 20 standard Kynar 500 colors. Consult Lancaster Level-Flo, Inc. for availability of custom Kynar 500 colors.

- b. Color: \_\_\_\_\_.
3. Copper: 20-ounce, architectural-grade copper, 1/2 to 3/4 hard, ASTM B 370 and B 601.

### C. Dome Size:

Specifier Notes: Specify dome outside diameter and centerline height.

1. Outside Diameter, including overhang if larger than structure: [ \_\_\_\_\_ ] [As indicated on the Drawings].
2. Centerline Height Above Wall: [ \_\_\_\_\_ ] [As indicated on the Drawings].
3. Centerline Height, including overhang: [ \_\_\_\_\_ ] [As indicated on the Drawings].

## 2.3 ACCESSORIES

Specifier Notes: Delete accessories not required.

- A. Anchor Brackets: 14-gauge, stainless steel, Type 304.
- B. Roof Bolts: Stainless steel, 18-8, with black PVC washers.
- C. Roof Clips:

1. Hot-rolled steel, ASTM A 1011.

Specifier Notes: When the specified dome material is acrylic-coated Galvalume steel or color-coated steel, specify electroplated with zinc dichromate coating. When the specified dome material is copper, specify powder-coated black coating.

2. Coating: [Electroplated with zinc dichromate] [Powder-coated black].

D. Roof Ring:

1. Hot-rolled steel, ASTM A 36.

Specifier Notes: When the specified dome material is acrylic-coated Galvalume steel or color-coated steel, specify painted black coating. When the specified dome material is copper, specify powder-coated black coating.

2. Coating: [Painted black] [Powder-coated black].

E. Roof Cap: Match dome material and finish.

Specifier Notes: Base ring is optional. Delete if not required.

When the specified dome material is acrylic-coated Galvalume steel or color-coated steel, specify base ring of hot-rolled steel, blasted and primed before finish paint or hot-dip galvanized.

When the specified dome material is copper, specify base ring of stainless steel or hot-rolled steel, powder coated.

F. Base Ring:

1. Hot-rolled steel, ASTM A 36, [blasted and primed before finish paint] [hot-dip galvanized].
2. Stainless steel, Type 304.
3. Hot-rolled steel, ASTM A 36, powder coated.

Specifier Notes: Determine if additional weather sealing is required for the specific application. Edit the following paragraph as required.

G. Weather-Sealing Materials:

1. Self-adhesive foam weather stripping.
2. Exterior siliconized acrylic latex sealant.
3. Specified in Section [07 90 00] [ \_\_\_\_\_ ].

## **PART 3 EXECUTION**

### **3.1 EXAMINATION**

- A. Examine and verify dimensions of supporting structure and anchor bolts to receive metal dome roofs.

- B. Notify Architect of conditions that would adversely affect installation or subsequent use.
- C. Do not begin installation until unacceptable conditions are corrected.

### **3.2 INSTALLATION**

- A. Install metal dome roofs in accordance with manufacturer's instructions at locations indicated on the Drawings.
- B. Assemble metal dome roofs at site from pie-shaped panels using fasteners and hardware including, clips, bolts, nuts, washers, and roof ring supplied by dome manufacturer.
- C. Assemble panels with wide ribs overlapping narrow ribs.
- D. Do not over tighten clips on panel ribs, causing indentations in dome panels.

Specifier Notes: "Lancaster Domes" are weather resistant, not watertight. If a watertight installation is required, an underlying roof must be included in the design by the Architect.

- E. Install metal dome roofs to be weather resistant.

Specifier Notes: Determine if additional weather sealing is required for the specific application. Edit the following paragraph as required.

- F. Apply weather-sealing materials in accordance with manufacturer's instructions to the following locations:
  - 1. Vertical panel joints.
  - 2. Around each roof bolt.
  - 3. Around lower diameter of roof cap.
  - 4. As indicated on the Drawings.
- G. Install metal dome roofs plumb, level, and centered.
- H. Anchor metal dome roofs securely in place to supporting structure.

### **3.3 ADJUSTING**

- A. Repair minor damages to panels and panel finish in accordance with manufacturer's instructions and as approved by Architect.
- B. Remove and replace with new material, damaged components that cannot be successfully repaired as determined by Architect.

### **3.4 PROTECTION**

- A. Protect installed metal dome roofs to ensure that, except for normal weathering, domes will be without damage or deterioration at time of Substantial Completion.

**END OF SECTION**