



SECTION 07712

GUTTERS AND DOWNSPOUTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Gutters and Downspouts.
- B. Related Accessories.

1.2 RELATED SECTIONS

- A. Section 07611 - Sheet Metal Roofing.
- B. Section 07220 - Roof and Deck Insulation.
- C. Section 07620 - Sheet Metal Flashing and Trim.
- D. Section 07900 - Joint Sealers
- E. Section 15160 - Storm Drainage: Connection of downspouts to storm sewer.
- F. Section 15770 - Floor-Heating and Snow-Melting Equipment: Electric heating cable in gutters.

1.3 REFERENCES

- A. ASTM B 209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
- B. SMACNA - Architectural Sheet Metal Manual.

1.4 DESIGN / PERFORMANCE REQUIREMENTS

- A. Conform to applicable code for size and method of rain water discharge.
- B. American Architectural Manufacturers Association (AAMA) Specification 1405.1 "Specification for Aluminum Raincarrying Systems".
- C. FHA Minimum Property Standard 4900.1 for One- and Two-Family Dwellings.
- D. FHA Minimum Property Standard 4910.1 for Multi-Family Dwellings.

1.5 SUBMITTALS

- A. Submit under provisions of Section 01300.

- B. Product Data: Manufacturer's catalog data, detail sheets, and specifications.
- C. Shop Drawings: Prepared specifically for this project; showing dimensions of metal gutters and accessories, fastening details and connections and interface with other products.
- D. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
- E. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.
- F. Manufacturer's Certificates: Certify products meet or exceed specified requirements.
- G. Manufacturers warranties.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications:
- B. Installer Qualifications: Certified and approved installer of the sheet metal roofing manufacturer Englert, Inc.
- C. Perform Work in accordance with [SMACNA Manual] [CDA Handbook].

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store products to prevent twisting, bending, and abrasion, and to provide ventilation. Slope stored materials to drain.
- C. During storage prevent contact with materials capable of causing discoloration, staining, or other damage.

1.8 PROJECT CONDITIONS

- A. Coordinate installation with installation of adjacent roofing, siding and related materials.

1.9 WARRANTY

- A. Provide the Manufacturer's Limited 20-Year, pro-rated and non-transferable Warranty covering labor materials.

1.10 COORDINATION

- A. Coordinate Work with other operations and installation of floor finish materials to avoid damage to installed underlayment and membrane materials.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Englert, Inc., which is located at: 1200 Amboy Ave. ; Perth Amboy, NJ 08861; Toll Free Tel: 800-364-5378; Tel: 732-826-8614; Email: [request info \(info@englertinc.com\)](mailto:info@englertinc.com); Web: www.englertinc.com
- B. Substitutions: Not permitted.

- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 COMPONENTS

- A. Gutters: Aluminum sheet, ASTM B 209, Alloy 3105-H24. Minimum tensile strength 26,000 psi, minimum yield strength 25,000 psi or equivalent. Continuous and seamless sheet aluminum, roll formed.
 - 1. Thickness:
 - a. 0.027 inch (0.69 mm).
 - b. 0.032 inch (0.81 mm).
- B. Downspouts: Aluminum sheet, ASTM B 209, Alloy 3105-H24. Minimum tensile strength 26,000 psi, minimum yield strength 25,000 psi or equivalent.
 - 1. Thickness:
 - a. 0.019 inch (0.48 mm).
 - 2. Size:
 - a. 3 inches by 4 inches (76 mm by 102 mm).
 - b. 2 inches by 3 inches (51 mm by 76 mm).
- C. Endcaps: Aluminum sheet, ASTM B 209, Alloy 3105-H24, thickness 0.027 inch (0.69 mm).
- D. Inside and Outside Mitres: Aluminum sheet, ASTM B 209, Alloy 3105-H24, thickness 0.027 inch (0.69 mm).
- E. Gutter Hangers and Anchors: Aluminum sheet, ASTM B 209, Alloy 3105-H24, thickness 0.063 inch (1.60 mm). Provide types required to suit project requirements.
- F. Downspout Anchors: Aluminum. Provide types required to suit project requirements.
- G. Elbows: Aluminum sheet, ASTM B 209, Alloy 3105-H24. Minimum tensile strength 26,000 psi, minimum yield strength 25,000 psi or equivalent.
 - 1. Thickness:
 - a. 0.019 inch (0.48 mm).
 - 2. Size: To match downspouts.
- H. Gutter Guard:
 - 1. Size:
 - a. Aluminum mesh, 5 inch (127 mm) by 3 foot (914 mm).
 - b. Aluminum mesh, white, 5 inch (127 mm) by 3 foot (914 mm).
 - c. Aluminum mesh, 6 inch (152 mm) by 3 foot (914 mm).
- I. Gutter Screen:
 - 1. Size:
 - a. Aluminum screen, brown, 5 inch (127 mm) by 3 foot (914 mm).
 - b. Aluminum screen, white, 5 inch (127 mm) by 3 foot (914 mm).
- J. Aluminum Finish: CastleClad, two-coat system applied in a continuous baked-on process in a single operation, comprising of an acid-based primer and baked-on high performance linear polyester topcoat on exposed surfaces. Concealed surfaces finished with a polyester gold backer or wash coat.
 - 1. Color:
 - a. Lo Gloss White.
 - b. Brown.
 - c. Musket Brown.

- d. Light Gray.
- e. Clay.
- f. Hi-Gloss White.
- g. Cream.
- h. Dark Gray.
- i. Dark Green.
- j. Red.
- k. Bronze.
- l. Eggshell.
- m. Ivory.
- n. Wicker.

K. Sealant: Provide as specified in Section 07900.

L. Fasteners: Same material and finish as gutters and downspouts.

2.3 FABRICATION

A. Continuously form seamless gutters to the profiles and sizes specified.

B. Form downspouts of profiles and sizes specified.

C. Hem exposed edges of metal.

PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. Verify governing dimensions at building.

C. Verify surfaces are ready to receive gutters and downspouts.

D. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Clean and repair if necessary any adjoining work on which this work is in any way dependent for its proper installation.

C. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install gutters using appropriate hangers to allow normal expansion and contraction.

C. Install gutter hangers using two 1-1/4 inch (32 mm) screw shank nails and fastened into solid lumber.

D. All gutters shall be in continuous length for each elevation (run). No end laps are allowed.

- E. Exercise care in placing aluminum in contact with other dissimilar metals or materials that are not compatible with aluminum.
- F. Providing adequate insulation/separation where ever necessary, such as by painting or otherwise protecting when they are in contact with aluminum or when drainage from them passes over aluminum surfaces.
- G. Install sealants where indicated to clean dry surfaces only without skips or voids.

3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION