



PRODUCT SPECIFICATIONS

B & B Sheet Metal, 25-40 50th Avenue,
Long Island City, New York 11101
PHONE: 718-433-2501; FAX: 718-433-2709;
EMAIL: info@bbsheetmetal.com
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SECTION 07 63 16 - ORNAMENTAL SHEET METAL ROOFING SPECIALTIES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes: [Custom fabricated] [Manufactured] ornamental sheet metal roofing specialties [for [historic restoration of [____]] [____] including:
1. Cupolas.
- B. Related sections:
1. Section [07 30 33 - Steep Slope Roofing] [07 41 00 - Metal Roof Panels] [07 50 00] Membrane Roofing] [____]: Roof system to receive ornamental sheet roofing specialties.
 2. Section 07 62 00 - Sheet Metal Flashings and Trim: Sheet metal flashings, counter flashings, and trim installed as part of roof system to prevent water penetration.
 3. Section 07 92 00 - Joint Sealants: Sealants and backing material used for installation of sheet metal.

1.2 REFERENCES

- A. American National Standards Institute (ANSI): ANSI Z97.1 - Safety Performance Specifications and Methods of Test for Safety Glazing Material Used in Buildings.
- B. American Society for Testing and Materials (ASTM):
1. ASTM A167 - Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip.
 2. Section A308 - Steel Sheet, Terne (Lead-Tin Alloy) Coated by Hot-Dip Process.
 3. ASTM A653 - Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by Hot-Dip Process.
 4. ASTM B32 - Solder Metal.
 5. ASTM B101 - Lead-Coated Copper Sheet and Strip for Building Construction



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6. ASTM B209 - Aluminum and Aluminum-Alloy Sheet and Plate.
 7. ASTM B370 - Copper Sheet and Strip for Building Construction.
 8. ASTM C1036 - Flat Glass.
 9. ASTM C1048 - Heat Treated Float Glass, Kind HS, Kind FT Coated and Uncoated.
 10. ASTM C1172 - Laminated Architectural Flat Glass.
 11. ASTM E546 - Frost Point of Sealed Insulating Glass Units.
 12. ASTM E576 - Frost Point of Sealed Insulating Glass Units in Vertical Position.
 13. ASTM E773 - Accelerated Weathering for Sealed Insulating Glass Units.
 14. ASTM E774 - Classification of the Durability of Sealed Insulating Glass Units.
- C. CPSC 16 CFR 1201 - Consumer Product Safety Commission Safety Standard for Architectural Glazing Materials.
- D. International Code Council (ICC): ICC IBC - International Building Code.
- E. National Roofing Contractors Association (NRCA): NRCA Roofing Manual.
- F. Sheet Metal and Air Conditioning Contractors National Association (SMACNA) – SMACNA Architectural Sheet Metal Manual.

1.3 SUBMITTALS

- A. Submit in accordance with Section 01 33 00 - Submittal Procedures:
1. Product data.
 2. Shop drawings for ornamental sheet metal fabrications showing elevations, plans, dimensions, material gauges, fastening methods, and installation details for actual Project conditions. Where appropriate, provide perspective sketches or photographs to illustrate design.
 3. Sample of selected material and finish.
 4. Manufacturer's installation and maintenance instructions.



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1.4 QUALITY ASSURANCE

- A. Perform work in accordance with applicable NRCA Roofing Manual and SMACNA Architectural Sheet Metal Manual details and requirements.
- B. Comply with safety requirements of following standards. Where discrepancies exist, more stringent requirement shall govern.
 - 1. Consumer Product Safety Commission 16 CFR 1201.
 - 2. ICC IBC.

1.5 HANDLING

- A. Deliver, store, and handle ornamental sheet metal roofing specialties to prevent denting, scratching, breaking, gouging, abrasion, soiling, discoloration, staining, or other damage.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. B & B Sheet Metal, Inc.
25-40 50th Avenue
Long Island City, New York 11101;
P: 718-433-2501 F: 718-433-2709
www.bbsheetmetal.com.
- B. Requests to use equivalent products of other manufacturers shall be submitted in accordance with Section 01 25 13 - Product Substitution Procedures.

2.2 MATERIALS

- A. Galvanized sheet steel: Zinc-coated steel sheet complying with ASTM A653, 26 gauge thick.
- B. Copper sheet: Plain copper sheet complying with ASTM B370 and weighing [16] [20] ounces per square foot.
- C. Pre-patinaed copper sheet: Copper sheet weighing 16 ounces per square foot and complying with ASTM B370 with greenish-brown patina oxidation film; Evergreen Copper as provided by B & B Sheet Metal.



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- D. Lead-coated copper: Copper sheet with a thin lead coating complying with ASTM B101 and weighing 16 ounces per square foot.
- E. Stainless steel: [26] [24] gauge corrosion resistant chromium, tin, and steel alloy complying with ASTM A167.
- F. Terne-coated stainless steel: 26 gauge stainless steel sheet with a hot dipped lead and tin terne coating complying with ASTM A 167 and ASTM A308.
- G. Aluminum sheet: 0.025 inch thick aluminum sheet complying with ASTM B209 and finished with [thermoset polyester enamel finish with [brown] [high gloss white] [bronze] color.] [fluoropolymer Kynar coating in color selected by Architect from manufacturer's full range.]
- H. Glazing:

[1/4 inch thick, monolithic, clear, laminated safety glass complying with ASTM C1172, ANSI Z97.1, and CPSC 16 CFR.]

[1/4 inch thick, monolithic, translucent, laminated safety glass fabricated by bonding two glass lites with white translucent interlayment and complying with ASTM C1172, ANSI Z97.1, and CPSC 16 CFR.]

[1/4 inch thick, monolithic, clear wire glass with square mesh of woven stainless steel wire conforming to ASTM C1036, Type II.]

[1/4 inch thick, monolithic, clear hammered wire glass with square mesh of woven stainless steel hammered wire conforming to ASTM C1036, Type II.]

[1/4 inch thick, monolithic, clear, ribbed glass.]

[1 inch thick, bronze tinted, insulating, fully tempered safety glass complying with ASTM E546, ASTM E576, ASTM E773, and ASTM E774.

1. Outer lite: 1/4 inch thick, bronze tinted, fully tempered safety glass heat treated in accordance with ASTM C1048, Kind FT to meet requirements of ANSI Z97.1 and CPSC 16 CFR to qualify as safety glass.
2. Inner lite: 1/4 inch thick, clear, fully tempered safety glass heat treated in accordance with ASTM C1048, Kind FT to meet requirements of ANSI Z97.1 and CPSC 16



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CFR to qualify as safety glass.]

[1 inch thick, white translucent, insulating, laminated safety glass complying with ASTM E546, ASTM E576, ASTM E773, and ASTM E774.

1. Outer lite: 1/4 inch thick, translucent, laminated safety glass fabricated by bonding two glass lites with white translucent interlayment and complying with ASTM C1172, ANSI Z97.1, and CPSC 16 CFR.
2. Inner lite: 1/4 inch thick, clear, fully tempered safety glass heat treated in accordance with ASTM C1048, Kind FT to meet requirements of ANSI Z97.1 and CPSC 16 CFR to qualify as safety glass.]

[1 inch thick, low emissivity (low-E), insulating glass complying with ASTM E546, ASTM E576, ASTM E773, and ASTM E774.

1. Outer lite: 1/4 inch thick, fully tempered, low-E glass with neutral coating pyrolytically applied to produce durable surface and resulting in improved thermal performance and reduced solar heat gain complying with ASTM C1048, Kind FT to meet requirements of ANSI Z97.1 and CPSC 16 CFR to qualify as safety glass.
 2. Inner lite: 1/4 inch thick, clear, fully tempered safety glass heat treated in accordance with ASTM C1048, Kind FT to meet requirements of ANSI Z97.1 and CPSC 16 CFR to qualify as safety glass.]
- I. Sealant: [Silicone] [Polyurethane] [Acrylic] [_____] type specified in Section 07 92 00 - Joint Sealants.
 - J. Solder: ASTM B32.

2.3 CUPOLAS

- A. Type: [Manufactured sheet metal dome-like, roof-mounted structure; [Bellhop] [Caesar] [Cottage] [Empire] [Fountain] [Lantern] [Palace] [Peccadillo] [Royal] [Spearhead] [Temple] [Villa] as manufactured by B & B Sheet Metal.] [Sheet metal dome-like, roof-mounted structure custom designed in accordance with design, shape, and dimensions illustrated on Drawings and reviewed shop drawings and custom fabricated by B & B Sheet Metal.]
- B. Cupolas are to replicate existing historic cupolas and design, materials, dimensions,



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fabrication methods, and installation details as shown on reviewed shop drawings shall match existing to the extent possible.

- C. Material: [Copper sheet] [Evergreen pre-patinaed copper sheet] [Lead-coated copper sheet] weighing [16] [20] ounces per square foot.
- D. Fabrication: Fabricate cupolas from formed sheet metal with soldered joints [and [glass panels] [louver panels] [a combination of glass and louver panels] as detailed on Drawings].
- [E. Glazed panels: Provide glass panels of shape and size illustrated on Drawings and reviewed shop drawings with [1/4] [1] inch thick [monolithic, clear, laminated safety glass] [monolithic, translucent white, laminated safety glass] [monolithic, clear wire glass] [monolithic, clear, hammered wire glass] [monolithic, clear, ribbed glass] [bronze tinted, insulating, fully tempered safety glass] [white translucent, insulating, laminated safety glass] [low-E), insulating glass] installed with removable metal stops and resilient gaskets.]
- [F. Louvered panels: Provide louvered panels of shape and size illustrated on Drawings and reviewed shop drawings with fixed [flat] [Z-shaped] [V-shaped] [Y-shaped] blades providing [50] [_____] percent free air flow. Equip louver panels with insect [copper] [brass] [fiber] screens.]
- G. Base: Equip cupolas with base as required for weatherproof installation on [flat] [pitched with [1 in 4] [_____] slope] [ridge] [_____] roof structure and membrane as indicated on Drawings and reviewed shop drawings consisting of [integral flashing flanges for mounting on site constructed wood curbs] [self-flashing curb with flanges for flashing into roof membrane] [_____]].

2.4 FABRICATION

- A. Fabricate sections to profiles and dimensions indicated on Drawings and reviewed shop drawings.
- B. Linear components: Form in longest possible lengths with 8 foot as minimum.
- C. Intersections: Cope to fit accurately and solder.
- D. Edges: Turn back all exposed edges to form 1/2 inch hem.
- E. Soldering: Clean and tin materials. Completely fill seams with solder. Soldering on exposed finished surfaces shall be neat, full flowing, and smooth. After soldering, remove flux and wipe and wash joints clean.



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PART 3 - EXECUTION

3.1 PREPARATION

- A. Coordinate provision of ornamental sheet metal roofing specialties with type and installation of [exterior walls and parapets,] [roof deck and membrane,] [wood blocking and nailers,] [exterior wall finishes,] [_____] and other work related to sheet metal.
- B. Prior to submittal of shop drawings and fabrication, field verify required sizes and installation tolerances for sheet metal roofing specialties.
- C. Deliver ornamental sheet metal roofing specialties to site in time for accurate placement and coordination with other work.
- D. Verify roof membrane terminations and base flashings are in place, sealed, and secure.
- E. Coat dissimilar materials in contact with sheet metal:
 - 1. Concrete and masonry: One coat bituminous paint.
 - 2. Wood: 2 coats aluminum paint.

3.2 INSTALLATION

- A. Install ornamental sheet metal roofing specialties in accordance with Drawings, reviewed shop drawings, manufacturer's instructions and NRCA Roofing Manual and SMACNA Architectural Sheet Metal Manual standards of workmanship.
- B. Do not allow sheet metal to come in contact with dissimilar materials.
- C. Do not install bent, twisted, scratched, or otherwise damaged sheet metal fabrications. Remove from site and replace.
- D. Erect sheet metal plumb and level without bulges or waves.
- E. Fit sheet metal fabrications tight in place. Make corners square, and surfaces true and straight in planes. Provide for expansion and contraction of sheet metal.
- F. Secure sheet metal in place using concealed fasteners unless shown otherwise. Lap and seal all joints. Exposed fasteners shall be covered with sealant.
- G. Protect finishes of exposed to view sheet metal fabrications. Avoid gouging, scratching, and denting. Use cotton gloves when handling and installing unprotected sheet metal in



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order to avoid soiling exposed to view surfaces.

H. Coping:

1. Attach anchor cleats to wood blocking bolted to wall top. Space cleats at 5 feet maximum. Provide anchor cleats and all coping joints and terminations.
2. Install splice plates at coping joints. Attach splice plate by interlocking to cleat.
3. Locate coping butt joints over splice plates. Allow 1/4 inch between abutting sections for expansion. Apply two beads of sealant to splice plate prior to installing lengths of coping.
4. Interlock parapet cap to cleats and splice plates.

3.3 CLEANING

- A. Remove excess sealant by moderate use of mineral spirits or other solvent acceptable to sealant manufacturer.
- B. Exercise care in removing mortar, cementitious materials, and sand from ornamental sheet metal roofing specialties. Do not wipe surfaces in order to avoid scratching.
- C. Wash exposed surfaces with solution of mild detergent applied with soft cloth. Wipe surfaces clean.

END OF SECTION