

SECTION 05700

ORNAMENTAL METAL

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Bar Grilles.
- B. Perforated Sheet Metal Grilles.
- C. Eggcrate Grilles.
- D. Waterjet Grilles.
- E. Round Perforated Grilles.
- F. Progressive Louvers.
- G. Radiator Covers.
- H. Equipment Plates.

1.2 RELATED SECTIONS

- A. Section 05500 - Metal Fabrications.
- B. Section 06400 - Architectural Woodwork.
- C. Section 08100 - Metal Door Frames.
- D. Section 08710 - Door Hardware.
- E. Section 09260 - Gypsum Board Systems.
- F. Section 15800 - Air Distribution.

1.3 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Shop Drawings: Submit the following:
 - 1. Full size templates for products requiring templates for fabrication.
 - 2. Drawings indicating locations of products of this section in project.

3. Drawings and details indicating sizes, materials and thicknesses, fabrication and installation techniques, provisions for reinforcement and anchoring.
- C. Verification Samples: For each metal, metal thickness, finish, and pattern specified, two 6 inch square samples.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Packing, Shipping, Handling and Unloading: Pack products of this section to prevent damage to products and finishes.
- B. Storage and Protection:
1. Store products of this section in manufacturer's unopened packaging until installation.
 2. Maintain dry, heated storage area for products of this section until installation of products.

1.5 SCHEDULING

- A. Supply full size templates for products requiring templates for fabrication to manufacturer of products of this section in time for scheduled fabrication.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Architectural Grille; 77 Fourteenth Street, Brooklyn NY 11215; ASD. Tel: (718) 832-1200, (800) 387-6267 (outside NY); Fax: (718) 832-1390.
- B. Requests for substitutions will be considered in accordance with provisions of Section 01600.
- C. Substitutions: Not permitted.

2.2 MANUFACTURED UNITS

- A. Bar Grilles:
1. Core: Type AG10; 1/8 thick by 3/4 inch deep rectangular metal bars spaced ___ inch on center, interlocked and welded to 1/8 thick by 1/2 inch deep rectangular metal bar crosspieces spaced 10 inches on center.
 2. Core: Type AG20; 3/4 inch deep rectangular metal bars, cross-section flared 15 degrees one side, 1/4 inch thick across flared face, spaced 1/2 inch on

center, interlocked and welded to 1/8 thick by 1/2 inch deep rectangular metal bar crosspieces spaced 10 inches on center.

3. Core: Type AG30; 3/4 inch deep rectangular metal bars, cross-section flared 15 degrees both sides, 1/4 inch thick across flared face, spaced 1/2 inch on center, interlocked and welded to 1/8 thick by 1/2 inch deep rectangular metal bar crosspieces spaced 10 inches on center.
4. Core: Type AG40; 1/8 inch thick by 3/4 inch deep rectangular metal bars, ends milled to 16-degree bevel, spaced 3/8 inch on center, interlocked and welded at 16-degree incline from perpendicular to 1/8 thick by 1/2 inch deep rectangular metal bar crosspieces spaced 10 inches on center.
5. Core: Type AG50; 3/4 inch deep rectangular metal bars, cross-section flared 15 degrees on side, 3/16 inch thick across flared face, spaced 1/2 inch on center, interlocked and welded to 1/8 thick by 1/2 inch deep rectangular metal bar crosspieces spaced 10 inches on center.
6. Core: Type AG60; 3/4 inch deep rectangular/round metal bars, cross-section flared into a 1/4 inch round, spaced 1/2 inch on center, interlocked and welded to 1/8 thick by 1/2 inch deep rectangular metal bar crosspieces spaced 10 inches on center.
7. Metal: _____.
8. Finish: _____.
9. Frame: Type A, semi-concealed; 7/8 inch by 1/2 inch by 1/8 inch cross-section angle, inside of 1/2 inch leg welded to back side of grille at crosspieces.
10. Frame: Type B, full face frame; 3/4 inch by 3/4 inch by 1/8 inch cross-section angle, back side of one angle leg welded to edge of grille at crosspieces, 3/4 inch face frame.
11. Frame: Type C, reinforced full face frame; 3/4 inch by 7/8 inch by 5/8 inch by 1/8 inch cross-section zee, inside of 5/8 inch leg welded to back side of grille at crosspieces, 3/4 inch face frame.
12. Mitered Corner Sections: Fabricate welded mitered corner sections to match sections of straight bar grille units for _____ installation.
13. Curved Sections: Fabricate curved sections in accordance with supplied templates to match sections of straight bar grille units for _____ installation.

14. Access Door: Fabricate concealed, pivoting access door matching core at locations indicated.
15. Fastening Devices: Weld anchor tabs Type ____, with countersunk pre-drilled fastener holes, for installation of grilles.
16. Fastening Devices: Pre-drill countersunk fastener holes in concealed surface of frame at indicated spacings for installation of grilles.
17. Size: _____ height by _____ width.
18. Sizes: Heights and widths indicated on drawings.

B. Perforated Sheet Metal Grilles:

1. Pattern: _____, Number ____.
2. Pattern Repeat: _____ inch(es).
3. Open Area: _____ percent.
4. Metal: _____, _____ inch sheet thickness.
5. Metal: _____, _____ gage sheet thickness.
6. Finish: _____.
7. Access Door: Fabricate concealed, hinged access door matching grille pattern at locations indicated.
8. Access Door: Fabricate pivoting access door matching grille pattern at locations indicated.
9. Fastening Devices: Pre-drill countersunk fastener holes in surface of frame at indicated spacings for installation of grilles.
10. Fastening Devices: Weld 1/2 inch leg of 1/2 inch by 3/4 inch by 1/8 inch cross-section angle to concealed surface of grille, with countersunk pre-drilled fastener holes at indicated spacings in 3/4 inch leg, for reinforcement and installation of grille.
11. Fastening Devices: Weld edge of 3/4 inch by 1/8 inch cross-section bar to concealed surface of grille, with countersunk pre-drilled fastener holes at indicated spacings in flat surface of bar, for reinforcement and installation of grille.
12. Fastening Devices: Weld top edge of 3/4 inch leg of 1/2 inch by 3/4 inch by 1/8 inch cross-section angle to concealed surface of grille, with countersunk pre-drilled fastener holes at indicated spacings in 1/2 inch leg, for reinforcement and installation of grille.
13. Size: _____ height by _____ width.
14. Sizes: Heights and widths indicated on drawings.

C. Eggcrate Grille:

1. Cell Size: _____ inch(es) square by _____ inch(es) depth.

2. Metal: _____, 1/8 inch sheet thickness.
3. Finish: Satin Finish No.4.
4. Finish: _____.
5. Size: _____ height by _____ width.
6. Sizes: Heights and widths indicated on drawings.

D. Waterjet Cut Grilles:

1. Material: _____.
2. Finish: _____.

E. Round Perforated Grilles:

1. Perforation Pattern: _____, Number ____.
2. Pattern Repeat: _____ inch(es).
3. Open Area: ____ percent.
4. Metal: _____, ____ inch sheet thickness.
5. Metal: _____, ____ gage sheet thickness.
6. Finish: _____.
7. Construction:
 - a. Form true circle to indicated radius; finish cut edge to match sheet finish.
 - b. Form 3/4 inch by 1/8 thick bar of metal matching face sheet to true cylinder to indicated radius; weld ends together and finish weld smooth.
 - c. Collar weld cylinder to concealed surface of face sheet concentric with face sheet; finish welds smooth.
8. Size: Diameter ____ inches.
9. Sizes: Diameters indicated on drawings.

F. Progressive Louvers:

1. Metal: _____, ____ inch sheet thickness.
2. Metal: _____, ____ gage sheet thickness.
3. Finish: _____.
4. Construction:
 - a. Form from single metal sheet; form louver vanes with radiused end returns.
 - b. Form louvers 1/2 inch height, 3/16 inch projection, at 3/4 inch vertical spacing.
 - c. Form louvers 5/8 inch height, 1/4 inch projection, at 15/16 inch vertical spacing.
 - d. Form louvers 3/4 inch height, 1/4 inch projection, at 1-1/8 inches vertical spacing.
 - e. Provide for indicated anchoring devices.
 - f. Finish sight-exposed edges to match sheet finish.
5. Size: _____ height by _____ width.
6. Sizes: Heights and widths indicated on drawings.

G. Radiator Grilles:

1. Perforation Pattern: _____, Number ____.
2. Pattern Repeat: _____ inch(es).
3. Open Area: ____ percent.
4. Metal: _____, ____ inch sheet thickness.
5. Finish: _____.
6. Construction:
 - a. Form straight edges to minimum radius allowed by metal thickness before grain separation of metal.
 - b. Build in reinforcement for anchoring devices in accordance with approved shop drawings; weld to concealed surfaces of face sheets and edges.
 - c. Form perforated patterns in face sheets and cut-outs in sides for radiator controls in accordance with approved shop drawings.
 - d. Form top and bottom edges flush.
 - e. Weld corners and metal intersections.
 - f. Finish sight-exposed welded surfaces to match sheet finish.
7. Size: _____ height by _____ width by _____ thick.
8. Sizes: Heights, widths, and thicknesses indicated on drawings.

H. Equipment Plates:

1. Metal: _____, ____ inch sheet thickness.
2. Metal: _____, ____ gage sheet thickness.
3. Finish: _____.
4. Construction:
 - a. Form plates and provide penetrations in accordance with supplied templates.
 - b. Build in reinforcement for anchoring devices in accordance with approved shop drawings; weld to concealed surfaces of face sheets and edges.
 - c. Finish sight-exposed edges to match sheet finish.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verification of Conditions: Verify openings and substrates are prepared to receive products of this section.
- B. Installer's Examination:
 1. Have installer of this section examine conditions under which construction activities of this section

are to be performed, then submit written notification if such conditions are unacceptable.

2. Transmit two copies of installer's report to Architect within 24 hours of receipt.
3. Beginning construction activities of this section before unacceptable conditions have been corrected is prohibited.
4. Beginning construction activities of this section indicates installer's acceptance of conditions.

3.2 INSTALLATION

- A. Install products of this section in accordance with approved shop drawings.
- B. Supply products of this section for installation by installers of products of other sections.

3.3 PROTECTION OF INSTALLED PRODUCTS

- A. Protect installed products from damage by subsequent construction activities.
- B. Replace products damaged by subsequent construction activities.

END OF SECTION