SECTION 23 37 13

DIFFUSERS, REGISTERS, AND GRILLES

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\*\* NOTE TO SPECIFIER \*\* Architectural Grille; Ornamental metal diffusers, registers, and grill products.  
This section is based on the products of Architectural Grille, which is located at:42 2nd Ave.Brooklyn, NY 11215Toll Free Tel: 800-387-6267Tel: 718-832-1200Fax: 718-832-1390Email: [request info (sales@archgrille,com)](https://arcat.com/rfi?action=email&company=Architectural%252BGrille&message=RE%253A%2520Spec%2520Question%2520(15855arg)%253A%2520&coid=30593&spec=15855arg&rep=&fax=718-832-1390)  
Web: <https://www.archgrille.com>   
 [ [Click Here](https://arcat.com/company/architectural-grille-30593) ] for additional information.  
Architectural Grille manufactures custom bar grilles, perforated grilles, and eggcrate grilles, as well as other custom products including made to order grilles. Our products are fabricated using the latest "State of the Art" manufacturing equipment, including water jets, lasers and CNC turret shapers and lathes. Products are fabricated of most materials including aluminum, brass, bronze, steel, and stainless steel. Consult manufacturer for custom designs, fabrications, materials, and finishes.

1. GENERAL
   1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Linear Bar Grilles and Frames.
    2. Perforated Sheet Metal Grilles.
    3. Spackle-In J-Frame Bar Grilles and Frames.
    4. Eggcrate Grilles and Frames.
    5. Curved Perforated Grilles and Frames.
    6. Round Perforated Grilles.
    7. Punch Louvers.
  1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 05 50 00 - Metal Fabrications.
    2. Section 06 40 00 - Architectural Woodwork.
    3. Section 09 21 16.33 - Gypsum Board Area Separation Wall Assemblies.
    4. Section 23 30 00 - HVAC Air Distribution.
    5. Section 23 31 00 - HVAC Ducts and Casings.
  1. SUBMITTALS
     1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
     2. Product Data: Manufacturer's data sheets on each product to be used, including:
        1. Preparation instructions and recommendations.
        2. Storage and handling requirements and recommendations.
        3. Installation methods.
     3. Shop Drawings: Submit the following:

\*\* NOTE TO SPECIFIER \*\* Delete the following paragraph if no products requiring templates for fabrication are required.

* + - 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.
  1. DELIVERY, STORAGE, AND HANDLING
     1. Packing, Shipping, Handling and Unloading: Pack products of this section to prevent damage to products and finishes.
     2. Storage and Protection:
        1. Store products in manufacturer's unopened packaging until installation.
        2. Maintain dry, heated storage area for products until installation.
  2. SEQUENCING
     1. Ensure that locating templates and other information required for installation of products of this section are furnished to affected trades in time to prevent interruption of construction progress.
     2. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

\*\* NOTE TO SPECIFIER \*\* Delete following paragraph if no products requiring templates for fabrication are required.

* 1. SCHEDULING
     1. Supply full size templates for products requiring templates for fabrication to manufacturer of products of this section in time for scheduled fabrication.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer: Architectural Grille, which is located at:42 2nd Ave.Brooklyn, NY 11215Toll Free Tel: 800-387-6267Tel: 718-832-1200Fax: 718-832-1390Email: [request info (sales@archgrille,com)](https://arcat.com/rfi?action=email&company=Architectural%252BGrille&message=RE%253A%2520Spec%2520Question%2520(15855arg)%253A%2520&coid=30593&spec=15855arg&rep=&fax=718-832-1390);Web: <https://www.archgrille.com>

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
    2. Requests for substitutions will be considered in accordance with the provisions of Section 01 60 00 - Product Requirements.

\*\* NOTE TO SPECIFIER \*\* Select grilles and plates as required from the following products. Delete the item(s) not required for the project.

* 1. PRODUCTS

\*\* NOTE TO SPECIFIER \*\* Delete the following paragraphs describing grilles and core types. If more than one type or finish is required, indicate bar grille types and finish on the drawings or the attached grille schedule. Standard thicknesses are indicated however, all products are available in any thickness upon request.

* + 1. Bar Grilles:

\*\* NOTE TO SPECIFIER \*\* For Type AG10 core insert required bar spacing - 1/4 inch (6 mm) (6.5 mm), 3/8 inch, and 1/2 inch (13 mm) centers are available.

* + - 1. Core: Type AG10; 1/8 inch (3 mm) thick by 3/4 inch (19 mm) deep rectangular metal bars spaced \_\_\_ inch on center, interlocked and welded to 1/8 inch (3 mm) thick by 1/2 inch (13 mm) deep rectangular metal bar crosspieces spaced 10 inches (254 mm) on center.
      2. Material and Finish:

\*\* NOTE TO SPECIFIER \*\* Delete the materials and finishes not required. If more than one finish is required indicated on the drawings or the attached grille schedule.

* + - * 1. Aluminum:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Prime finish.

Anodized Finish: Black.

Anodized Finish: Clear.

Anodized Finish: Duranodic.

Powder Coat Colors: As selected by Architect.

* + - * 1. Brass:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Statuary Bronze. Light.

Statuary Bronze. Medium.

Statuary Bronze. Dark.

* + - * 1. Bronze:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Statuary Bronze. Light.

Statuary Bronze. Medium.

Statuary Bronze. Dark.

* + - * 1. Stainless Steel:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

* + - 1. Core: Type AG20; 3/4 inch (19 mm) deep rectangular metal bars, cross-section flared 15 degrees one side, 1/4 inch (6 mm) thick across flared face tapering to 1/8 inch (3 mm) at bottom, spaced 1/2 inch (13 mm) on center, interlocked and welded to 1/8 inch (3 mm) thick by 1/2 inch (13 mm) deep rectangular metal bar crosspieces spaced 10 inches (254 mm) on center.
      2. Material and Finish:

\*\* NOTE TO SPECIFIER \*\* Delete the materials and finishes not required. If more than one finish is required indicated on the drawings or the attached grille schedule.

* + - * 1. Aluminum:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Prime finish.

Anodized Finish: Black.

Anodized Finish: Clear.

Anodized Finish: Duranodic.

Powder Coat Colors: As selected by Architect.

* + - * 1. Bronze:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Statuary Bronze. Light.

Statuary Bronze. Medium.

Statuary Bronze. Dark.

* + - 1. Core: Type AG30; 3/4 inch (19 mm) deep rectangular metal bars, cross-section flared 15 degrees both sides, 1/4 inch (6 mm) thick across flared face, spaced 1/2 inch (13 mm) on center, interlocked and welded to 1/8 inch (3 mm) thick by 1/2 inch (13 mm) deep rectangular metal bar crosspieces spaced 10 inches (254 mm) on center.
      2. Material and Finish:

\*\* NOTE TO SPECIFIER \*\* Delete the materials and finishes not required. If more than one finish is required indicated on the drawings or the attached grille schedule.

* + - * 1. Aluminum:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Prime finish.

Anodized Finish: Black.

Anodized Finish: Clear.

Anodized Finish: Duranodic.

Powder Coat Colors: As selected by Architect.

* + - * 1. Bronze:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Statuary Bronze. Light.

Statuary Bronze. Medium.

Statuary Bronze. Dark.

* + - 1. Core: Type AG40; 1/8 inch (3 mm) thick by 3/4 inch (19 mm) deep rectangular metal bars, ends milled to 16-degree bevel, spaced 3/8 inch (9.5 mm) on center, interlocked and welded at 16-degree angle from perpendicular to 1/8 inch (3 mm) thick by 1/2 inch (13 mm) deep rectangular metal bar crosspieces spaced 10 inches (254 mm) on center.
      2. Material and Finish:

\*\* NOTE TO SPECIFIER \*\* Delete the materials and finishes not required. If more than one finish is required indicated on the drawings or the attached grille schedule.

* + - * 1. Aluminum:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Prime finish.

Anodized Finish: Black.

Anodized Finish: Clear.

Anodized Finish: Duranodic.

Powder Coat Colors: As selected by Architect.

* + - * 1. Brass:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Statuary Bronze. Light.

Statuary Bronze. Medium.

Statuary Bronze. Dark.

* + - * 1. Bronze:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Statuary Bronze. Light.

Statuary Bronze. Medium.

Statuary Bronze. Dark.

* + - * 1. Stainless Steel:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

* + - 1. Core: Type AG50; 3/4 inch (19 mm) deep rectangular metal bars, cross-section flared 15 degrees on side, 3/16 inch (5 mm) thick across flared face, spaced 1/2 inch (13 mm) on center, interlocked and welded to 1/8 inch (3 mm) thick by 1/2 inch (13 mm) deep rectangular metal bar crosspieces spaced 10 inches (254 mm) on center.
      2. Material and Finish:

\*\* NOTE TO SPECIFIER \*\* Delete the materials and finishes not required. If more than one finish is required indicated on the drawings or the attached grille schedule.

* + - * 1. Aluminum:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Prime finish.

Anodized Finish: Black.

Anodized Finish: Clear.

Anodized Finish: Duranodic.

Powder Coat Colors: As selected by Architect.

* + - * 1. Brass:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Statuary Bronze. Light.

Statuary Bronze. Medium.

Statuary Bronze. Dark.

* + - 1. Core: Type AG60; 3/4 inch (19 mm) deep rectangular/round metal bars, cross-section flared into a 1/4 inch (6 mm) round, spaced 1/2 inch (13 mm) on center, interlocked and welded to 1/8 inch (3 mm) thick by 1/2 inch (13 mm) deep rectangular metal bar crosspieces spaced 10 inches (254 mm) on center.

\*\* NOTE TO SPECIFIER \*\* Select material finish and color required. Delete the materials and finishes not required.

* + - * 1. Aluminum:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Prime finish.

Anodized Finish: Black.

Anodized Finish: Clear.

Anodized Finish: Duranodic.

Powder Coat Colors: As selected by Architect.

* + - * 1. Bronze:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Statuary Bronze. Light.

Statuary Bronze. Medium.

Statuary Bronze. Dark.

\*\* NOTE TO SPECIFIER \*\* Select frame type required from the following frame paragraphs. Delete the frame types not required. Delete all three Frame, Mitered Corner and Curved Section paragraphs if frame is not required.

* + - 1. No Frame: Weld anchor tabs Type 115.
      2. Frame: Type A, semi-concealed; 7/8 inch (22 mm) by 1/2 inch (13 mm) by 1/8 inch (3 mm) cross-section angle, inside of 1/2 inch (13 mm) leg welded to back side of grille at crosspieces.
      3. Frame: Type B, full face frame; 3/4 inch (19 mm) by 3/4 inch (19 mm) by 1/8 inch (3 mm) cross-section angle, back side of one angle leg welded to edge of grille at crosspieces, 3/4 inch (19 mm) face frame.
      4. Frame: Type C, reinforced full face frame; 3/4 inch (19 mm) by 7/8 inch (22 mm) by 5/8 inch (16 mm) by 1/8 inch (3 mm) cross-section zee, inside of 5/8 inch (16 mm) leg welded to back side of grille at crosspieces, 3/4 inch (19 mm) face frame.
      5. Frame: Type D, full face frame; 1 inch (25 mm) by 3/4 inch (19 mm) by 3/16 inch (5 mm) cross-section angle, back side of one angle leg welded to edge of grille at crosspieces, 3/4 inch (19 mm) face frame.
      6. Frame: Type E, full face frame; 3/4 inch (19 mm) by 3/4 inch (19 mm) by 3/16 inch (5 mm) cross-section angle, back side of one angle leg welded to edge of grille at crosspieces, 3/4 inch (19 mm) face frame.
      7. Frame: Type F, full face frame; 1/2 inch (13 mm) by 3/4 inch (19 mm) by 3/16 inch (5 mm) cross-section angle, back side of one angle leg welded to edge of grille at crosspieces, 3/4 inch (19 mm) face frame.
      8. Frame: Type G, semi-concealed; 3/4 inch (19 mm) by 1/8 inch (3 mm) cross-section, back side of leg welded to edge of grille at crosspieces.
      9. Frame: Type J, semi-concealed; 7/8 inch (22 mm) by 1/2 inch (13 mm) by 1/8 inch (3 mm) cross-section angle, inside of 1/2 inch (13 mm) leg welded to back side of grille at crosspieces, with a 1 inch (25 mm) spackling frame.
      10. Frame: Type I, semi-concealed; 7/8 inch (22 mm) by 1/2 inch (13 mm) by 1/8 inch (3 mm) cross-section angle, with a 1 inch (25 mm) spackling frame.
      11. Frame: Type K, semi-concealed; 7/8 inch (22 mm) by 1/2 inch (13 mm) by 1/8 inch (3 mm) cross-section angle, inside of 1/2 inch (13 mm) leg welded to back side of grille at crosspieces, with a 1 inch (25 mm) spackling frame welded to back side of grille.
      12. Frame: type H, reinforced semi concealed frame; 3/4 inch (19 mm) by 7/8 inch (22 mm) by 1/2 inch (13 mm) by 1/8 inch (3 mm) cross section, inside of a 1/2 inch (13 mm) leg welded to the back side of grille at cross pieces, 3/4 in (19mm) frame on back side of grille.

\*\* NOTE TO SPECIFIER \*\* Select horizontal or vertical installation from the following two paragraphs. Delete both paragraphs if not required.

* + - 1. Mitered Corner Sections: Fabricate welded mitered corner sections to match sections of straight bar grille units for horizontal installation.
      2. Mitered Corner Sections: Fabricate welded mitered corner sections to match sections of straight bar grille units for vertical installation.

\*\* NOTE TO SPECIFIER \*\* Select horizontal or vertical installation from the following two paragraphs. Delete both paragraphs if not required. Curved sections not available for Type AG40 core.

* + - 1. Curved Sections: Fabricate concave curved sections in accordance with supplied templates to match sections of straight bar grille units for horizontal installation.
      2. Curved Sections: Fabricate concave curved sections in accordance with supplied templates to match sections of straight bar grille units for vertical installation.
      3. Curved Sections: Fabricate convex curved sections in accordance with supplied templates to match sections of straight bar grille units for horizontal installation.
      4. Curved Sections: Fabricate convex curved sections in accordance with supplied templates to match sections of straight bar grille units for vertical installation.

\*\* NOTE TO SPECIFIER \*\* Delete following paragraph if access door is not required. If required select access operation and indicated opening size.

* + - 1. Concealed Access Door: Provide concealed access door matching core at locations indicated.
         1. Pivot hinged access.
         2. Lift out access.
         3. Size \_\_\_\_\_\_\_\_\_\_\_.

\*\* NOTE TO SPECIFIER \*\* Delete two of the following three paragraphs. Type 114 tabs are for use with frame types A, C or J, Type 115 tabs are for use with frameless core or frame type B, D, E, F; method in third paragraph can be used with frame types A or C. Fastening on face of frame are available on Frame Type B and Frame Type C. Drop in frames for Type G do not require fastening devices. Consult manufacturer's catalog for additional Information.

* + - 1. Fastening Devices: Weld anchor tabs Type 114, with countersunk pre-drilled fastener holes, for installation of grilles.
      2. Fastening Devices: Weld anchor tabs Type 115, with countersunk pre-drilled fastener holes, for installation of grilles.
      3. Fastening Devices: Pre-drill countersunk fastener holes in concealed surface of frame at indicated spacings for installation of grilles.

\*\* NOTE TO SPECIFIER \*\* Delete two of the following three paragraphs. Fill in size if specified here. Coordinate with drawings.

* + - 1. Bar Grille Size: \_\_\_\_\_\_\_\_\_\_ height by \_\_\_\_\_\_\_\_\_\_\_ width.
      2. Bar Grille Sizes: Heights and widths indicated on Drawings.
      3. Bar Grille Sizes: Heights and widths indicated on Grille Schedule.
    1. Perforated Sheet Metal Grilles:

\*\* NOTE TO SPECIFIER \*\* Delete all but one of the following 28 paragraphs describing perforated sheet metal grille patterns; if more than one pattern or finish is required, indicate patterns and finish on the drawings or the attached grille schedule.

* + - 1. Pattern: Square Link, Number 200.
         1. Pattern repeat 1 inch (25 mm), open area 38 percent.
         2. Pattern repeat 1-1/4 inches (32 mm), open area 40 percent.
         3. Pattern repeat 1-3/4 inches (44 mm), open area 49 percent.
         4. Pattern repeat 2-1/4 inches (57 mm), open area 56 percent.
      2. Pattern: Parquet, Number 201.
         1. Pattern repeat 1-3/16 inches (30 mm), open area 35 percent.
      3. Pattern: Grecian, Number 202.
         1. Pattern repeat 1-1/4 inches (32 mm), open area 39 percent.
         2. Pattern repeat 2-1/2 inches (64 mm), open area 58 percent.
      4. Pattern: Honeycomb, Number 203.
         1. Pattern repeat 3/4 inch (19 mm), open area 50 percent.
      5. Pattern: Clover Leaf, Number 204.
         1. Pattern repeat 1/2 by 3/16 inch (13 by 5 mm), open area 51 percent.
         2. Pattern repeat 1/2 by 1/4 inch (13 by 6 mm), open area 52 percent.
         3. Pattern repeat 1 inch (25 mm), open area 50 percent.
      6. Pattern: Diamond, Number 205.
         1. Pattern repeat 1/4 inch (6 mm) with 1/4 inch (6 mm) bar, open area 25 percent.
         2. Pattern repeat 1/2 inch (13 mm) with 1/4 inch (6 mm) bar, open area 45 percent.
         3. Pattern repeat 3/4 inch (19 mm) with 1/4 inch (6 mm) bar, open area 56 percent.
         4. Pattern repeat 1 inch (25 mm) with 1/4 inch (6 mm) bar, open area 64 percent.
      7. Pattern: Maltese, Number 206.
         1. Pattern repeat 15/16 inch (24 mm), open area 38 percent.
         2. Pattern repeat 1-3/4 inches (44 mm), open area 45 percent.
      8. Pattern: Shell, Number 207.
         1. Pattern repeat 5/8 inch (16 mm), open area 48 percent.
         2. Pattern repeat 1-1/8 inches (28 mm), open area 56 percent.
         3. Pattern repeat 1-3/4 inches (44 mm), open area 72 percent.
         4. Pattern repeat 2-1/2 inches (64 mm), open area 84 percent.
      9. Pattern: Lattice, Number 208.
         1. Pattern repeat 1/4 inch (6 mm) with 1/4 inch (6 mm) bar, open area 25 percent.
         2. Pattern repeat 1/2 inch (13 mm) with 1/4 inch (6 mm) bar, open area 45 percent.
         3. Pattern repeat 3/4 inch (19 mm) with 1/4 inch (6 mm) bar, open area 56 percent.
         4. Pattern repeat 1 inch (25 mm) with 1/4 inch (6 mm) bar, open area 64 percent.
      10. Pattern: Half Shell, Number 209.
          1. Pattern repeat 1-5/16 inches (33 mm), open area 55 percent.
          2. Pattern repeat 1-3/4 inches (44.45mm), open area 68 percent.
          3. Pattern repeat 2-1/2 inches (64 mm), open area 80 percent.
      11. Pattern: School Slot, Number 210.
          1. Pattern repeat 1/4 x 1 inch (6 x 25 mm), open area 35 percent.
          2. Pattern repeat 5/16 x 1-3/8 inch (7.9 x 35 mm), open area 43 percent.
      12. Pattern: Egyptian, Number 211.
          1. Pattern repeat 1 inch (25 mm), open area 40 percent.
          2. Pattern repeat 2 inches (51 mm), open area 55 percent.
      13. Pattern: Straight Hole, Number 212.

\*\* NOTE TO SPECIFIER \*\* Other sizes available. Contact the Manufacturer for more information.

* + - * 1. Pattern repeat 1/4 inch (6 mm) diameter with 1/2 inch (13 mm) centers, open area 21 percent.
      1. Pattern: Staggered Hole, Number 213.

\*\* NOTE TO SPECIFIER \*\* Other sizes available. Contact the Manufacturer for more information.

* + - * 1. Pattern repeat 1/4 inch (6 mm) diameter with 1/2 inch (13 mm) centers, open area 23 percent.
      1. Pattern: Gothic, Number 214.
         1. Pattern repeat 1-1/16 inches (27 mm), open area 58 percent.
      2. Pattern: Brick, Number 215.
         1. Pattern repeat 1/4 inch (6 mm) by 1 inch (25 mm), open area 35 percent.
         2. Pattern repeat 3/8 inch (9.5 mm) by 1 inch (25 mm), open area 43 percent.
      3. Pattern: Square on Diamond, Number 216.
         1. Pattern repeat 1/2 inch (13 mm), open area 45 percent.
         2. Pattern repeat 3/4 inch (19 mm), open area 56 percent.
         3. Pattern repeat 1 inch (25 mm), open area 64 percent.
      4. Pattern: Triangle and Clover, Number 217.
         1. Pattern repeat 1-1/4 inches (32 mm), open area 23 percent.
      5. Pattern: Cross Link, Number 218.
         1. Pattern repeat 1-1/2 inches (38 mm), open area 45 percent.
      6. Pattern: Windsor, Number 219.
         1. Pattern repeat 1-9/16 inches (40 mm), open area 48 percent.
         2. Pattern repeat 2 inches (51 mm), open area 55 percent.
      7. Pattern: Classic, Number 220.
         1. Pattern repeat 1-5/8 inches (41 mm) by 1-5/16 inches (34 mm), open area 58 percent.
         2. Pattern repeat 2 inches (51 mm) by 1-3/4 inches (44 mm), open area 72 percent.
      8. Pattern: Tear Drop, Number 221.
         1. Pattern repeat 1-3/4 inches (44 mm) by 1-9/16 inches (40 mm), open area 66 percent.
      9. Pattern: Circle Link, Number 222.
         1. Pattern repeat 2-1/2 inch (13 mm) round, open area 65 percent.
      10. Pattern: Mosaic, Number 223.
          1. Pattern repeat 1-1/32 inches (26.19 mm), open area 54 percent.
      11. Pattern: Imperial, Number 224.
          1. Pattern repeat 1-7/8 inches (47.6 mm), open area 47 percent.
      12. Pattern: Majestic, Number 225.
          1. Pattern repeat 1 inch (25 mm), open area 40 percent.
          2. Pattern repeat 1-3/4 inches (44 mm), open area 52 percent.
          3. Pattern repeat 2-1/4 inches (57 mm), open area 64 percent.
      13. Pattern: Cathedral, Number 226.
          1. Pattern repeat 2-1/4 inches (57.15 mm) by 2-3/16 inches (55.5 mm), open area 57 percent.
      14. Pattern: Petals, Number 227.
          1. Pattern repeat 1-7/8 inches (47.6 mm), open area 52 percent.
      15. Pattern: Weave 228.
          1. Pattern repeat 1/2 x 1/2 inches (13 x 13 mm), open area 45 percent.
      16. Pattern: Orient, Number 229.
          1. Pattern repeat 2 inches (51 mm), open area 48 percent.
      17. Pattern: Pinwheel, Number 230.
          1. Pattern repeat 1-3/4 inches (44 mm), open area 58 percent.
      18. Pattern: Shuriken, Number 231.
          1. Pattern repeat 2 inches (51 mm), open area 33 percent.
      19. Pattern: Bubbles, Number 232.
          1. Random opening pattern, open area varies.
      20. Pattern: Kauai, Number 233.
          1. Pattern repeat 2-3/4 inches (70 mm), open area 58 percent.
      21. Pattern: Pebbles, Number 234.
          1. Random opening pattern, open area varies.
      22. Pattern: Cubic, Number 235.
          1. Random opening pattern, open area varies.
      23. Pattern: Rising Sun, Number 236.
          1. Pattern repeat 3-1/8 x 2 inches, open area 36 percent.
      24. Pattern: Binaries, Number 237.
          1. Pattern repeat 1/4 x 1-1/2 inches, open area 37 percent.
      25. Pattern: Crystal, Number 238.
          1. Pattern repeat 3 x 2-11/16 inches, open area 51 percent.
      26. Pattern: Xian, Number 239.
          1. Pattern repeat 2 inches, open area 61 percent.
      27. Pattern: 3D Cubes, Number 240.
          1. Pattern repeat 1-3/4 inches, open area 45 percent.
      28. Pattern: Cellular, Number 241.
          1. Random opening pattern, open area varies.
      29. Pattern: Celestial, Number 242.
          1. Pattern repeat 4-3/4 inches, open area 51 percent.
      30. Pattern: 3D Houndstooth, Number 243.
          1. Pattern repeat 1-1/4 inches, open area 35 percent.
      31. Pattern: Arabian, Number 244.
          1. Pattern repeat 2-3/8 inches, open area 61 percent.
      32. Pattern: Gatsby, Number 245.
          1. Pattern repeat 1-7/8 inches X 3-9/16 inches, open area 54 percent.
      33. Pattern: Red Herring, Number 246.
          1. Pattern repeat 2 x 2-4/8 inches, open area 53 percent.
      34. Pattern: Sorrento, Number 247.
          1. Pattern repeat 1-1/4 x 1 inches, open area 65 percent.

\*\* NOTE TO SPECIFIER \*\* Select the material and thickness required from the following paragraphs. Delete the paragraphs not required. Standard thicknesses are indicated however; all products are available in any thickness upon request.

* + - 1. Material:

\*\* NOTE TO SPECIFIER \*\* Aluminum is available in a 1/16 inch minimum thickness and a 1/8 inch (3 mm) maximum thickness. Select thickness required below.

* + - * 1. Aluminum, \_\_ inch (\_\_ mm) thick.

\*\* NOTE TO SPECIFIER \*\* Brass is available in a 1/16 inch minimum thickness and a 1/8 inch (3 mm) maximum thickness. Select thickness required below.

* + - * 1. Brass, \_\_ inch (\_\_ mm) thick.

\*\* NOTE TO SPECIFIER \*\* Bronze is available in a 1/16 inch minimum thickness and a 1/8 inch (3 mm) maximum thickness. Select thickness required below.

* + - * 1. Bronze, \_\_ inch (\_\_ mm) thick.

\*\* NOTE TO SPECIFIER \*\* Stainless Steel is available in a 1/16 inch minimum thickness and a 14 gauge maximum thickness. Select thickness required below.

* + - * 1. Stainless Steel, \_\_ inch (\_\_ mm) thick.

\*\* NOTE TO SPECIFIER \*\* Steel is available in a 1/16 inch minimum thickness and a 1/8 inch (3 mm) maximum thickness. Select thickness required below.

* + - * 1. Steel, \_\_ inch (\_\_ mm) thick.

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs. Delete both if access door is not required.

* + - 1. Access Door: Fabricate concealed, hinged access door matching grille pattern at locations indicated.
      2. Access Door: Fabricate pivoting access door matching grille pattern at locations indicated.

\*\* NOTE TO SPECIFIER \*\* Delete three of the following four paragraphs. The first through fourth paragraphs specify fastening types 105, 106, 107, and 107A, respectively.

* + - 1. Fastening Devices: Pre-drill countersunk fastener holes in surface of frame at indicated spacings for installation of grilles.
      2. Fastening Devices: Weld 1/2 inch (13 mm) leg of 1/2 inch (13 mm) by 3/4 inch (19 mm) by 1/8 inch (3 mm) cross-section angle to concealed surface of grille, with countersunk pre-drilled fastener holes at indicated spacings in 3/4 inch (19 mm) leg, for reinforcement and installation of grille.
      3. Fastening Devices: Weld edge of 3/4 inch (19 mm) by 1/8 inch (3 mm) 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.
      4. Fastening Devices: Weld top edge of 3/4 inch (19 mm) leg of 1/2 inch (13 mm) by 3/4 inch (19 mm) by 1/8 inch (3 mm) cross-section angle to concealed surface of grille, with countersunk pre-drilled fastener holes at indicated spacings in 1/2 inch (13 mm) leg, for reinforcement and installation of grille.

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs. Fill in size if specified here. Coordinate with drawings or the attached grille schedule.

* + - 1. Perforated Sheet Metal Grille Size: \_\_\_\_\_\_\_\_\_\_ height by \_\_\_\_\_\_\_\_\_\_\_ width.
      2. Perforated Sheet Metal Grille Size: Heights and widths indicated on Drawings.
      3. Perforated Sheet Metal Grille Size: Heights and widths indicated on Grille Schedule.
      4. Material and Finish:

\*\* NOTE TO SPECIFIER \*\* Delete the materials and finishes not required. If more than one finish is required indicated on the drawings or the attached grille schedule.

* + - * 1. Aluminum:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Prime finish.

Anodized Finish: Black.

Anodized Finish: Clear.

Anodized Finish: Duranodic.

Powder Coat Colors: As selected by Architect.

* + - * 1. Brass:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Statuary Bronze. Light.

Statuary Bronze. Medium.

Statuary Bronze. Dark.

* + - * 1. Bronze:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Statuary Bronze. Light.

Statuary Bronze. Medium.

Statuary Bronze. Dark.

* + - * 1. Stainless Steel:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

* + - * 1. Steel:

Prime finish.

Powder Coat Colors: As selected by Architect.

* + 1. Spackle In J-Frame Bar Grilles and Frames:

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two frame paragraphs describing frame type; if more than one size or finish is required, indicate patterns and finish on the Drawings or the attached Grille Schedule.

* + - 1. Frame: No. 512; Drop-in Grille with Spackle in Frame and welded core that cannot be removed. Frame has a 1 inch (25 mm) spackle fin and a 1/8 inch (3 mm) thick by 7/8 inches (22 mm) deep frame with a 1/2 inch (13 mm) leg to receive a 3/4 inch (19 mm) deep core.
      2. Material and Finish:

\*\* NOTE TO SPECIFIER \*\* Delete the materials and finishes not required. If more than one finish is required indicated on the drawings or the attached grille schedule.

* + - * 1. Aluminum:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Prime finish.

Anodized Finish: Black.

Anodized Finish: Clear.

Anodized Finish: Duranodic.

Powder Coat Colors: As selected by Architect.

* + - * 1. Brass:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Statuary Bronze. Light.

Statuary Bronze. Medium.

Statuary Bronze. Dark.

* + - * 1. Bronze:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Statuary Bronze. Light.

Statuary Bronze. Medium.

Statuary Bronze. Dark.

* + - * 1. Stainless Steel:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

* + - 1. Frame: No. 513; Drop-in Grille with Spackle in Frame and removeable core with fastening tabs that can be removed. Provided with hex key and head screws for fastening tabs. The frame has a 1 inch (25 mm) spackle fin and a 1/8 inch (3 mm) thick by 7/8 inches (22 mm) deep frame with a 1/2 inch (13 mm) leg to receive a 3/4 inch (19 mm) deep core.
      2. Material and Finish:

\*\* NOTE TO SPECIFIER \*\* Delete the materials and finishes not required. If more than one finish is required indicated on the drawings or the attached grille schedule.

* + - * 1. Aluminum:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Prime finish.

Anodized Finish: Black.

Anodized Finish: Clear.

Anodized Finish: Duranodic.

Powder Coat Colors: As selected by Architect.

* + - * 1. Brass:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Statuary Bronze. Light.

Statuary Bronze. Medium.

Statuary Bronze. Dark.

* + - * 1. Bronze:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Statuary Bronze. Light.

Statuary Bronze. Medium.

Statuary Bronze. Dark.

* + - * 1. Stainless Steel:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

\*\* NOTE TO SPECIFIER \*\* Delete all but one of the following six paragraphs describing grille core types; if more than one type or finish is required, indicate bar grille types and finish on the drawings or the attached grille schedule. Standard thicknesses are indicated however, all products are available in any thickness upon request.  
\*\* NOTE TO SPECIFIER \*\* For Type AG10 core insert required bar spacing - 1/4 inch (6 mm), 3/8 inch (9.5 mm), and 1/2 inch (13 mm) centers are available.

* + - 1. Core: Type AG10; 1/8 inch (3 mm) thick by 3/4 inch (19 mm) deep rectangular metal bars spaced \_\_\_ inch on center, interlocked and welded to 1/8 inch (3 mm) thick by 1/2 inch (13 mm) deep rectangular metal bar crosspieces spaced 10 inches (254 mm) on center.
      2. Material and Finish:

\*\* NOTE TO SPECIFIER \*\* Delete the materials and finishes not required. If more than one finish is required indicated on the drawings or the attached grille schedule.

* + - * 1. Aluminum:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Prime finish.

Anodized Finish: Black.

Anodized Finish: Clear.

Anodized Finish: Duranodic.

Powder Coat Colors: As selected by Architect.

* + - * 1. Brass:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Statuary Bronze. Light.

Statuary Bronze. Medium.

Statuary Bronze. Dark.

* + - * 1. Bronze:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Statuary Bronze. Light.

Statuary Bronze. Medium.

Statuary Bronze. Dark.

* + - * 1. Stainless Steel:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

* + - 1. Core: Type AG20; 3/4 inch (19 mm) deep rectangular metal bars, cross-section flared 15 degrees one side, 1/4 inch (6 mm) thick across flared face tapering to 1/8 inch (3 mm) at bottom, spaced 1/2 inch (13 mm) on center, interlocked and welded to 1/8 inch (3 mm) thick by 1/2 inch (13 mm) deep rectangular metal bar crosspieces spaced 10 inches (254 mm) on center.
      2. Material and Finish:

\*\* NOTE TO SPECIFIER \*\* Delete the materials and finishes not required. If more than one finish is required indicated on the drawings or the attached grille schedule.

* + - * 1. Aluminum:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Prime finish.

Anodized Finish: Black.

Anodized Finish: Clear.

Anodized Finish: Duranodic.

Powder Coat Colors: As selected by Architect.

* + - * 1. Bronze:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Statuary Bronze. Light.

Statuary Bronze. Medium.

Statuary Bronze. Dark.

* + - 1. Core: Type AG30; 3/4 inch (19 mm) deep rectangular metal bars, cross-section flared 15 degrees both sides, 1/4 inch (6 mm) thick across flared face, spaced 1/2 inch (13 mm) on center, interlocked and welded to 1/8 inch (3 mm) thick by 1/2 inch (13 mm) deep rectangular metal bar crosspieces spaced 10 inches (254 mm) on center.
      2. Material and Finish:

\*\* NOTE TO SPECIFIER \*\* Delete the materials and finishes not required. If more than one finish is required indicated on the drawings or the attached grille schedule.

* + - * 1. Aluminum:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Prime finish.

Anodized Finish: Black.

Anodized Finish: Clear.

Anodized Finish: Duranodic.

Powder Coat Colors: As selected by Architect.

* + - * 1. Bronze:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Statuary Bronze. Light.

Statuary Bronze. Medium.

Statuary Bronze. Dark.

* + - 1. Core: Type AG40; 1/8 inch (3 mm) thick by 3/4 inch (19 mm) deep rectangular metal bars, ends milled to 16-degree bevel, spaced 3/8 inch (9.5 mm) on center, interlocked and welded at 16-degree angle from perpendicular to 1/8 inch (3 mm) thick by 1/2 inch (13 mm) deep rectangular metal bar crosspieces spaced 10 inches (254 mm) on center.
      2. Material and Finish:

\*\* NOTE TO SPECIFIER \*\* Delete the materials and finishes not required. If more than one finish is required indicated on the drawings or the attached grille schedule.

* + - * 1. Aluminum:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Prime finish.

Anodized Finish: Black.

Anodized Finish: Clear.

Anodized Finish: Duranodic.

Powder Coat Colors: As selected by Architect.

* + - * 1. Bronze:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Statuary Bronze. Light.

Statuary Bronze. Medium.

Statuary Bronze. Dark.

* + - * 1. Bronze:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Statuary Bronze. Light.

Statuary Bronze. Medium.

Statuary Bronze. Dark.

* + - * 1. Stainless Steel:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

* + - 1. Core: Type AG50; 3/4 inch (19 mm) deep rectangular metal bars, cross-section flared 15 degrees on side, 3/16 inch (5 mm) thick across flared face, spaced 1/2 inch (13 mm) on center, interlocked and welded to 1/8 inch (3 mm) thick by 1/2 inch (13 mm) deep rectangular metal bar crosspieces spaced 10 inches (254 mm) on center.
      2. Material and Finish:

\*\* NOTE TO SPECIFIER \*\* Delete the materials and finishes not required. If more than one finish is required indicated on the drawings or the attached grille schedule.

* + - * 1. Aluminum:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Prime finish.

Anodized Finish: Black.

Anodized Finish: Clear.

Anodized Finish: Duranodic.

Powder Coat Colors: As selected by Architect.

* + - * 1. Brass:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Statuary Bronze. Light.

Statuary Bronze. Medium.

Statuary Bronze. Dark.

* + - 1. Core: Type AG60; 3/4 inch (19 mm) deep rectangular/round metal bars, cross-section flared into a 1/4 inch (6 mm) round, spaced 1/2 inch (13 mm) on center, interlocked and welded to 1/8 inch (3 mm) thick by 1/2 inch (13 mm) deep rectangular metal bar crosspieces spaced 10 inches (254 mm) on center.
      2. Material and Finish:

\*\* NOTE TO SPECIFIER \*\* Delete the materials and finishes not required. If more than one finish is required indicated on the drawings or the attached grille schedule.

* + - * 1. Aluminum:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Prime finish.

Anodized Finish: Black.

Anodized Finish: Clear.

Anodized Finish: Duranodic.

Powder Coat Colors: As selected by Architect.

* + - * 1. Bronze:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Statuary Bronze. Light.

Statuary Bronze. Medium.

Statuary Bronze. Dark.

* + 1. Eggcrate Grilles and Frames:

\*\* NOTE TO SPECIFIER \*\* Delete all but one of the following ten paragraphs describing eggcrate grille sizes; if more than one size or finish is required, indicate patterns and finish on the drawings or the attached grille schedule.

* + - 1. Cell Size: 1/2 inch (13 mm) square by 1/2 inch (13 mm) depth.
      2. Cell Size: 3/4 inch (19 mm) square by 3/4 inch (19 mm) depth.
      3. Cell Size: 1 inch (25 mm) square by 1 inch (25 mm) depth.
      4. Cell Size: 1-1/4 inches (32 mm) square by 1-1/4 inches (32 mm) depth.
      5. Cell Size: 1-1/2 inches (38 mm) square by 1-1/2 inches (38 mm) depth.
      6. Cell Size: 1-3/4 inches (44 mm) square by 1-3/4 inches (44 mm) depth.
      7. Cell Size: 2 inches (51 mm) square by 2 inches (51 mm) depth.
      8. Cell Size: 2-1/4 inches (57 mm) square by 2-1/4 inches (57 mm) depth.
      9. Cell Size: 2-1/2 inches (64 mm) square by 2-1/2 inches (64 mm) depth.
      10. Cell Size: 2-3/4 inches (70 mm) square by 2-3/4 inches (70 mm) depth.
      11. Cell Size: 3 inches (76 mm) square by 3 inches (76 mm) depth.

\*\* NOTE TO SPECIFIER \*\* Delete the materials and finishes not required. If more than one finish is required indicated on the drawings or the attached grille schedule. Standard thicknesses are indicated however; all products are available in any thickness upon request.

* + - 1. Material and Finish: Material is 1/8 inch (3 mm) thick.
         1. Aluminum:

Satin Finish: No. 4.

Prime finish.

Anodized Finish: Black.

Anodized Finish: Clear.

Anodized Finish: Duranodic.

Powder Coat Colors: As selected by Architect.

* + - * 1. Brass:

Satin Finish No. 4.

* + - * 1. Bronze:

Satin Finish No. 4.

* + - * 1. Stainless Steel:

Satin Finish No. 4.

\*\* NOTE TO SPECIFIER \*\* Delete two of the following three paragraphs. Fill in size if specified here. Coordinate with drawings or the attached grille schedule.

* + - 1. Eggcrate Grille Size: \_\_\_\_\_\_\_\_\_\_ height by \_\_\_\_\_\_\_\_\_\_\_ width.
      2. Eggcrate Grille Size: Heights and widths indicated on drawings.
      3. Eggcrate Grille Size: Heights and widths indicated on Grille Schedule.

\*\* NOTE TO SPECIFIER \*\* Select frame type required from the following frame paragraphs. Delete the frame types not required. Delete all three paragraphs if the frame is not required.

* + - 1. Frame: Type A, semi-concealed; 7/8 inch (22 mm) by 1/2 inch (13 mm) by 1/8 inch (3 mm) cross-section angle, inside of 1/2 inch (13 mm) leg welded to back side of grille at crosspieces.
      2. Frame: Type B, full face frame; 3/4 inch (19 mm) by 3/4 inch (19 mm) by 1/8 inch (3 mm) cross-section angle, back side of one angle leg welded to edge of grille at crosspieces, 3/4 inch (19 mm) face frame.
      3. Frame: Type C, reinforced full face frame; 3/4 inch (19 mm) by 7/8 inch (22 mm) by 5/8 inch (16 mm) by 1/8 inch (3 mm) cross-section zee, inside of 5/8 inch (16 mm) leg welded to back side of grille at crosspieces, 3/4 inch (19 mm) face frame.
      4. Frame: Type D, full face frame; 1 inch (25 mm) by 3/4 inch (19 mm) by 3/16 inch (5 mm) cross-section angle, back side of one angle leg welded to edge of grille at crosspieces, 3/4 inch (19 mm) face frame.
      5. Frame: Type E, full face frame; 3/4 inch (19 mm) by 3/4 inch (19 mm) by 3/16 inch (5 mm) cross-section angle, back side of one angle leg welded to edge of grille at crosspieces, 3/4 inch (19 mm) face frame.
      6. Frame: Type F, full face frame; 1/2 inch (13 mm) by 3/4 inch (19 mm) by 3/16 inch (5 mm) cross-section angle, back side of one angle leg welded to edge of grille at crosspieces, 3/4 inch (19 mm) face frame.
      7. Frame: Type G, semi-concealed; 3/4 inch (19 mm) by 1/8 inch (3 mm) cross-section, back side of leg welded to edge of grille at crosspieces.
      8. Frame: Type J, semi-concealed; 7/8 inch (22 mm) by 1/2 inch (13 mm) by 1/8 inch (3 mm) cross-section angle, inside of 1/2 inch (13 mm) leg welded to back side of grille at crosspieces, with a 1 inch (25 mm) spackling frame.
      9. Frame: Type I, semi-concealed; 7/8 inch (22 mm) by 1/2 inch (13 mm) by 1/8 inch (3 mm) cross-section angle, with a 1 inch (25 mm) spackling frame.
      10. Frame: Type K, semi-concealed; 7/8 inch (22 mm) by 1/2 inch (13 mm) by 1/8 inch (3 mm) cross-section angle, inside of 1/2 inch (13 mm) leg welded to back side of grille at crosspieces, with a 1 inch (25 mm) spackling frame welded to back side of grille.
      11. Frame: type H, reinforced semi concealed frame; 3/4 inch (19 mm) by 7/8 inch (22 mm) by 1/2 inch (13 mm) by 1/8 inch (3 mm) cross section, inside of a 1/2 inch (13 mm) leg welded to the back side of grille at cross pieces, 3/4 in (19mm) frame on back side of grille.

\*\* NOTE TO SPECIFIER \*\* Select horizontal or vertical installation from the following two paragraphs. Delete both paragraphs if not required.

* + - 1. Mitered Corner Sections: Fabricate welded mitered corner sections to match sections of straight bar grille units for horizontal installation.
      2. Mitered Corner Sections: Fabricate welded mitered corner sections to match sections of straight bar grille units for vertical installation.

\*\* NOTE TO SPECIFIER \*\* Delete two of the following three paragraphs. Type 114 tabs are for use with frame types A, C or J, Type 115 tabs are for use with frameless core or frame type B, D, E, F; method in third paragraph can be used with frame types A or C. Fastening on face of frame are available on Frame Type B and Frame Type C. Drop in frames for Type G do not require fastening devices. Consult manufacturer's catalog for additional Information.

* + - 1. Fastening Devices: Weld anchor tabs Type 114, with countersunk pre-drilled fastener holes, for installation of grilles.
      2. Fastening Devices: Weld anchor tabs Type 115, with countersunk pre-drilled fastener holes, for installation of grilles.
      3. Fastening Devices: Pre-drill countersunk fastener holes in concealed surface of frame at indicated spacings for installation of grilles.

\*\* NOTE TO SPECIFIER \*\* Waterjet cut grilles are available in all standard patterns and in custom patterns including complex shapes and specially designed patterns, such as logos and gratings in a maximum thickness of 1 inch. Artwork is required in advance. Edit the following paragraphs describing waterjet grilles including pattern, thickness, finish, and size.

* + 1. Curved Perforated Grilles: Grilles fabricated with weld lock construction.
       1. Perforated Grilles:

\*\* NOTE TO SPECIFIER \*\* Delete all but one of the following 29 paragraphs describing perforated sheet metal grille patterns; if more than one pattern or finish is required, indicate patterns and finish on the drawings or the attached grille schedule.

* + - * 1. Pattern: Square Link, Number 200.

Pattern repeat 1 inch (25 mm), open area 38 percent.

Pattern repeat 1-1/4 inches (32 mm), open area 40 percent.

Pattern repeat 1-3/4 inches (44 mm), open area 49 percent.

Pattern repeat 2-1/4 inches (57 mm), open area 56 percent.

* + - * 1. Pattern: Parquet, Number 201.

Pattern repeat 1-3/16 inches (30 mm), open area 35 percent.

* + - * 1. Pattern: Grecian, Number 202.

Pattern repeat 1-1/4 inches (32 mm), open area 39 percent.

Pattern repeat 2-1/2 inches (64 mm), open area 58 percent.

* + - * 1. Pattern: Honeycomb, Number 203.

Pattern repeat 3/4 inch (19 mm), open area 50 percent.

* + - * 1. Pattern: Clover Leaf, Number 204.

Pattern repeat 1/2 by 3/16 inch (13 by 5 mm), open area 51 percent.

Pattern repeat 1/2 by 1/4 inch (13 by 6 mm), open area 52 percent.

Pattern repeat 1 inch (25 mm), open area 50 percent.

* + - * 1. Pattern: Diamond, Number 205.

Pattern repeat 1/4 inch (6 mm) with 1/4 inch (6 mm) bar, open area 25 percent.

Pattern repeat 1/2 inch (13 mm) with 1/4 inch (6 mm) bar, open area 45 percent.

Pattern repeat 3/4 inch (19 mm) with 1/4 inch (6 mm) bar, open area 56 percent.

Pattern repeat 1 inch (25 mm) with 1/4 inch (6 mm) bar, open area 64 percent.

* + - * 1. Pattern: Maltese, Number 206.

Pattern repeat 15/16 inch (24 mm), open area 38 percent.

Pattern repeat 1-3/4 inches (44 mm), open area 45 percent.

* + - * 1. Pattern: Shell, Number 207.

Pattern repeat 5/8 inch (16 mm), open area 48 percent.

Pattern repeat 1-1/8 inches (28 mm), open area 56 percent.

Pattern repeat 1-3/4 inches (44 mm), open area 72 percent.

Pattern repeat 2-1/2 inches (64 mm), open area 84 percent.

* + - * 1. Pattern: Lattice, Number 208.

Pattern repeat 1/4 inch (6 mm) with 1/4 inch (6 mm) bar, open area 25 percent.

Pattern repeat 1/2 inch (13 mm) with 1/4 inch (6 mm) bar, open area 45 percent.

Pattern repeat 3/4 inch (19 mm) with 1/4 inch (6 mm) bar, open area 56 percent.

Pattern repeat 1 inch (25 mm) with 1/4 inch (6 mm) bar, open area 64 percent.

* + - * 1. Pattern: Half Shell, Number 209.

Pattern repeat 1-5/16 inches (33 mm), open area 55 percent.

Pattern repeat 1-3/4 inches (44 mm), open area 68 percent.

Pattern repeat 2-1/2 inches (64 mm), open area 80 percent.

* + - * 1. Pattern: School Slot, Number 210.

Pattern repeat 1/4 inch (6 mm) by 1 inch (25 mm), open area 35 percent.

Pattern repeat 5/16 inch (8 mm) by 1-3/8 inch (35 mm), open area 43 percent.

* + - * 1. Pattern: Egyptian, Number 211.

Pattern repeat 1 inch (25 mm), open area 40 percent.

Pattern repeat 2 inches (51 mm), open area 55 percent.

* + - * 1. Pattern: Straight Hole, Number 212.

Pattern repeat 1/4 inch (6 mm) diameter with 1/2 inch (13 mm) centers, open area 21 percent.

(other sizes available).

* + - * 1. Pattern: Staggered Hole, Number 213.

Pattern repeat 1/4 inch (6 mm) diameter with 1/2 inch (13 mm) centers, open area 23 percent.

(other sizes available).

* + - * 1. Pattern: Gothic, Number 214.

Pattern repeat 1-1/16 inches (27 mm), open area 58 percent.

* + - * 1. Pattern: Brick, Number 215.

Pattern repeat 1/4 inch (6 mm) by 1 inch (25 mm), open area 35 percent.

Pattern repeat 3/8 inch (9.5 mm) by 1 inch (25 mm), open area 43 percent.

* + - * 1. Pattern: Square on Diamond, Number 216.

Pattern repeat 1/2 inch (13 mm), open area 45 percent.

Pattern repeat 3/4 inch (19 mm), open area 56 percent.

Pattern repeat 1 inch (25 mm), open area 64 percent.

* + - * 1. Pattern: Triangle and Clover, Number 217.

Pattern repeat 1-1/4 inches (32 mm), open area 23 percent.

* + - * 1. Pattern: Cross Link, Number 218.

Pattern repeat 1-1/2 inches (38 mm), open area 45 percent.

* + - * 1. Pattern: Windsor, Number 219.

Pattern repeat 1-9/16 inches (40 mm), open area 48 percent.

Pattern repeat 2 inches (51 mm), open area 55 percent.

* + - * 1. Pattern: Classic, Number 220.

Pattern repeat 1-5/8 inches (41 mm) by 1-5/16 inches (34 mm), open area 58 percent.

Pattern repeat 2 inches (51 mm) by 1-3/4 inches (44 mm), open area 72 percent.

* + - * 1. Pattern: Tear Drop, Number 221.

Pattern repeat 1-3/4 inches (44 mm) by 1-9/16 inches (40 mm), open area 66 percent.

* + - * 1. Pattern: Circle Link, Number 222.
        2. Pattern repeat 2-1/2 inch (13 mm) round, open area 65 percent.
        3. Pattern: Mosaic, Number 223.

Pattern repeat 1-1/32 inches (26 mm), open area 54 percent.

* + - * 1. Pattern: Imperial, Number 224.

Pattern repeat 1-7/8 inches (48 mm), open area 47 percent.

* + - * 1. Pattern: Majestic, Number 225.

Pattern repeat 1 inch (25 mm), open area 40 percent.

Pattern repeat 1-3/4 inches (44 mm), open area 52 percent.

Pattern repeat 2-1/4 inches (57 mm), open area 64 percent.

* + - * 1. Pattern: Cathedral, Number 226.

Pattern repeat 2-1/4 inches (57 mm) by 2-3/16 inches (56 mm), open area 57 percent.

* + - * 1. Pattern: Petals, Number 227.

Pattern repeat 1-7/8 inches (48 mm), open area 52 percent.

* + - * 1. Pattern: Weave 228.

Pattern repeat 1/2 inches (13 mm) by 1/2 inches (13 mm), open area 45 percent.

* + - * 1. Pattern: Orient, Number 229.

Pattern repeat 2 inches (51 mm), open area 48 percent.

* + - * 1. Pattern: Pinwheel, Number 230.

Pattern repeat 1-3/4 inches (44 mm), open area 58 percent.

* + - * 1. Pattern: Shuriken, Number 231.

Pattern repeat 2 inches (52 mm), open area 33 percent.

* + - * 1. Pattern: Bubbles, Number 232.

Random opening pattern, open area varies.

* + - * 1. Pattern: Kauai, Number 233.

Pattern repeat 2-3/4 inches (70 mm), open area 58 percent.

* + - * 1. Pattern: Pebbles, Number 234.

Random opening pattern, open area varies.

* + - * 1. Pattern: Cubic, Number 235.

Random opening pattern, open area varies.

* + - * 1. Pattern: Custom as indicated on the drawings.
        2. Pattern: Rising Sun, Number 236.

Pattern repeat 3-1/8 x 2 inches (79 x 51 mm), open area 36 percent.

* + - * 1. Pattern: Binaries, Number 237.

Pattern repeat 1/4 x 1-1/2 inches (6 x 38 mm), open area 37 percent.

* + - * 1. Pattern: Crystal, Number 238.

Pattern repeat 3 x 2-11/16 inches (76 x 68 mm), open area 51 percent.

* + - * 1. Pattern: Xian, Number 239.

Pattern repeat 2 inches (51 mm), open area 61 percent.

* + - * 1. Pattern: 3D Cubes, Number 240.

Pattern repeat 1-3/4 inches (44 mm), open area 45 percent.

* + - * 1. Pattern: Cellular, Number 241.

Random opening pattern, open area varies.

* + - * 1. Pattern: Celestial, Number 242.

Pattern repeat 4-3/4 inches (121 mm), open area 51 percent.

* + - * 1. Pattern: 3D Houndstooth, Number 243.

1) Pattern repeat 1-1/4 inches (32 mm), open area 35 percent.

* + - * 1. Pattern: Arabian, Number 244.

1) Pattern repeat 2-3/8 inches (60 mm), open area 61 percent.

* + - * 1. Pattern: Gatsby, Number 245.

1) Pattern repeat 1-7/8 x 3-9/16 inches (48 x 90 mm), open area 54 percent.

* + - * 1. Pattern: Red Herring, Number 246.

1) Pattern repeat 2 x 2-1/2 inches (51 x 64 mm), open area 53 percent.

* + - * 1. Pattern: Sorrento, Number 247.

1) Pattern repeat 1-1/4 x 1 inches (32 x 25 mm), open area 65 percent.

* + - * 1. Thickness: \_\_\_\_\_\_.
      1. Material and Finish:
         1. Aluminum:

Satin Finish No. 4.

Mirror Polish No. 8 finish.

Prime finish.

Anodized finish:

Black.

Clear.

Duranodic.

Powder Coat Colors: As selected by Architect.

* + - * 1. Brass:

Satin Finish No. 4.

Mirror Polish No.8 finish.

Statuary Bronze.

Light.

Medium.

Dark.

* + - * 1. Bronze:

Satin Finish No. 4.

Mirror Polish No.8 finish.

Statuary Bronze.

Light.

Medium.

Dark.

* + - * 1. Stainless Steel:

Satin Finish No. 4.

Mirror Polish No. 8 finish.

* + - * 1. Steel:

Prime finish.

Powder Coat Colors: As selected by Architect.

\*\* NOTE TO SPECIFIER \*\* Select horizontal or vertical installation from the following paragraphs. Delete both paragraphs if not required. Curved sections not available for Type AG40 core.

* + - 1. Curved Sections: Fabricate concave curved sections in accordance with supplied templates to match sections of straight perforated grille units for horizontal installation.
      2. Curved Sections: Fabricate concave curved sections in accordance with supplied templates to match sections of straight perforated grille units for vertical installation.
      3. Curved Sections: Fabricate convex curved sections in accordance with supplied templates to match sections of straight perforated grille units for horizontal installation.
      4. Curved Sections: Fabricate convex curved sections in accordance with supplied templates to match sections of straight perforated grille units for vertical installation.
    1. Round Perforated Grilles:

\*\* NOTE TO SPECIFIER \*\* Not all perforation patterns can be used on round grilles; consult manufacturer's Product Data for available patterns and sizes. Delete all but one of the following 28 paragraphs describing perforated sheet metal grille patterns; if more than one pattern or finish is required, indicate patterns and finish on the drawings or the attached grille schedule.

* + - 1. Pattern: Square Link, Number 200.
         1. Pattern repeat 1 inch (25 mm), open area 38 percent.
         2. Pattern repeat 1-1/4 inches (32 mm), open area 40 percent.
         3. Pattern repeat 1-3/4 inches (44 mm), open area 49 percent.
         4. Pattern repeat 2-1/4 inches (57 mm), open area 56 percent.
      2. Pattern: Parquet, Number 201.
         1. Pattern repeat 1-3/16 inches (30 mm), open area 35 percent.
      3. Pattern: Grecian, Number 202.
         1. Pattern repeat 1-1/4 inches (32 mm), open area 39 percent.
         2. Pattern repeat 2-1/2 inches (64 mm), open area 58 percent.
      4. Pattern: Honeycomb, Number 203.
         1. Pattern repeat 3/4 inch (19 mm), open area 50 percent.
      5. Pattern: Clover Leaf, Number 204.
         1. Pattern repeat 1/2 by 3/16 inch (13 by 5 mm), open area 51 percent.
         2. Pattern repeat 1/2 by 1/4 inch (13 by 6 mm), open area 52 percent.
         3. Pattern repeat 1 inch (25 mm), open area 50 percent.
      6. Pattern: Diamond, Number 205.
         1. Pattern repeat 1/4 inch (6 mm) with 1/4 inch (6 mm) bar, open area 25 percent.
         2. Pattern repeat 1/2 inch (13 mm) with 1/4 inch (6 mm) bar, open area 45 percent.
         3. Pattern repeat 3/4 inch (19 mm) with 1/4 inch (6 mm) bar, open area 56 percent.
         4. Pattern repeat 1 inch (25 mm) with 1/4 inch (6 mm) bar, open area 64 percent.
      7. Pattern: Maltese, Number 206.
         1. Pattern repeat 15/16 inch (24 mm), open area 38 percent.
         2. Pattern repeat 1-3/4 inches (44 mm), open area 45 percent.
      8. Pattern: Shell, Number 207.
         1. Pattern repeat 5/8 inch (16 mm), open area 48 percent.
         2. Pattern repeat 1-1/8 inches (28 mm), open area 56 percent.
         3. Pattern repeat 1-3/4 inches (44 mm), open area 72 percent.
         4. Pattern repeat 2-1/2 inches (64 mm), open area 84 percent.
      9. Pattern: Lattice, Number 208.
         1. Pattern repeat 1/4 inch (6 mm) with 1/4 inch (6 mm) bar, open area 25 percent.
         2. Pattern repeat 1/2 inch (13 mm) with 1/4 inch (6 mm) bar, open area 45 percent.
         3. Pattern repeat 3/4 inch (19 mm) with 1/4 inch (6 mm) bar, open area 56 percent.
         4. Pattern repeat 1 inch (25 mm) with 1/4 inch (6 mm) bar, open area 64 percent.
      10. Pattern: Half Shell, Number 209.
          1. Pattern repeat 1-5/16 inches (33 mm), open area 55 percent.
          2. Pattern repeat 1-3/4 inches (44.45mm), open area 68 percent.
          3. Pattern repeat 2-1/2 inches (64 mm), open area 80 percent.
      11. Pattern: School Slot, Number 210.
          1. Pattern repeat 1/4 x 1 inch (6 x 25 mm), open area 35 percent.
          2. Pattern repeat 5/16 x 1-3/8 inch (7.9 x 35 mm), open area 43 percent.
      12. Pattern: Egyptian, Number 211.
          1. Pattern repeat 1 inch (25 mm), open area 40 percent.
          2. Pattern repeat 2 inches (51 mm), open area 55 percent.
      13. Pattern: Straight Hole, Number 212.

\*\* NOTE TO SPECIFIER \*\* Other sizes available. Contact the Manufacturer for more information.

* + - * 1. Pattern repeat 1/4 inch (6 mm) diameter with 1/2 inch (13 mm) centers, open area 21 percent.
      1. Pattern: Staggered Hole, Number 213.

\*\* NOTE TO SPECIFIER \*\* Other sizes available. Contact the Manufacturer for more information.

* + - * 1. Pattern repeat 1/4 inch (6 mm) diameter with 1/2 inch (13 mm) centers, open area 23 percent.
      1. Pattern: Gothic, Number 214.
         1. Pattern repeat 1-1/16 inches (27 mm), open area 58 percent.
      2. Pattern: Brick, Number 215.
         1. Pattern repeat 1/4 inch (6 mm) by 1 inch (25 mm), open area 35 percent.
         2. Pattern repeat 3/8 inch (9.5 mm) by 1 inch (25 mm), open area 43 percent.
      3. Pattern: Square on Diamond, Number 216.
         1. Pattern repeat 1/2 inch (13 mm), open area 45 percent.
         2. Pattern repeat 3/4 inch (19 mm), open area 56 percent.
         3. Pattern repeat 1 inch (25 mm), open area 64 percent.
      4. Pattern: Triangle and Clover, Number 217.
         1. Pattern repeat 1-1/4 inches (32 mm), open area 23 percent.
      5. Pattern: Cross Link, Number 218.
         1. Pattern repeat 1-1/2 inches (38 mm), open area 45 percent.
      6. Pattern: Windsor, Number 219.
         1. Pattern repeat 1-9/16 inches (40 mm), open area 48 percent.
         2. Pattern repeat 2 inches (51 mm), open area 55 percent.
      7. Pattern: Classic, Number 220.
         1. Pattern repeat 1-5/8 inches (41 mm) by 1-5/16 inches (34 mm), open area 58 percent.
         2. Pattern repeat 2 inches (51 mm) by 1-3/4 inches (44 mm), open area 72 percent.
      8. Pattern: Tear Drop, Number 221.
         1. Pattern repeat 1-3/4 inches (44 mm) by 1-9/16 inches (40 mm), open area 66 percent.
      9. Pattern: Circle Link, Number 222.
         1. Pattern repeat 2-1/2 inch (13 mm) round, open area 65 percent.
      10. Pattern: Mosaic, Number 223.
          1. Pattern repeat 1-1/32 inches (26.19 mm), open area 54 percent.
      11. Pattern: Imperial, Number 224.
          1. Pattern repeat 1-7/8 inches (47.6 mm), open area 47 percent.
      12. Pattern: Majestic, Number 225.
          1. Pattern repeat 1 inch (25 mm), open area 40 percent.
          2. Pattern repeat 1-3/4 inches (44 mm), open area 52 percent.
          3. Pattern repeat 2-1/4 inches (57 mm), open area 64 percent.
      13. Pattern: Cathedral, Number 226.
          1. Pattern repeat 2-1/4 inches (57.15 mm) by 2-3/16 inches (55.5 mm), open area 57 percent.
      14. Pattern: Petals, Number 227.
          1. Pattern repeat 1-7/8 inches (47.6 mm), open area 52 percent.
      15. Pattern: Weave 228.
          1. Pattern repeat 1/2 x 1/2 inches (13 x 13 mm), open area 45 percent.
      16. Pattern: Orient, Number 229.
          1. Pattern repeat 2 inches (51 mm), open area 48 percent.
      17. Pattern: Pinwheel, Number 230.
          1. Pattern repeat 1-3/4 inches (44 mm), open area 58 percent.
      18. Pattern: Shuriken, Number 231.
          1. Pattern repeat 2 inches (51 mm), open area 33 percent.
      19. Pattern: Bubbles, Number 232.
          1. Random opening pattern, open area varies.
      20. Pattern: Kauai, Number 233.
          1. Pattern repeat 2-3/4 inches (70 mm), open area 58 percent.
      21. Pattern: Pebbles, Number 234.
          1. Random opening pattern, open area varies.
      22. Pattern: Cubic, Number 235.
          1. Random opening pattern, open area varies.
      23. Pattern: Rising Sun, Number 236.
          1. Pattern repeat 3-1/8 x 2 inches (79 x 51 mm), open area 36 percent.
      24. Pattern: Binaries, Number 237.
          1. Pattern repeat 1/4 x 1-1/2 inches (6 x 38 mm), open area 37 percent.
      25. Pattern: Crystal, Number 238.
          1. Pattern repeat 3 x 2-11/16 inches (76 x 68 mm), open area 51 percent.
      26. Pattern: Xian, Number 239.
          1. Pattern repeat 2 inches (51 mm), open area 61 percent.
      27. Pattern: 3D Cubes, Number 240.
          1. Pattern repeat 1-3/4 inches (44 mm), open area 45 percent.
      28. Pattern: Cellular, Number 241.
          1. Random opening pattern, open area varies.
      29. Pattern: Celestial, Number 242.
          1. Pattern repeat 4-3/4 inches (121 mm), open area 51 percent.
      30. Pattern: 3D Houndstooth, Number 243.
          1. Pattern repeat 1-1/4 inches (32 mm), open area 35 percent.
      31. Pattern: Arabian, Number 244.
          1. Pattern repeat 2-3/8 inches (60 mm), open area 61 percent.
      32. Pattern: Gatsby, Number 245.
          1. Pattern repeat 1-7/8 x 3-9/16 inches (48 x 90 mm), open area 54 percent.
      33. Pattern: Red Herring, Number 246.
          1. Pattern repeat 2 x 2-1/2 inches (51 x 64 mm), open area 53 percent.
      34. Pattern: Sorrento, Number 247.
          1. Pattern repeat 1-1/4 x 1 inches (32 x 25 mm), open area 65 percent.

\*\* NOTE TO SPECIFIER \*\* Select the material and thickness required from the following paragraphs. Delete the paragraphs not required. Standard thicknesses are indicated however; all products are available in any thickness upon request.

* + - 1. Material:

\*\* NOTE TO SPECIFIER \*\* Aluminum is available in a 1/16 inch minimum thickness and a 1/8 inch (3 mm) maximum thickness. Select thickness required below.

* + - * 1. Aluminum, \_\_ inch (\_\_ mm) thick.

\*\* NOTE TO SPECIFIER \*\* Brass is available in a 1/16 inch minimum thickness and a 1/8 inch (3 mm) maximum thickness. Select thickness required below.

* + - * 1. Brass, \_\_ inch (\_\_ mm) thick.

\*\* NOTE TO SPECIFIER \*\* Bronze is available in a 1/16 inch minimum thickness and a 1/8 inch (3 mm) maximum thickness. Select thickness required below.

* + - * 1. Bronze, \_\_ inch (\_\_ mm) thick.

\*\* NOTE TO SPECIFIER \*\* Stainless Steel is available in a 1/16 inch minimum thickness and a 14 gauge maximum thickness. Select thickness required below.

* + - * 1. Stainless Steel, \_\_ inch (\_\_ mm) thick.

\*\* NOTE TO SPECIFIER \*\* Steel is available in a 1/16 inch minimum thickness and a 1/8 inch (3 mm) maximum thickness. Select thickness required below.

* + - * 1. Steel, \_\_ inch (\_\_ mm) thick.
      1. Construction:
         1. Form true circle to indicated radius; finish cut edge to match sheet finish.
         2. Form 3/4 x 1/8 inch (19 x 3 mm) thick bar of metal matching face sheet to true cylinder to indicated radius; weld ends together and finish weld smooth.
         3. Collar weld cylinder to concealed surface of face sheet concentric with face sheet; finish welds smooth.

\*\* NOTE TO SPECIFIER \*\* Delete two of the following three paragraphs. Fill in size if specified here. Coordinate with drawings or the attached grille schedule.

* + - 1. Round Perforated Sheet Metal Grille Size: \_\_\_\_\_\_\_\_\_\_ diameter.
      2. Round Perforated Sheet Metal Grille Size: Diameters indicated on Drawings.
      3. Round Perforated Sheet Metal Grille Size: Diameters indicated on the Grille Schedule.
      4. Material and Finish:

\*\* NOTE TO SPECIFIER \*\* Delete the materials and finishes not required. If more than one finish is required indicated on the drawings or the attached grille schedule.

* + - * 1. Aluminum:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Prime finish.

Anodized Finish: Black.

Anodized Finish: Clear.

Anodized Finish: Duranodic.

* + - * 1. Brass:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Statuary Bronze. Light.

Statuary Bronze. Medium.

Statuary Bronze. Dark.

* + - * 1. Bronze:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Statuary Bronze. Light.

Statuary Bronze. Medium.

Statuary Bronze. Dark.

* + - * 1. Stainless Steel:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

* + - * 1. Steel:

Prime finish.

Powder Coat Colors: As selected by Architect.

* + 1. Punch Louvers:

\*\* NOTE TO SPECIFIER \*\* Select the material and thickness required from the following paragraphs. Delete the paragraphs not required. Standard thicknesses are indicated however; all products are available in any thickness upon request.

* + - 1. Material:

\*\* NOTE TO SPECIFIER \*\* Aluminum is available in a 1/16 inch minimum thickness and a 1/8 inch (3.2 mm) maximum thickness. Select thickness required below.

* + - * 1. Aluminum, \_\_ inch (\_\_ mm) thick.

\*\* NOTE TO SPECIFIER \*\* Brass is available in a 1/16 inch minimum thickness and a 1/8 inch (3.2 mm) maximum thickness. Select thickness required below.

* + - * 1. Brass, \_\_ inch (\_\_ mm) thick.

\*\* NOTE TO SPECIFIER \*\* Bronze is available in a 1/16 inch minimum thickness and a 1/8 inch (3.2 mm) maximum thickness. Select thickness required below.

* + - * 1. Bronze, \_\_ inch (\_\_ mm) thick.

\*\* NOTE TO SPECIFIER \*\* Stainless Steel is available in a 1/16 inch minimum thickness and a 14 gauge maximum thickness. Select thickness required below.

* + - * 1. Stainless Steel, \_\_ inch (\_\_ mm) thick.

\*\* NOTE TO SPECIFIER \*\* Steel is available in a 1/16 inch minimum thickness and a 1/8 inch (3.2 mm) maximum thickness. Select thickness required below.

* + - * 1. Steel, \_\_ inch (\_\_ mm) thick.
      1. Construction:
         1. Form from single metal sheet; form louver vanes with radiused end returns.

\*\* NOTE TO SPECIFIER \*\* Delete two of the three following paragraphs.

* + - * 1. Form louvers 1/2 inch (13 mm) height, 3/16 inch (5 mm) projection, at 3/4 inch (19 mm) vertical spacing.
        2. Form louvers 5/8 inch (16 mm) height, 1/4 inch (6 mm) projection, at 15/16 inch (24 mm) vertical spacing.
        3. Form louvers 3/4 inch (19 mm) height, 1/4 inch (6 mm) projection, at 1-1/8 inches (28 mm) vertical spacing.
        4. Provide for indicated anchoring devices.
        5. Finish sight-exposed edges to match sheet finish.

\*\* NOTE TO SPECIFIER \*\* Delete two of the following three paragraphs. Fill in size if specified here. Coordinate with drawings or the attached grille schedule.

* + - 1. Progressive Louver Size: \_\_ inch (\_\_ mm) height by \_\_ inch (\_\_ mm) width.
      2. Progressive Louver Size: Sizes indicated on drawings.
      3. Progressive Louver Size: Sizes indicated on Grille Schedule.
      4. Material and Finish:

\*\* NOTE TO SPECIFIER \*\* Delete the materials and finishes not required. If more than one finish is required indicated on the drawings or the attached grille schedule.

* + - * 1. Aluminum:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Prime finish.

Anodized Finish: Black.

Anodized Finish: Clear.

Anodized Finish: Duranodic.

Powder Coat Colors: As selected by Architect.

* + - * 1. Brass:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Statuary Bronze. Light.

Statuary Bronze. Medium.

Statuary Bronze. Dark.

* + - * 1. Bronze:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

Statuary Bronze. Light.

Statuary Bronze. Medium.

Statuary Bronze. Dark.

* + - * 1. Stainless Steel:

Satin Finish: No. 4.

Mirror Polish Finish: No. 8.

* + - * 1. Steel:

Prime finish.

Powder Coat Colors: As selected by Architect.

1. EXECUTION
   1. EXAMINATION
      1. Do not begin installation until substrates have been properly prepared.
      2. Verify openings and substrates are prepared to receive products of this section.
      3. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
   2. PREPARATION
      1. Clean surfaces thoroughly prior to installation.
      2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
   3. INSTALLATION
      1. Install in accordance with the manufacturers recommendations and the approved shop drawings.
      2. Where appropriate, supply products of this section for installation by installers of products of other sections.
   4. PROTECTION
      1. Protect installed products until completion of project.
      2. Replace damaged products before Substantial Completion.

END OF SECTION