



SECTION 05735

PERFORATED METAL

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PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Speaker Grilles.
- B. Agricultural Components.
- C. Architectural Components.
- D. Filtration Screens.
- E. Guards.
- F. Sunscreens.
- G. Furniture.
- H. Cabinets.
- I. Wall and Ceiling Panels.
- J. Door Panels.
- K. Material Covers.

1.2 RELATED SECTIONS

- A. Section 03300 - Cast-in-Place Concrete: Installation of anchors.
- B. Section 04080 - Masonry Anchorage and Reinforcement: Installation of anchors.
- C. Section 05400 - Cold-Formed Metal Framing.
- D. Section 05500 - Metal Fabrications: Frames and supports.
- E. Section 05700 - Ornamental Metal: Frames and supports.
- F. Section 05520 - Handrails and Railings: Inserts.
- G. Section 06400 - Architectural Woodwork.
- H. Section 06410 - Custom Cabinets: Panel inserts.

- I. Section 08110 - Steel Doors and Frames.
- J. Section 14200 - Elevators: Interior walls and doors.

1.3 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. [[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.
- C. Shop Drawings: Submit drawings indicating the following:
 - 1. Pattern and perforation type.
 - 2. Panel sizes.
 - 3. Panel thickness.
 - 4. Installation details.
 - 5. Provisions for reinforcement and anchoring.
- D. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store products wrapped or otherwise protected and under clean and dry storage conditions until required for installation.

1.5 COORDINATION

- A. Coordinate fabrication of perforated metal components with fabrication of work on or in which the panels will be installed.
- B. Providing final size measurements to manufacturer in time to avoid delay in the construction schedule.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Accurate Perforating, which is located at: 3636 S. Kedzie Ave. ; Chicago, IL 60632; Toll Free Tel: 877-448-0640; Tel: 773-254-3232; Fax: 773-254-9453; Email: [request info](#); Web: www.accurateperf.com
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 MATERIALS

- A. Materials:
 - 1. Carbon Steel.
 - 2. Stainless Steel.
 - 3. Nickel Alloys.
 - 4. Galvanized Steel.

5. Composites.
6. Brass.
7. Copper.
8. Rubber-Coated Materials.
9. Pre-painted Materials.
10. Iron
11. Plastics.
12. Bronze.
13. Aluminum.

B. Standard Pattern Types: Round Staggered Perforations.

1. Pattern number RS001.
 - a. Material: (Select from above).
 - b. Hole Size: 0.045 inch (1mm) diameter.
 - c. Hole Spacing: 0.265 inch (7mm) centers.
 - d. Open Area: 3 percent.
2. Pattern number RS002.
 - a. Material: (Select from above).
 - b. Hole Size: 1/16 inch (2mm) diameter.
 - c. Hole Spacing: 0.271 inch (7mm) centers.
 - d. Open Area: 5 percent.
3. Pattern number RS003.
 - a. Material: (Select from above).
 - b. Hole Size: 1/16 inch (2mm) diameter.
 - c. Hole Spacing: 0.217 inch (6mm) centers.
 - d. Open Area: 8 percent.
4. Pattern number RS004.
 - a. Material: (Select from above).
 - b. Hole Size: 1/16 inch (2mm) diameter.
 - c. Hole Spacing: 0.189 inch (5mm) centers.
 - d. Open Area: 10 percent.
5. Pattern number RS005.
 - a. Material: (Select from above).
 - b. Hole Size: 1/16 inch (2mm) diameter.
 - c. Hole Spacing: 0.162 inch (4mm) centers.
 - d. Open Area: 14 percent.
6. Pattern number RS006.
 - a. Material: (Select from above).
 - b. Hole Size: 1/16 inch (2mm) diameter.
 - c. Hole Spacing: 5/32 inch (4mm) centers.
 - d. Open Area: 14 percent.
7. Pattern number RS007.
 - a. Material: (Select from above).
 - b. Hole Size: 1/16 inch (2mm) diameter.
 - c. Hole Spacing: 1/8 inch (3mm) centers.
 - d. Open Area: 22 percent.
8. Pattern number RS008.
 - a. Material: (Select from above).
 - b. Hole Size: 1/16 inch (2mm) diameter.
 - c. Hole Spacing: 7/64 inch (3mm) centers.
 - d. Open Area: 29 percent.
9. Pattern number RS009.
 - a. Material: (Select from above).
 - b. Hole Size: 1/16 inch (2mm) diameter.
 - c. Hole Spacing: 3/32 inch (2mm) centers.
 - d. Open Area: 40 percent.

10. Pattern number RS010.
 - a. Material: (Select from above).
 - b. Hole Size: 0.065 inch (2mm) diameter.
 - c. Hole Spacing: 7/32 inch (6mm) centers.
 - d. Open Area: 8 percent.
11. Pattern number RS011.
 - a. Material: (Select from above).
 - b. Hole Size: 0.065inch (2mm) diameter.
 - c. Hole Spacing: 3/32 inch (2mm) centers.
 - d. Open Area: 44 percent.
12. Pattern number RS012.
 - a. Material: (Select from above).
 - b. Hole Size: 0.068 inch (2mm) diameter.
 - c. Hole Spacing: 0.217 inch (6mm) centers.
 - d. Open Area: 9 percent.
13. Pattern number RS013.
 - a. Material: (Select from above).
 - b. Hole Size: 0.068 inch (2mm) diameter.
 - c. Hole Spacing: 1/8 inch (3mm) centers.
 - d. Open Area: 27 percent.
14. Pattern number RS014.
 - a. Material: (Select from above).
 - b. Hole Size: 0.068inch (2mm) diameter.
 - c. Hole Spacing: 7/64 inch (3mm) centers.
 - d. Open Area: 35 percent.
15. Pattern number RS015.
 - a. Material: (Select from above).
 - b. Hole Size: 0.075 inch (2mm) diameter.
 - c. Hole Spacing: 0.173 inch (4mm) centers.
 - d. Open Area: 17 percent.
16. Pattern number RS016.
 - a. Material: (Select from above).
 - b. Hole Size: 0.075 inch (2mm) diameter.
 - c. Hole Spacing: 0.100 inch (3mm) centers.
 - d. Open Area: 51 percent.
17. Pattern number RS017.
 - a. Material: (Select from above).
 - b. Hole Size: 5/64 inch (2mm) diameter.
 - c. Hole Spacing: 0.189 inch (5mm) centers.
 - d. Open Area: 16 percent.
18. Pattern number RS018.
 - a. Material: (Select from above).
 - b. Hole Size: 0.085 inch (2mm) diameter.
 - c. Hole Spacing: 1/8 inch (3mm) centers.
 - d. Open Area: 42 percent.
19. Pattern number RS019.
 - a. Material: (Select from above).
 - b. Hole Size: 0.081inch (2mm) diameter.
 - c. Hole Spacing: 1/8 inch (3mm) centers.
 - d. Open Area: 38 percent.
20. Pattern number RS020.
 - a. Material: (Select from above).
 - b. Hole Size: 5/64 inch (2mm) diameter.
 - c. Hole Spacing: 5/32 inch (4mm) centers.
 - d. Open Area: 23 percent.
21. Pattern number RS021.

- a. Material: (Select from above).
 - b. Hole Size: 5/64 inch (2mm) diameter.
 - c. Hole Spacing: 1/8 inch (3mm) centers.
 - d. Open Area: 35 percent.
22. Pattern number RS022.
- a. Material: (Select from above).
 - b. Hole Size: 5/64 inch (2mm) diameter.
 - c. Hole Spacing: 7/64 inch (3mm) centers.
 - d. Open Area: 46 percent.
23. Pattern number RS023.
- a. Material: (Select from above).
 - b. Hole Size: 3/32 inch (2mm) diameter.
 - c. Hole Spacing: 0.433 inch (11mm) centers.
 - d. Open Area: 4 percent.
24. Pattern number RS024.
- a. Material: (Select from above).
 - b. Hole Size: 3/32 inch (2mm) diameter.
 - c. Hole Spacing: 0.325 inch (8mm) centers.
 - d. Open Area: 8 percent.
25. Pattern number RS025.
- a. Material: (Select from above).
 - b. Hole Size: 3/32 inch (2mm) diameter.
 - c. Hole Spacing: 1/4 inch (6mm) centers.
 - d. Open Area: 13 percent.
26. Pattern number RS026.
- a. Material: (Select from above).
 - b. Hole Size: 3/32 inch (2mm) diameter.
 - c. Hole Spacing: 0.271 inch (7mm) centers.
 - d. Open Area: 11 percent.
27. Pattern number RS027.
- a. Material: (Select from above).
 - b. Hole Size: 3/32 inch (2mm) diameter.
 - c. Hole Spacing: 3/16 inch (5mm) centers.
 - d. Open Area: 22 percent.
28. Pattern number RS028.
- a. Material: (Select from above).
 - b. Hole Size: 3/32 inch (2mm) diameter.
 - c. Hole Spacing: 5/32 inch (4mm) centers.
 - d. Open Area: 32 percent.
29. Pattern number RS029.
- a. Material: (Select from above).
 - b. Hole Size: 0.098 inch (2mm) diameter.
 - c. Hole Spacing: 3/16 inch (5mm) centers.
 - d. Open Area: 25 percent.
30. Pattern number RS030.
- a. Material: (Select from above).
 - b. Hole Size: 7/64 inch (3mm) diameter.
 - c. Hole Spacing: 0.271 inch (7mm) centers.
 - d. Open Area: 15 percent.
31. Pattern number RS031.
- a. Material: (Select from above).
 - b. Hole Size: 7/64 inch (3mm) diameter.
 - c. Hole Spacing: 7/32 inch (6mm) centers.
 - d. Open Area: 23 percent.
32. Pattern number RS032.
- a. Material: (Select from above).

- b. Hole Size: 7/64 inch (3mm) diameter.
 - c. Hole Spacing: 7/32 inch (6mm) centers.
 - d. Open Area: 31 percent.
33. Pattern number RS033.
- a. Material: (Select from above).
 - b. Hole Size: 7/64 inch (3mm) diameter.
 - c. Hole Spacing: 11/64 inch (4mm) centers.
 - d. Open Area: 37 percent.
34. Pattern number RS034.
- a. Material: (Select from above).
 - b. Hole Size: 7/64 inch (3mm) diameter.
 - c. Hole Spacing: 5/32 inch (4mm) centers.
 - d. Open Area: 44 percent.
35. Pattern number RS035.
- a. Material: (Select from above).
 - b. Hole Size: 0.117 inch (3mm) diameter.
 - c. Hole Spacing: 0.271 inch (7mm) centers.
 - d. Open Area: 17 percent.
36. Pattern number RS036.
- a. Material: (Select from above).
 - b. Hole Size: 0.117 inch (3mm) diameter.
 - c. Hole Spacing: 5/32 inch (4mm) centers.
 - d. Open Area: 51 percent.
37. Pattern number RS037.
- a. Material: (Select from above).
 - b. Hole Size: 1/8 inch (3mm) diameter.
 - c. Hole Spacing: 0.433 inch (11mm) centers.
 - d. Open Area: 8 percent.
38. Pattern number RS038.
- a. Material: (Select from above).
 - b. Hole Size: 1/8 inch (3mm) diameter.
 - c. Hole Spacing: 0.379 inch (10mm) centers.
 - d. Open Area: 10 percent.
39. Pattern number RS039.
- a. Material: (Select from above).
 - b. Hole Size: 1/8 inch (3mm) diameter.
 - c. Hole Spacing: 3/8 inch (10mm) centers.
 - d. Open Area: 10 percent.
40. Pattern number RS040.
- a. Material: (Select from above).
 - b. Hole Size: 1/8 inch (3mm) diameter.
 - c. Hole Spacing: 0.325 inch (8mm) centers.
 - d. Open Area: 13 percent.
41. Pattern number RS041.
- a. Material: (Select from above).
 - b. Hole Size: 1/8 inch (3mm) diameter.
 - c. Hole Spacing: 1/4 inch (6mm) centers.
 - d. Open Area: 23 percent.
42. Pattern number RS042.
- a. Material: (Select from above).
 - b. Hole Size: 1/8 inch (3mm) diameter.
 - c. Hole Spacing: 7/32 inch (6mm) centers.
 - d. Open Area: 30 percent.
43. Pattern number RS043.
- a. Material: (Select from above).
 - b. Hole Size: 1/8 inch (3mm) diameter.

- c. Hole Spacing: 3/16 inch (5mm) centers.
- d. Open Area: 41 percent.
- 44. Pattern number RS044.
 - a. Material: (Select from above).
 - b. Hole Size: 9/64 inch (4mm) diameter.
 - c. Hole Spacing: 0.433 inch (11mm) centers.
 - d. Open Area: 10 percent.
- 45. Pattern number RS045.
 - a. Material: (Select from above).
 - b. Hole Size: 9/64 inch (4mm) diameter.
 - c. Hole Spacing: 0.379 inch (10mm) centers.
 - d. Open Area: 12 percent.
- 46. Pattern number RS046.
 - a. Material: (Select from above).
 - b. Hole Size: 9/64 inch (4mm) diameter.
 - c. Hole Spacing: 0.325 inch (8mm) centers.
 - d. Open Area: 17 percent.
- 47. Pattern number RS047.
 - a. Material: (Select from above).
 - b. Hole Size: 9/64 inch (4mm) diameter.
 - c. Hole Spacing: 1/4 inch (6mm) centers.
 - d. Open Area: 28 percent.
- 48. Pattern number RS048.
 - a. Material: (Select from above).
 - b. Hole Size: 9/64 inch (4mm) diameter.
 - c. Hole Spacing: 7/32 inch (6mm) centers.
 - d. Open Area: 38 percent.
- 49. Pattern number RS049.
 - a. Material: (Select from above).
 - b. Hole Size: 9/64 inch (4mm) diameter.
 - c. Hole Spacing: 3/16 inch (5mm) centers.
 - d. Open Area: 51 percent.
- 50. Pattern number RS050.
 - a. Material: (Select from above).
 - b. Hole Size: 5/32 inch (4mm) diameter.
 - c. Hole Spacing: 0.650 inch (17mm) centers.
 - d. Open Area: 5 percent.
- 51. Pattern number RS051.
 - a. Material: (Select from above).
 - b. Hole Size: 5/32 inch (4mm) diameter.
 - c. Hole Spacing: 0.541 inch (14mm) centers.
 - d. Open Area: 8 percent.
- 52. Pattern number RS052.
 - a. Material: (Select from above).
 - b. Hole Size: 5/32 inch (4mm) diameter.
 - c. Hole Spacing: 0.433 inch (11mm) centers.
 - d. Open Area: 12 percent.
- 53. Pattern number RS053.
 - a. Material: (Select from above).
 - b. Hole Size: 5/32 inch (4mm) diameter.
 - c. Hole Spacing: 0.379 inch (10mm) centers.
 - d. Open Area: 15 percent.
- 54. Pattern number RS054.
 - a. Material: (Select from above).
 - b. Hole Size: 5/32 inch (4mm) diameter.
 - c. Hole Spacing: 3/8 inch (10mm) centers.

- d. Open Area: 16 percent.
- 55. Pattern number RS055.
 - a. Material: (Select from above).
 - b. Hole Size: 5/32 inch (4mm) diameter.
 - c. Hole Spacing: 0.325 inch (8mm) centers.
 - d. Open Area: 21 percent.
- 56. Pattern number RS056.
 - a. Material: (Select from above).
 - b. Hole Size: 5/32 inch (4mm) diameter.
 - c. Hole Spacing: 5/16 inch (8mm) centers.
 - d. Open Area: 23 percent.
- 57. Pattern number RS057.
 - a. Material: (Select from above).
 - b. Hole Size: 5/32 inch (4mm) diameter.
 - c. Hole Spacing: 1/4 inch (6mm) centers.
 - d. Open Area: 35 percent.
- 58. Pattern number RS058.
 - a. Material: (Select from above).
 - b. Hole Size: 5/32 inch (4mm) diameter.
 - c. Hole Spacing: 7/32 inch (6mm) centers.
 - d. Open Area: 46 percent.
- 59. Pattern number RS059.
 - a. Material: (Select from above).
 - b. Hole Size: 5/32 inch (4mm) diameter.
 - c. Hole Spacing: 3/16 inch (5mm) centers.
 - d. Open Area: 54 percent.
- 60. Pattern number RS060.
 - a. Material: (Select from above).
 - b. Hole Size: 11/64 inch (4mm) diameter.
 - c. Hole Spacing: 1/4 inch (6mm) centers.
 - d. Open Area: 43 percent.
- 61. Pattern number RS061.
 - a. Material: (Select from above).
 - b. Hole Size: 3/16 inch (5mm) diameter.
 - c. Hole Spacing: 0.650 inch (17mm) centers.
 - d. Open Area: 8 percent.
- 62. Pattern number RS062.
 - a. Material: (Select from above).
 - b. Hole Size: 3/16 inch (5mm) diameter.
 - c. Hole Spacing: 0.541 inch (14mm) centers.
 - d. Open Area: 11 percent.
- 63. Pattern number RS063.
 - a. Material: (Select from above).
 - b. Hole Size: 3/16 inch (5mm) diameter.
 - c. Hole Spacing: 0.487 inch (12mm) centers.
 - d. Open Area: 13 percent.
- 64. Pattern number RS064.
 - a. Material: (Select from above).
 - b. Hole Size: 3/16 inch (5mm) diameter.
 - c. Hole Spacing: 0.433 inch (11mm) centers.
 - d. Open Area: 17 percent.
- 65. Pattern number RS065.
 - a. Material: (Select from above).
 - b. Hole Size: 3/16 inch (5mm) diameter.
 - c. Hole Spacing: 3/8 inch (10mm) centers.
 - d. Open Area: 23 percent.

66. Pattern number RS066.
 - a. Material: (Select from above).
 - b. Hole Size: 3/16 inch (5mm) diameter.
 - c. Hole Spacing: 5/16 inch (8mm) centers.
 - d. Open Area: 33 percent.
67. Pattern number RS067.
 - a. Material: (Select from above).
 - b. Hole Size: 3/16 inch (5mm) diameter.
 - c. Hole Spacing: 9/32 inch (7mm) centers.
 - d. Open Area: 40 percent.
68. Pattern number RS068.
 - a. Material: (Select from above).
 - b. Hole Size: 3/16 inch (5mm) diameter.
 - c. Hole Spacing: 1/4 inch (6mm) centers.
 - d. Open Area: 51 percent.
69. Pattern number RS069.
 - a. Material: (Select from above).
 - b. Hole Size: 0.197 inch (5mm) diameter.
 - c. Hole Spacing: 0.230 inch (6mm) centers.
 - d. Open Area: 67 percent.
70. Pattern number RS070.
 - a. Material: (Select from above).
 - b. Hole Size: 7/32 inch (6mm) diameter.
 - c. Hole Spacing: 0.541 inch (14mm) centers.
 - d. Open Area: 15 percent.
71. Pattern number RS071.
 - a. Material: (Select from above).
 - b. Hole Size: 7/32 inch (6mm) diameter.
 - c. Hole Spacing: 5/16 inch (8mm) centers.
 - d. Open Area: 44 percent.
72. Pattern number RS072.
 - a. Material: (Select from above).
 - b. Hole Size: 1/4 inch (6mm) diameter.
 - c. Hole Spacing: 0.866 (22mm) centers.
 - d. Open Area: 8 percent.
73. Pattern number RS073.
 - a. Material: (Select from above).
 - b. Hole Size: 1/4 inch (6mm) diameter.
 - c. Hole Spacing: 0.650 inch (17mm) centers.
 - d. Open Area: 13 percent.
74. Pattern number RS074.
 - a. Material: (Select from above).
 - b. Hole Size: 1/4 inch (6mm) diameter.
 - c. Hole Spacing: 0.541 inch (14mm) centers.
 - d. Open Area: 19 percent.
75. Pattern number RS075.
 - a. Material: (Select from above).
 - b. Hole Size: 1/4 inch (6mm) diameter.
 - c. Hole Spacing: 1/2 inch (13mm) centers.
 - d. Open Area: 23 percent.
76. Pattern number RS076.
 - a. Material: (Select from above).
 - b. Hole Size: 1/4 inch (6mm) diameter.
 - c. Hole Spacing: 7/16 inch (11mm) centers.
 - d. Open Area: 30 percent.
77. Pattern number RS077.

- a. Material: (Select from above).
 - b. Hole Size: 1/4 inch (6mm) diameter.
 - c. Hole Spacing: 3/8 inch (10mm) centers.
 - d. Open Area: 40 percent.
78. Pattern number RS078.
- a. Material: (Select from above).
 - b. Hole Size: 1/4 inch (6mm) diameter.
 - c. Hole Spacing: 5/16 inch (8mm) centers.
 - d. Open Area: 58 percent.
79. Pattern number RS079.
- a. Material: (Select from above).
 - b. Hole Size: 17/64 inch (7mm) diameter.
 - c. Hole Spacing: 5/16 inch (8mm) centers.
 - d. Open Area: 66 percent.
80. Pattern number RS080.
- a. Material: (Select from above).
 - b. Hole Size: 9/32 inch (7mm) diameter.
 - c. Hole Spacing: 13/32 inch (10mm) centers.
 - d. Open Area: 43 percent.
81. Pattern number RS081.
- a. Material: (Select from above).
 - b. Hole Size: 5/16 inch (8mm) diameter.
 - c. Hole Spacing: 3/4 inch (19mm) centers.
 - d. Open Area: 16 percent.
82. Pattern number RS082.
- a. Material: (Select from above).
 - b. Hole Size: 5/16 inch (8mm) diameter.
 - c. Hole Spacing: 0.650 inch (17mm) centers.
83. Pattern number RS083.
- a. Material: (Select from above).
 - b. Hole Size: 5/16 inch (8mm) diameter.
 - c. Hole Spacing: 9/16 inch (14mm) centers.
 - d. Open Area: 28 percent.
84. Pattern number RS084.
- a. Material: (Select from above).
 - b. Hole Size: 5/16 inch (8mm) diameter.
 - c. Hole Spacing: 1/2 inch (13mm) centers.
 - d. Open Area: 35 percent.
85. Pattern number RS085.
- a. Material: (Select from above).
 - b. Hole Size: 5/16 inch (8mm) diameter.
 - c. Hole Spacing: 7/16 inch (11mm) centers.
 - d. Open Area: 46 percent.
86. Pattern number RS086.
- a. Material: (Select from above).
 - b. Hole Size: 5/16 inch (8mm) diameter.
 - c. Hole Spacing: 3/8 inch (10mm) centers.
 - d. Open Area: 63 percent.
87. Pattern number RS087.
- a. Material: (Select from above).
 - b. Hole Size: 3/8 inch (10mm) diameter.
 - c. Hole Spacing: 3/4 inch (19mm) centers.
 - d. Open Area: 23 percent.
88. Pattern number RS088.
- a. Material: (Select from above).
 - b. Hole Size: 3/8 inch (10mm) diameter.

- c. Hole Spacing: 11/16 inch (18mm) centers.
 - d. Open Area: 27 percent.
89. Pattern number RS089.
- a. Material: (Select from above).
 - b. Hole Size: 3/8 inch (10mm) diameter.
 - c. Hole Spacing: 5/16 inch (8mm) centers.
 - d. Open Area: 40 percent.
90. Pattern number RS090.
- a. Material: (Select from above).
 - b. Hole Size: 3/8 inch (10mm) diameter.
 - c. Hole Spacing: 1/2 inch (13mm) centers.
 - d. Open Area: 51 percent.
91. Pattern number RS091.
- a. Material: (Select from above).
 - b. Hole Size: 7/16 inch (11mm) diameter.
 - c. Hole Spacing: 3/4 inch (19mm) centers.
 - d. Open Area: 31 percent.
92. Pattern number RS092.
- a. Material: (Select from above).
 - b. Hole Size: 7/16 inch (11mm) diameter.
 - c. Hole Spacing: 5/8 inch (16mm) centers.
 - d. Open Area: 44 percent.
93. Pattern number RS093.
- a. Material: (Select from above).
 - b. Hole Size: 1/2 inch (13mm) diameter.
 - c. Hole Spacing: 1.191 inches (30mm) centers.
 - d. Open Area: 16 percent.
94. Pattern number RS094.
- a. Material: (Select from above).
 - b. Hole Size: 1/2 inch (13mm) diameter.
 - c. Hole Spacing: 7/8 inch (22mm) centers.
 - d. Open Area: 30 percent.
95. Pattern number RS095.
- a. Material: (Select from above).
 - b. Hole Size: 1/2 inch (13mm) diameter.
 - c. Hole Spacing: 3/4 inch (19mm) centers.
 - d. Open Area: 40 percent.
96. Pattern number RS096.
- a. Material: (Select from above).
 - b. Hole Size: 1/2 inch (13mm) diameter.
 - c. Hole Spacing: 11/16 inch (18mm) centers.
 - d. Open Area: 48 percent.
97. Pattern number RS097.
- a. Material: (Select from above).
 - b. Hole Size: 1/2 inch (13mm) diameter.
 - c. Hole Spacing: 5/8 inch (16mm) centers.
98. Pattern number RS098.
- a. Material: (Select from above).
 - b. Hole Size: 5/8 inch (16mm) diameter.
 - c. Hole Spacing: 1.516 inches (39mm) centers.
 - d. Open Area: 15 percent.
99. Pattern number RS099.
- a. Material: (Select from above).
 - b. Hole Size: 5/8 inch (16mm) diameter.
 - c. Hole Spacing: 7/8 inch (22mm) centers.
 - d. Open Area: 46 percent.

100. Pattern number RS100.
 - a. Material: (Select from above).
 - b. Hole Size: 5/8 inch (16mm) diameter.
 - c. Hole Spacing: 13/16 inch (21mm) centers.
 - d. Open Area: 54 percent.
101. Pattern number RS101.
 - a. Material: (Select from above).
 - b. Hole Size: 5/8 inch (16mm) diameter.
 - c. Hole Spacing: 3/4 inch (19mm) centers.
 - d. Open Area: 51 percent.
102. Pattern number RS102.
 - a. Material: (Select from above).
 - b. Hole Size: 3/4 inch (19mm) diameter.
 - c. Hole Spacing: 1.732 inches (44mm) centers.
 - d. Open Area: 17 percent.
103. Pattern number RS103.
 - a. Material: (Select from above).
 - b. Hole Size: 3/4 inch (19mm) diameter.
 - c. Hole Spacing: 1-1/8 inches (29mm) centers.
 - d. Open Area: 40 percent.
104. Pattern number RS104.
 - a. Material: (Select from above).
 - b. Hole Size: 3/4 inch (19mm) diameter.
 - c. Hole Spacing: 1 inch (25mm) centers.
 - d. Open Area: 51 percent.
105. Pattern number RS105.
 - a. Material: (Select from above).
 - b. Hole Size: 3/4 inch (19mm) diameter.
 - c. Hole Spacing: 15/16 inch (24mm) centers.
 - d. Open Area: 58 percent.
106. Pattern number RS106.
 - a. Material: (Select from above).
 - b. Hole Size: 7/8 inch (22mm) diameter.
 - c. Hole Spacing: 1-1/4 inches (32mm) centers.
 - d. Open Area: 44 percent.
107. Pattern number RS107.
 - a. Material: (Select from above).
 - b. Hole Size: 1 inch (25mm) diameter.
 - c. Hole Spacing: 2 inches (51mm) centers.
 - d. Open Area: 23 percent.
108. Pattern number RS108.
 - a. Material: (Select from above).
 - b. Hole Size: 1 inch (25mm) diameter.
 - c. Hole Spacing: 1-3/8 inches (35mm) centers.
 - d. Open Area: 48 percent.
109. Pattern number RS109.
 - a. Material: (Select from above).
 - b. Hole Size: 1 inch (25mm) diameter.
 - c. Hole Spacing: 1-1/4 inches (32mm) centers.
 - d. Open Area: 58 percent.
110. Pattern number RS110.
 - a. Material: (Select from above).
 - b. Hole Size: 1-3/32 inches (28mm) diameter.
 - c. Hole Spacing: 2 inches (51mm) centers.
 - d. Open Area: 27 percent.
111. Pattern number RS111.

- a. Material: (Select from above).
 - b. Hole Size: 1-1/4 inches (32mm) diameter.
 - c. Hole Spacing: 1-5/8 inches (41mm) centers.
 - d. Open Area: 23 percent.
112. Pattern number RS112.
- a. Material: (Select from above).
 - b. Hole Size: 1-1/2 inches (38mm) diameter.
 - c. Hole Spacing: 2 inches (51mm) centers.
 - d. Open Area: 51 percent.
113. Pattern number RS113.
- a. Material: (Select from above).
 - b. Hole Size: 1-3/4 inches (45mm) diameter.
 - c. Hole Spacing: 2-1/4 inches (57mm) centers.
 - d. Open Area: 58 percent.
114. Pattern number RS114.
- a. Material: (Select from above).
 - b. Hole Size: 2 inches (51mm) diameter.
 - c. Hole Spacing: 3 inches (76mm) centers.
 - d. Open Area: 40 percent.
115. Pattern number RS115.
- a. Material: (Select from above).
 - b. Hole Size: 2 inches (51mm) diameter.
 - c. Hole Spacing: 2-1/2 inches (64mm) centers.
 - d. Open Area: 58 percent.

C. Standard Pattern Types: Round Straight Perforations.

- 1. Pattern number RSL001.
 - a. Material: (Select from above).
 - b. Hole Size: 1/8 inch (3mm) diameter.
 - c. Hole Spacing: 1 inch (25mm) centers.
 - d. Open Area: 1 percent.
- 2. Pattern number RSL002.
 - a. Material: (Select from above).
 - b. Hole Size: 1/8 inch (3mm) diameter.
 - c. Hole Spacing: 1/2 inch (13mm) centers.
 - d. Open Area: 5 percent.
- 3. Pattern number RSL003.
 - a. Material: (Select from above).
 - b. Hole Size: 1/8 inch (3mm) diameter.
 - c. Hole Spacing: 1/4 inch (6mm) centers.
 - d. Open Area: 20 percent.
- 4. Pattern number RSL004.
 - a. Material: (Select from above).
 - b. Hole Size: 7/32 inch (6mm) diameter.
 - c. Hole Spacing: 1 inch (25mm) centers.
 - d. Open Area: 4 percent.
- 5. Pattern number RSL005.
 - a. Material: (Select from above).
 - b. Hole Size: 7/32 inch (6mm) diameter.
 - c. Hole Spacing: 1/2 inch (13mm) centers.
 - d. Open Area: 18 percent.
- 6. Pattern number RSL006.
 - a. Material: (Select from above).
 - b. Hole Size: 1/4 inch (6mm) diameter.
 - c. Hole Spacing: 1 inch (25mm) centers.
 - d. Open Area: 5 percent.

7. Pattern number RSL007.
 - a. Material: (Select from above).
 - b. Hole Size: 1/4 inch (6mm) diameter.
 - c. Hole Spacing: 1/2 inch (13mm) centers.
 - d. Open Area: 20 percent.
8. Pattern number RSL008.
 - a. Material: (Select from above).
 - b. Hole Size: 9/32 inch (7mm) diameter.
 - c. Hole Spacing: 1 inch (25mm) centers.
 - d. Open Area: 6 percent.
9. Pattern number RSL009.
 - a. Material: (Select from above).
 - b. Hole Size: 9/32 inch (7mm) diameter.
 - c. Hole Spacing: 1/2 inch (13mm) centers.
 - d. Open Area: 25 percent.
10. Pattern number RSL010.
 - a. Material: (Select from above).
 - b. Hole Size: 3/16 inch (5mm) diameter.
 - c. Hole Spacing: 1 inch (25mm) centers.
 - d. Open Area: 3 percent.
11. Pattern number RSL011.
 - a. Material: (Select from above).
 - b. Hole Size: 3/16 inch (5mm) diameter.
 - c. Hole Spacing: 1/2 inch (13mm) centers.
 - d. Open Area: 13 percent.
12. Pattern number RSL012.
 - a. Material: (Select from above).
 - b. Hole Size: 1/2 inch (13mm) diameter.
 - c. Hole Spacing: 2 inches (51mm) centers.
 - d. Open Area: 5 percent.
13. Pattern number RSL013.
 - a. Material: (Select from above).
 - b. Hole Size: 1/2 inch (13mm) diameter.
 - c. Hole Spacing: 1-1/2 inches (38mm) centers.
 - d. Open Area: 9 percent.
14. Pattern number RSL014.
 - a. Material: (Select from above).
 - b. Hole Size: 1/2 inch (13mm) diameter.
 - c. Hole Spacing: 1 inch (51mm) centers.
 - d. Open Area: 20 percent.
15. Pattern number RSL015.
 - a. Material: (Select from above).
 - b. Hole Size: 1/2 inch (13mm) diameter.
 - c. Hole Spacing: 3/4 inch (19mm) centers.
 - d. Open Area: 5 percent.
16. Pattern number RSL016.
 - a. Material: (Select from above).
 - b. Hole Size: 1-1/4 inches (32mm) diameter.
 - c. Hole Spacing: 1-5/8 inch (41mm) centers.
 - d. Open Area: 48 percent.
17. Pattern number RSL017.
 - a. Material: (Select from above).
 - b. Hole Size: 1-1/2 inches (38mm) diameter.
 - c. Hole Spacing: 2-1/4 inches (57mm) centers.
 - d. Open Area: 35 percent.

- D. Standard Pattern Types: Square Perforations.
1. Pattern number SQ001.
 - a. Material: (Select from above).
 - b. Hole Size: 0.200 inch (5mm) square.
 - c. Hole Spacing: 1/2 inch (13mm) centers.
 - d. Open Area: 16 percent.
 2. Pattern number SQ002.
 - a. Material: (Select from above).
 - b. Hole Size: 0.200 inch (5mm) square.
 - c. Hole Spacing: 1/4 inch (6mm) centers.
 - d. Open Area: 64 percent.
 3. Pattern number SQ003.
 - a. Material: (Select from above).
 - b. Hole Size: 1/4 inch (6mm) square.
 - c. Hole Spacing: 3/4 inch (19mm) centers.
 - d. Open Area: 11 percent.
 4. Pattern number SQ004.
 - a. Material: (Select from above).
 - b. Hole Size: 1/4 inch (6mm) square.
 - c. Hole Spacing: 5/8 inch (16mm) centers.
 - d. Open Area: 16 percent.
 5. Pattern number SQ005.
 - a. Material: (Select from above).
 - b. Hole Size: 1/4 inch (6mm) square.
 - c. Hole Spacing: 3/8 inch (10mm) centers.
 - d. Open Area: 45 percent.
 6. Pattern number SQ006.
 - a. Material: (Select from above).
 - b. Hole Size: 1/4 inch (6mm) square.
 - c. Hole Spacing: 5/16 inch (8mm) centers.
 - d. Open Area: 64 percent.
 7. Pattern number SQ007.
 - a. Material: (Select from above).
 - b. Hole Size: 5/16 inch (8mm) square.
 - c. Hole Spacing: 7/8 inch (22mm) centers.
 - d. Open Area: 13 percent.
 8. Pattern number SQ008.
 - a. Material: (Select from above).
 - b. Hole Size: 5/16 inch (8mm) square.
 - c. Hole Spacing: 7/16 inch (11mm) centers.
 - d. Open Area: 51 percent.
 9. Pattern number SQ009.
 - a. Material: (Select from above).
 - b. Hole Size: 3/8 inch (10mm) square.
 - c. Hole Spacing: 1 inch (25mm) centers.
 - d. Open Area: 14 percent.
 10. Pattern number SQ010.
 - a. Material: (Select from above).
 - b. Hole Size: 3/8 inch (10mm) square.
 - c. Hole Spacing: 1/2 inch (13mm) centers.
 - d. Open Area: 56 percent.
 11. Pattern number SQ011.
 - a. Material: (Select from above).
 - b. Hole Size: 1/2 inch (13mm) square.
 - c. Hole Spacing: 1-1/2 inches (38mm) centers.
 - d. Open Area: 11 percent.

12. Pattern number SQ012.
 - a. Material: (Select from above).
 - b. Hole Size: 1/2 inch (13mm) square.
 - c. Hole Spacing: 1-3/8 inches (35mm) centers.
 - d. Open Area: 13 percent.
13. Pattern number SQ013.
 - a. Material: (Select from above).
 - b. Hole Size: 1/2 inch (13mm) square.
 - c. Hole Spacing: 1-1/4 inches (32mm) centers.
 - d. Open Area: 16 percent.
14. Pattern number SQ014.
 - a. Material: (Select from above).
 - b. Hole Size: 1/2 inch (13mm) square.
 - c. Hole Spacing: 3/4 inch (19mm) centers.
 - d. Open Area: 44 percent.
15. Pattern number SQ015.
 - a. Material: (Select from above).
 - b. Hole Size: 1/2 inch (13mm) square.
 - c. Hole Spacing: 11/16 inch (18mm) centers.
 - d. Open Area: 53 percent.
16. Pattern number SQ016.
 - a. Material: (Select from above).
 - b. Hole Size: 1/2 inch (13mm) square.
 - c. Hole Spacing: 5/8 inch (16mm) centers.
 - d. Open Area: 64 percent.
17. Pattern number SQ017.
 - a. Material: (Select from above).
 - b. Hole Size: 3/4 inch (19mm) square.
 - c. Hole Spacing: 2 inches (51mm) centers.
 - d. Open Area: 13 percent.
18. Pattern number SQ018.
 - a. Material: (Select from above).
 - b. Hole Size: 3/4 inch (19mm) square.
 - c. Hole Spacing: 1 inch (25mm) centers.
 - d. Open Area: 56 percent.
19. Pattern number SQ019.
 - a. Material: (Select from above).
 - b. Hole Size: 7/8 inch (22mm) square.
 - c. Hole Spacing: 2-1/4 inches (57mm) centers.
 - d. Open Area: 15 percent.
20. Pattern number SQ020.
 - a. Material: (Select from above).
 - b. Hole Size: 7/8 inch (22mm) square.
 - c. Hole Spacing: 1-1/8 inches (29mm) centers.
 - d. Open Area: 60 percent.
21. Pattern number SQ021.
 - a. Material: (Select from above).
 - b. Hole Size: 1 inch (25mm) square.
 - c. Hole Spacing: 2-1/2 inches (64mm) centers.
 - d. Open Area: 16 percent.
22. Pattern number SQ022.
 - a. Material: (Select from above).
 - b. Hole Size: 1 inch (25mm) square.
 - c. Hole Spacing: 1-1/4 inches (32mm) centers.
 - d. Open Area: 64 percent.

- E. Standard Pattern Types: Slot Perforations.
1. Pattern number SL002.
 - a. Material: (Select from above).
 - b. Slot Size: 3/32 inch by 1/2 inch (2 by 13mm).
 - c. Slot Spacing: 1/4 inch (6mm) centers.
 - d. Open Area: 32 percent.
 2. Pattern number SL003.
 - a. Material: (Select from above).
 - b. Slot Size: 1/8 inch by 3/4 inch (2 by 13mm).
 - c. Slot Spacing: 1/4 inch (6mm) centers.
 - d. Open area: 41 percent.
 3. Pattern number SL004.
 - a. Material: (Select from above).
 - b. Slot Size: 0.200 inch by 0.637 inch (5 by 16mm).
 - c. Slot Spacing: 1/4 inch (6mm) centers.
 - d. Open area: 74 percent.
 4. Pattern number SL005.
 - a. Material: (Select from above).
 - b. Slot Size: 9/32 inch by 1-27/32 inch (7 by 47mm).
 - c. Open area: 62 percent.
 5. Pattern number SL006.
 - a. Material: (Select from above).
 - b. Slot Size: 9/32 inch by 1-27/32 inch (7 by 47mm).
 - c. Open area: 65 percent.
 6. Pattern number SL007.
 - a. Material: (Select from above).
 - b. Slot Size: 3/16 inch by 3/4 inch (5 by 19mm).
 - c. Slot Spacing: 3/8 inch (10mm) centers.
 - d. Open area: 38 percent.

- F. Ornamental Perforations Pattern.
1. Pattern number O001.
 - a. Material: (Select from above).
 - b. Hex Size: 0.177 inch (5mm).
 - c. Hex Spacing: 0.265 inch (7mm) centers.
 - d. Open area: 45 percent.
 2. Pattern number O002.
 - a. Material: (Select from above).
 - b. Hex Size: 1/4 inch (7mm).
 - c. Hex Spacing: 0.310 inch (8mm) centers.
 - d. Open area: 65 percent.
 3. Pattern number O003.
 - a. Material: (Select from above).
 - b. Hex Size: 1/4 inch (6mm).
 - c. Hex Spacing: 9/32 inch (7mm) centers.
 - d. Open area: 70 percent.
 4. Pattern number O004.
 - a. Material: (Select from above).
 - b. Cloverleaf design.
 - c. Open area: 51 percent.
 5. Pattern number O005.
 - a. Material: (Select from above).
 - b. Diamond Size: 5/16 by 7/8 inch (10 by 22mm).
 - c. Diamond Spacing: 1/4 inch (6mm) centers.
 - d. Open area: 55 percent.
 6. Pattern number O006.

- a. Material: (Select from above).
- b. Ellipse Size: 1/4 by 3/4 inch (6 by 19mm).
- c. Open area: 54 percent.
- 7. Pattern number O007.
 - a. Material: (Select from above).
 - b. Ellipse Size: 3/16 by 7/32 inch (5 by 6mm).
 - c. Open area: 54 percent.
- 8. Pattern number O008.
 - a. Material: (Select from above).
 - b. Grecian Design.
 - c. Open area: 35 percent.
- 9. Pattern number O009.
 - a. Material: (Select from above).
 - b. Lincane Design.
 - c. Open area: 44 percent.
- 10. Pattern number O010.
 - a. Material: (Select from above).
 - b. Mini Cane Design.
 - c. Open area: 45 percent.
- 11. Pattern number O011.
 - a. Material: (Select from above).
 - b. Octagon Cane Design.
 - c. Open area: 41 percent.
- 12. Pattern number O012.
 - a. Material: (Select from above).
 - b. 1/4 inch (6mm) Round Cane Design.
 - c. Open area: 24 percent.
- 13. Pattern number O013.
 - a. Material: (Select from above).
 - b. 5/16 inch (10mm) Round Cane Design.
 - c. Open area: 45 percent.
- 14. Pattern number O014.
 - a. Material: (Select from above).
 - b. Royal Design.
 - c. Open area: 45 percent.
- 15. Pattern number O015.
 - a. Material: (Select from above).
 - b. Saratoga Design.
 - c. Open area: 32 percent.
- 16. Pattern number O016.
 - a. Material: (Select from above).
 - b. Union Jack Design.
 - c. Open area: 40 percent.

2.3 ATTACHMENT SYSTEMS

- A. Attachment System: Custom system as indicated on the Drawing.

2.4 FABRICATION

- A. Fabricate perforated metal panels square in accordance with approved shop drawings.
- B. Fabricate compatible attachment system.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until openings and substrates have been properly prepared to receive the products of this section.
- B. Verify dimensions, tolerances, and method of attachment with other work on-site.
- C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Provide suitable means of anchorage acceptable to manufacturer such as dowels, anchor clips, bar anchors, expansion bolts and shields, and toggles.
- C. Anchor supports securely with allowance for necessary thermal movement and structural support.
- D. Erect metalwork square, plumb, straight, and true, accurately fitted, with tight joints and intersections.
- E. Do not install component parts that are observed to be defective, including warped, bowed, dented, abraded and broken members.
- F. Do not cut, trim, weld or braze component parts during erection in manner that would damage finish, decrease strength, or result in visual imperfection or failure in performance. Return component parts that require alteration to shop for refabrication, if possible, or for replacement with new parts.
- G. Separate dissimilar metals and use gasketed fasteners, isolation shim, or isolation tape where needed to eliminate possibility of corrosive or electrolytic action between metals.

3.4 PROTECTION

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

3.5 SCHEDULES

- A. Schedule:

END OF SECTION