

## **MATRIX GRILLE - RECOMMENDED SPECIFICATION**

### **GENERAL**

Where indicated on plan drawings or described in schedules, furnish and install Matrix Grilles as designed and manufactured by The Aiolite Company LLC, Schofield, Wisconsin. Grilles shall be furnished in the configurations represented on the plan drawings and shall include supports, installation hardware and finishes as specified and required for a complete installation.

### **SUBMITTALS**

Manufacturer shall submit shop drawings incorporating key plans, elevations, sections and details showing profiles, angles and spacing of components and frames; unit dimensions related to wall openings and construction; and, anchorage details and locations. Submit theoretical calculations prepared by a professional engineer specializing in the application of welding technology demonstrating that each fillet weld joining blade and frame members will withstand a minimum of 526 pounds of force in shear. Provide samples of manufacturer's finish and color charts showing the full range of finishes and colors available.

### **PRODUCTS**

Architectural grilles shall be Aiolite Matrix Grilles as follows:

- Material: Extruded Aluminum, Alloy 6063-T5
- Material Thickness: Specify 0.081" (2.06 mm) to 0.250" (6.35 mm), or as indicated.
- Grille Depth: Specify 2" (50.8 mm) to 6" (152.4 mm), or as indicated.
- Perimeter Frame: Specify Aluminum Bar, Channel or Tube, or as indicated.
- Major Diagonal Bar Spacing: Specify 2" (50.8 mm) to 12" (304.8 mm), or as indicated.
- Minor Diagonal Bar Spacing: Specify 2" (50.8 mm) to 12" (304.8 mm), or as indicated.

### **ALL-WELDED ASSEMBLY**

All horizontal, vertical and perimeter frame members shall be joined with slotted or tabbed connections. Where possible, connections shall be secured with fillet welds concealed from view, unless the size of the grille makes bolted connections between grille sections necessary. Each weld shall be produced with the Pulsed Gas Metal Arc Welding (GMAW Mig) process. Intermediate connections shall be intermittently joined with a 1-inch (25.4 mm) long fillet weld with a minimum 1/8-inch (3.175 mm) leg. Frames shall be joined at each corner with a full-length GMAW fillet weld with a minimum 1/8-inch (3.175 mm) throat.

### **STRUCTURAL DESIGN CRITERIA**

Manufacturer shall design and furnish all supports required to withstand a wind force of not less than 25 pounds per square foot. Grilles 120-inches (3,048 mm) wide x 120-inches (3,048 mm) high will be fabricated and installed in multiples sections. Grille members, frames, mullions and anchor-ages shall be demonstrated to withstand the specified wind design load.