

## **TETRA GRILLE - RECOMMENDED SPECIFICATION**

**Airolite Tetra Grilles** are designed and produced to your custom specification to serve as architectural accent elements or entire facades that function as sight screens, sun controls or security barriers. Tetra Grilles are produced in 2-inch (50.8 mm) or 4-inch (101.6 mm) depths with horizontal and vertical elements that feature diagonal cross members. The grille configuration can be altered to achieve open or narrow sight-lines by modifying the horizontal and vertical member spacing. Minimum horizontal and vertical member spacing is 4-inches (101.6 mm); and, maximum spacing is 12-inches (304.8 mm). In addition, the horizontal bar can be rotated from 0 to 45-degrees to achieve maximum openness or serve as an effective sight or solar barrier. The rigidity of the assembly also makes the Tetra Grille ideal for many security applications. Tetra Grilles are available in Airolite's broad array of baked enamel, fluoropolymer and clear or color anodize coatings for durability and compatibility with adjacent components. Please contact your local Airolite representative or the factory for assistance with the layout and design of support systems when required.

### **GENERAL**

Where indicated on plan drawings or described in schedules, furnish and install Tetra Grilles as designed and manufactured by The Airolite 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 horizontal, vertical and frame members shall 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 Airolite Tetra Grilles as follows:

- Material: Extruded Aluminum, Alloy 6063-T5
- Horizontal Bar Thickness: Specify 0.081" (2.06 mm), or as indicated.
- Vertical Bar Thickness: Specify 0.125" (3.18 mm), or as indicated.
- Cross Member Thickness: Specify 0.081" (2.06 mm), or as indicated.
- Frame Thickness: Specify 0.125" (3.18 mm), or as indicated.
- Grille Depth: Specify 2" (50.8 mm) to 4" (101.6 mm), or as indicated.
- Horizontal Bar Angle: Specify 0 to 45°, or as indicated.
- Horizontal Bar Spacing: Specify 4" (101.6 mm) to 12" (304.8 mm), or as indicated.
- Vertical Bar Spacing: Specify 4" (101.6 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 larger than 72-inches wide (1,828.8 mm) x 120-inches high (3,048 mm) or 120-inches (3,048 mm) wide x 72-inches (1,828.8 mm) high will be fabricated and installed in multiple sections. Grille members, frames, mullions and anchorages will be demonstrated to withstand the specified wind design load.