

## SECTION 10 82 13

### EXTERIOR GRILLES AND SCREENS

#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Expanded Metal Window Grills.
- B. Perforated Steel Grills.

##### 1.02 QUALITY ASSURANCE

- A. Where windows are indicated or required for proper egress. Provide assemblies that comply with NFPA 101 sec. 5-2.1.7.2 for push or pull type exit devices.
- B. All grills shall qualify as a HUD "HEAVY" (level 5) as certified by NAMI or similar testing agencies. At a minimum they shall meet the following standard tests:
  - 1. Impact Test: Resist 100 foot-pounds of force without stretching the grill material more than 3" and without tearing the grill fabric at any point.
  - 2. Forced Entry Test: Resist prying load of 150 pounds and simultaneous pulling load of 300 pounds without springing the lock or bending the frame. This requirement is subject to review and approval by the Denver Fire Department.
  - 3. Sag Test: Resist 90 pounds of weight on the open grill with no more than a .063" sag in the grill.

##### 1.03 SUBMITTALS

- A. Submit product literature and test results to the Architect.

#### PART 2 PRODUCTS

##### 2.01 ACCEPTABLE MANUFACTURERS

- A. Provide exterior window grills as manufactured by one of the following:
  - 1. Avant Guards, Inc.
  - 2. Kane Manufacturing Corp.

##### 2.02 FABRICATION

- A. Welding shall comply with the requirements of AWS. Grind welds smooth.
- B. Window grills, unless otherwise noted by DPS, shall cover the entire window opening.
- C. Where hinged grills cannot be opened due to obstructions, provide removable sections.
- D. Unless otherwise noted by DPS, provide windows at roof levels with hinged grills at lower sash.

##### 2.03 MATERIALS

- A. Frames:
  - 1. Galvanized Steel 10 gauges (12-gauge subframe).
  - 2. Extruded Aluminum 10 gauge (12 gauge subframe).
  - 3. Hot Rolled Steel 10 gauge (12 gauge subframe), ASTM A36.
  - 4. Cold Rolled Steel 10 gauge (12 gauge subframe), ASTM A611, Grade C.
  - 5. Wrought Iron 10 gauge (12 gauge subframe).
- B. Grills:
  - 1. Expanded Perforated Steel, Various Patterns.

- a) Standard: 16 gauge galvanealed metal having 63% open area with 5/32” holes on 3/16” stagger centers, and shall comply with ASTM A568.
- 2. Steel Wire Mesh – Diamond or Square, 3/8” clear opening is maximum.
- C. Connections shall be:
  - 1. Galvanized Steel Bolts.
  - 2. Stainless Steel Bolts.
- D. All components shall be isolated from dissimilar metals as recommended by the grill manufacturer and as approved by the architect.
- E. Hinges: A minimum of 2 heavy duty hinges shall be provide for a 4 foot long grill and a minimum of 4 for an 8 foot long grill, or as otherwise approved in writing by DPS.

**END OF SECTION 10 82 13**