



**3-PART CSI MASTERFORMAT SPECIFICATION
SECTION 12 4816
ENTRANCE GRILLES**

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes

1. Section includes recessed floor grilles and frames

Retain subparagraph below to cross-reference requirements Contractor might expect to find in this Section but are specified in other Sections.

B. Related Requirements

1. Section 124813 "Entrance Floor Mats and Frames" for flexible floor mats and frames
2. Division 03 - Cast-In-Place Concrete: For concrete floor slab recess, and grouting frames into recess.
3. Division 07 - Damp-proofing.
4. Section 124813 "Entrance Floor Mats and Frames" for flexible floor mats and frames
5. Division 23 - Sanitary Waste and Vent Piping: For floor drain if applicable.

1.02 REFERENCES

- A. ASTM B 221-93 Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes
- B. ASTM A 276-92 Standard Specification for Stainless and Heat-Resisting Steel Bars and Shapes.
- C. AAMA 606.1 Voluntary Guide Specifications and Inspection Methods for Integral Color Anodic Finishes for Architectural Aluminum
- D. AAMA 607.1 Voluntary Guide Specifications and Inspection Methods for Clear Anodic Finishes for Architectural Aluminum.

1.03 COORDINATION

- A. Coordinate size and location of recesses in concrete to receive floor grilles and frames.

1.04 SUBMITTALS

- A. Product Data: Manufacturers product specifications, installation and maintenance instructions.
- B. Shop Drawings:

Revise three subparagraphs below to suit Project.

1. Items penetrating floor grilles and frames, including door control devices.
 2. Divisions between grille sections.
 3. Perimeter floor moldings.
- C. Samples:** For the following products, in manufacturer's standard sizes
1. Floor Grille: Assembled section of floor grille.
 2. Frame Members: Sample of each type and color
- D. LEED Submittals:**



1. Product Data for Credit IEQ 5: Indoor Chemical and Pollutant Source Control: Employ permanent entryway systems at least 10 feet long in the primary direction of travel to capture dirt and particulates entering the building at regularly used exterior entrance.

1.05 CLOSEOUT SUBMITTALS

- A. Installation, Operations and Maintenance data.

1.06 FIELD CONDITIONS

- A. Field Measurements: Indicate measurements on Shop Drawings.

1.07 WARRANTY

- A. Provide manufacturer's written warranty.
- B. Warrant materials and fabrication against defects after completion and final acceptance of Work.
- C. Repair defects, or replace with new materials, faulty materials or fabrication developed during the warranty period at no expense to Owner.

PART 2 - PRODUCTS

2.01 Accessibility Standard:

- A. Comply with applicable provisions in [the DOJ's "2010 ADA Standards for Accessible Design"] [and] [ICC A117.1] <Insert regulation>.

2.02 ACCEPTABLE MANUFACTURERS

Amarco Products. 5 Powder Horn Dr. Warren, NJ 07059. Tel: 866-688-6287.
Fax: 732-302-1120. Website: www.amarcomats.com. Email: info@amarcomats.com.

- A. Rigid Floor Grille: Extruded-aluminum 1 inch (25.4 mm) high, tread rails, connected by bolted cross supports.
 1. Basis-of-Design Product: Amarco Products' G-550:
 2. Rigid grille with rectangular tread.
 - a. Treads: T-shaped, 1/2 inch (12.7 mm) x 1 inch (25.4 mm). Spacing between treads not to exceed 3/16 inch (4.8 mm). Rail surface to be striated to create rectangular grid pattern.
 - b. Rail Spacers: 1/2-inch (12.7-mm) aluminum tube.
 - c. Grate Sections: Each section shall be no greater than 48 inches (1220 mm) x 48 inches (1220 mm). Supply sections with individual, pre-fabricated, factory-assembled frames.
 3. Rigid grille with waffle tread.
 - a. Treads: T-shaped, 1/2 inch (12.7 mm) x 1 inch (25.4 mm). Spacing between treads not to exceed 3/16 inch (4.8 mm). Rail surface to be striated to create square grid pattern for multi-directional traffic.
 - b. Rail Spacers: 1/2-inch (12.7-mm) aluminum tube.
 - c. Grate Sections: Each section shall be no greater than 48 inches (1220 mm) x 48 inches (1220 mm). Supply sections with individual, pre-fabricated, factory-assembled frames.

4. Rigid grille with plank tread.
 - a. Treads: T-shaped, 1/2 inch (12.7 mm) x 1 inch (25.4 mm).
 - b. Rail Spacers: 1/2-inch (12.7-mm) aluminum tube.
 - c. Grate Sections: Each section shall be no greater than 48 inches (1 220 mm) x 48 inches (1 220 mm). Supply sections with individual, pre-fabricated, factory-assembled frames.

5. Rigid grille with serrated tread.
 - a. Treads: T-shaped serrated, 1/2 inch (12.7 mm) x 1 inch (25.4 mm).
 - b. Rail Spacers: 1/2-inch (12.7-mm) aluminum tube.
 - c. Grille Sections: Each section shall be no greater than 48 inches (1220 mm) x 48 inches (1220 mm). Supply sections with individual, pre-fabricated, factory-assembled frames.

6. Rigid grill with bar tread.
 - a. Treads: T-shaped serrated, 3/16 inch (4.7 mm) x 1 inch (25.4 mm).
 - b. Rail Spacers: 1/4-inch (6.3 mm) aluminum tube.
 - c. Grille Sections: Each section shall be no greater than 48 inches (1220 mm) by 48 inches (1220 mm). Supply sections with individual, pre-fabricated, factory-assembled frames.

7. Frame: [GF-550C: Cast-in-place aluminum frame], [GF-550L: Mechanically fastened aluminum frame].

2.03 DRAIN PANS

- A. Provide manufacturer's standard [**aluminum, mill finish**] [**aluminum, primer coat finish**] [**stainless-steel**] sheet drain pan.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Products must be placed on a flat and level substrate. Substrate shall meet tolerance of 1/8" over 10 feet in accordance with ACI 302.
- B. Examine areas and conditions under which Work is to be performed and identify conditions detrimental to proper or timely completion.
 1. Do not proceed until unsatisfactory conditions have been corrected.

3.02 INSTALLATION

- A. Install products in accordance with manufacturer's instructions, at locations shown and with top of products level with adjoining finished flooring where applicable.
- B. Coordinate top of product surfaces with swinging doors to provide under-door clearance.
 1. Provide necessary shims, spacers, and anchorages for proper location and secure attachment of frames to concrete.
 2. For installation in terrazzo flooring, contact manufacturer.

3.03 ADJUSTING AND CLEANING

- A. Adjust top surface of assembly to be flush with adjacent finishes.
- B. Coordinate top of surfaces with doors that swing across surface to provide adequate under door clearance.
- C. Clean dirt and debris from frame recess before installing floor system.



3.04 PROTECTION

- A. Upon completion of frame installations, provide temporary filler of plywood or fiberboard in grille recesses, and cover frames with plywood protective flooring. Maintain protection until construction traffic has ended and Project is near time of Substantial Completion.
- B. Install product when no further wheeled construction traffic will occur and wet type operations including painting and decorating are complete.

END OF SECTION
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