

SECTION 12 48 16

ENTRANCE FLOOR GRILLES SPECIFICATIONS

PART 1 — GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions, Supplementary Conditions and Division-1 General Requirements, apply to the work of this section.

1.02 WORK INCLUDED

- A. Furnish and install complete Balco, Inc. Floor Grille systems.
1. FG Series, floor grille and frame
 2. FGDP Series, floor grille and frame
 3. FGLP Series, floor grille and frame.
 4. BFG Series, floor grille, and frame
 5. [AMR] [BMR] Ultragrid, and frame.

1.03 RELATED WORK

- A. Related work which is specified elsewhere.
1. Concrete work: Section 03 00 00.
 2. Unit Masonry: Section 04 20 00.

1.04 REFERENCES

- A. Publications listed herein are part of this specification to the extent referenced. The criteria established in the specifications shall take precedence over the standards referenced herein. (An example of a reference standard is given below.)
1. American Society for Testing and Materials (ASTM):
 - a. ASTM B221 – Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes and Tubes.

1.05 SYSTEM DESCRIPTION

- A. Floor Grille shall consist of a series of tread rails spaced 1 1/2" (38.1 mm) o.c. and running counter to the traffic flow.
1. Maximum allowable load on [FG Series] [FGDP Series] floor grille shall be [300 psf uniform load] [300 lb. point load] [specify load].
 2. Maximum allowable load on FGLP Series floor grille shall be 1,000 lbs. point load per tread.
 3. Floor Grille shall be FG Series and shall be removable and replaceable without disassembly of entire grille and without damage to grille.
 4. [FG Series] [FGDP Series] [FGLP Series] floor grilles shall be provided with [carpet] [vinyl] [abrasive] [serrated aluminum (not available for FGLP Series floor grille)] inserts.

5. Floor Grilles shall provide a uniform sightline.
- B. [AMR] [BMR] Ultragrid shall consist of a series of [aluminum] [bronze] tread rails spaced 1/2" (12.7 mm) o.c. and running counter to the traffic flow.
 1. Tread rails shall be welded to [aluminum crossbars spaced 8" o.c. for AMR Series] [bronze crossbars spaced 10" o.c. for BMR Series].
 - a. Welds shall not be exposed when the grid is in the installed position.
 - b. [Aluminum angle frames for AMR Series grilles] [Bronze angle frames for BMR Series grilles] shall be provided.
- C. Floor grilles shall allow debris to fall to sub-floor.
- D. [FG Series] [FGDP Series] Floor grille tread bars shall be separately removable and replaceable without disassembly of all tread bars.
 1. FGDP Series floor grilles having a width of 4' 0" or greater in the traffic direction shall be provided with a minimum of one continuous 2" aluminum I-beam support between each 4' 0" span.
 - a. I-beam supports shall be mechanically fastened to the frame.
 - b. I-beam supports shall run perpendicular to the tread rails.
 2. FGDP floor grilles with Pan having a width of 4' 0" or greater shall be provided with a minimum of one 2" I-beam support leg welded to each I-beam support.
 3. I-beam support legs shall run parallel to the tread rails.
 4. Adjustable legs shall be provided for sloping deep pit drains.
- E. FGLP Series floor grilles shall be fabricated having continuous flexible elastomeric hinges enabling grille sections to be rolled back for cleaning beneath grille.

1.06 QUALITY ASSURANCE

- A. Manufacturer: Obtain floor grille assemblies through one source from a single manufacturer.
 1. Manufacturer shall be ISO 9001 Certified.
 - a. The Manufacturer shall have documented management and control of the processes that influence the quality of its products.
 - b. The Manufacturer shall have documented management and control of the processes that influence the quality of its customer service.
 2. Manufacturer shall have a minimum of ten (10) years of experience in the fabrication of floor grille assemblies.
- B. Installer: Firm with not less than three (3) years of successful experience in the installation of systems similar to those required by this project and acceptable to the manufacturer of the system.

1.07 SUBMITTALS

- A. Submit manufacturer's specifications and technical data, including Material Safety Data Sheets, installation instructions, as required, and catalog cuts and templates where required to explain construction and to provide for incorporation into the project.

- B. Submit certificates, copies of independent test reports or research reports showing compliance with specified performance requirements.
- C. Submit shop drawings showing layout and types of grilles and frames; full-scale sections of typical installations; anchors and accessories. Shop drawings submittal shall be coordinated with concrete work shop drawings showing oversized recess for deferred installation of frame.
- D. Submit one (1) 12" x 12" sample of the specified system.

1.08 DELIVERY, STORAGE AND HANDLING

- A. Deliver floor grille system to jobsite in new, clean, unopened crates of sufficient size and strength to protect materials during transit.
- B. Store components in original containers in a clean, dry location.

1.09 WARRANTY

- A. Submit manufacturer's warranty that materials furnished will perform as specified for a period of not less than two (2) years for floor grilles when installed in accordance with manufacturer's recommendations.

PART 2 — PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Furnish and install as noted in specifications and as indicated on drawings, Floor Grille system (type no.) as manufactured by: Balco, Inc., P.O. Box 17249, 2626 S. Sheridan, Wichita, KS 67217; phone: 800-767-0082 or (316) 945-9328; fax: (316) 945-0789.
- B. Substitutions: Submit proposed substitutions in writing to Architect no less than 10 days before bids are due. Submit samples and product data to demonstrate acceptability of proposed substitute. Acceptance will be by Addendum.

2.02 MATERIALS

- A. Floor Grille systems: [Manufacturer's type number] [proprietary product name].
 - 1. [FG] [FGDP] [BFG]
 - a. Tread rails: [Aluminum, ASTM B221, alloy 6063-T5] [Bronze, ASTM B445, alloy 385]
 - b. "U" channels: [Aluminum, ASTM B221 6063-T5]
 - 2. FGLP
 - a. Tread Rails: Aluminum, ASTM B221, alloy 6005-T6.
 - b. Continuous vinyl hinges: Flexible P.V.C.
 - c. Leading Edge Fillers: Santoprene.
 - 3. Frames: [Aluminum, ASTM B221, alloy 6063-T5] [Bronze, ASTM B445, alloy 385].
 - 4. Angle Frames: [Aluminum, ASTM B221, alloy 6063-T5] [Bronze, ASTM B455, alloy 385].
 - 5. Locking Bars: Aluminum, ASTM B221, alloy 6063-T5.
 - 6. Catch and Drain Pan (optional): [Galvanized Steel, ASTM A653, G90, sheet, standard] [Aluminum, ASTM B209, sheet, optional] [Stainless Steel, ASTM A666, sheet, optional].

7. Pan adapter: Aluminum, ASTM B221, alloy 6063-T5.
 8. I-beam supports: Aluminum, ASTM B221, alloy 6063-T5.
 9. [Leg supports] [Adjustable leg supports]: Aluminum, ASTM B221, alloy 6063-T5.
- B. Carpet shall be [standard, Carpet Strip with Monofilament tufts, 3700 Denier with 0.010" Black monofilament (91 total ends per inch), Solution dyed nylon yarn, 0.350 inch (8.9 mm) total thickness.. Anti-static treatment, anti-stain treatment, anti-microbial treatment, 33 oz./sq. yd. min.; 1.000" +/- 0.030" Outside Pile to Outside Pile] [heavy-duty Carpet Strip with Extruded Polypropylene Backing, 1.12" Overall Width; Solution Dyed Polypropylene yarns; ; 50/50 blend of 600/12 denier multifilament and 595/D1 denier monofilament; 6975 Total Denier; Total Thickness: 0.350" +/- .015"; Backing: .055" +.015" -.010"; 13 Picks per Inch; 28 oz./sq. yd. min. weight; Flanges: 0.140" +/-0.020"]
- C. [Continuous vinyl cushions] [Vinyl treads (inserts)]: Flexible P.V.C.
- D. Abrasive: Two (2) part Epoxy combined with aluminum oxide grit.
- E. Fasteners, accessories and other materials indicated as provided by the manufacturer on the manufacturer's details and in the manufacturer's installation instructions and required for complete installation to manufacturer's instructions.

2.03 FABRICATION

- A. Fabricate floor grille assemblies as detailed.
1. Fabricate grille custom cut sections as required.
 2. Fabricate floor grilles as a series of grille tread bars spaced at 1-1/2 inches o.c.
 3. Fabricate [AMR Series] [BMR Series] Ultragrid as a series of grille tread bars spaced at 1/2" o.c.
 4. Fabricate floor grille tread rails [_____] wide.
 5. Provide two inch (2") aluminum I-beam supports on FGDP Series floor grilles over 4'0" wide.
 6. Tread surfaces shall be [serrated] [continuous crosshatched vinyl] [abrasive] [carpet].
 7. Fabricate abrasive treads of [one (1) solid] [two (2) parallel solid] line(s) of abrasive.
 8. Provide necessary and related parts, devices, anchors and other items required for proper installation.
- B. Provide components in single size where possible; minimize site splicing.
1. Fabricate grille units to maximum size recommended by the manufacturer for units intended for removal and cleaning. Where joints in grille are necessary, space them symmetrically and away from normal traffic flow patterns.
 2. Provide minimum number of pieces possible for frames that exceed maximum length. Provide frames with hairline joints, equally spaced, complete with corner pin, splice plates and installation anchors.
 3. Frame, aluminum pan and I-beams shall be shop fabricated as an assembled unit for installation in the field.

- C. Shop assemble components and package with anchors and fittings.

2.04 FINISHES

- A. Aluminum:
 - 1. Tread rails, ["U" channels], [Lock Bars], Frames, [I-beam supports], [support legs], [serrated aluminum inserts]: Mill finish, standard. Optional finish [Clear Anodized] [Gold Anodized] [Medium Bronze Anodized].
 - 2. Embedded Frames: Shop coating of clear acrylic.
- B. Bronze:
 - 1. Tread bars, Tread Rails and Frames: Mill finish, standard. Satin finish in clear acrylic on exposed areas.
 - 2. Embedded Frames: Shop coating of clear acrylic.
- C. Carpet: Specify color selected from standard colors available.
- D. P.V.C. Vinyl:
 - 1. Leading edge frames and fillers shall be [Black (standard)] [Gray (optional)] {Brown (optional)}.
 - 2. Continuous Hinges shall be black.
 - 3. Treads shall be [specify color selected from standard colors available].
- E. Abrasive: Specify color selected from standard abrasive colors.

PART 3 — EXECUTION

3.01 EXAMINATION

- A. Contractor shall verify that field measurements [and recessed dimensions] are as shown on shop drawings prior to releasing materials for fabrication by the manufacturer.
- B. Installer shall examine conditions under which work is to be performed and shall notify the contractor in writing of unsatisfactory conditions. Installer shall not proceed until unsatisfactory conditions have been corrected in a manner acceptable to the installer.

3.02 INSTALLATION

- A. Install floor grille system in accordance with the governing regulations, the industry standards applicable to the work and the manufacturer's written installation instructions.
- B. Work shall be aligned plumb, level, and, where required, flush with adjacent surfaces.
- C. Carpet and Vinyl shall be positively locked into tread rails.
- D. Anchors shall be spaced at 24 inches o.c.

3.03 ADJUSTING AND PROTECTION

- A. Inspect system components for proper fit. Adjust, repair or replace components not conforming to requirements. Repair or replacement of an individual unit shall be as approved by the Architect.

- B. Advise the contractor of procedures required to protect the finished work from damage during the remainder of the construction period.
- C. Finished units shall be without damage. Units damaged during shipping or construction shall be repaired by the contractor at the expense of the party damaging the material, in accordance with the contract requirements.
- D. Protect installation from damage by work of other Sections. After installation of frame, install temporary filler of plywood in recesses and cover frames with plywood protective flooring. Maintain protection until construction traffic has ended and project is near time of Substantial Completion.
- E. Install grilles near time of Substantial Completion.

3.04 GENERAL RESPONSIBILITY

- A. Any variation from this specification resulting in additional cost to any other contractor or subcontractor on this project shall be the sole financial responsibility of the contractor for the work of this section.

End of Section