Suggested Specifications | Section 124813

CS Entrance Floor Mats and Frames: GridLine® 2 with Tread Inserts (G6P[xx])

Note: After downloading this spec, the Specifier must choose the correct finish, insert and frame options and delete all other options to produce an accurate specification.

Part 1 - General

1.01 Summary

A. This section includes the following types of entrance flooring systems:
  1. Floor Grids & Frame Assemblies

B. Related Sections: The following sections contain requirements related to this section:
  1. Grouting frames into recess; refer to sections 03300 “Cast-In-Place Concrete” and section 03600 “Grout”
  2. Special requirements of various flooring types; refer to section 09400 “Terrazzo”

1.02 References

A. American Society for Testing and Materials (ASTM)
B. The Aluminum Association
C. International Organization for Standardization (ISO)

1.03 Submittals

A. General: Submit the following in accordance with conditions of contract and Division 1 specification section 01300.
B. Product data for each type of floor grid and frame specified, including manufacturer's specifications and installation instructions.
C. Shop drawings in sufficient detail showing layout of grid and frame specified including details indicating construction relative to materials, direction of traffic, spline locations, profiles, anchors and accessories.
D. Samples for verification purposes: Submit an assembled section of floor grid and frame members with selected tread insert showing each type of color for exposed floor grid, frame and accessories required.
E. Maintenance data in the form of manufacturer's printed instructions for cleaning and maintaining floor grids.
F. Flammability in accordance with ASTM E648, Class I, Critical Radiant Flux, minimum 0.45 watts/m^2.
G. Slip resistance in accordance with ANSI A137.1 / A326.3, Dynamic Coefficient of Friction, when tested in wet conditions, minimum of 0.42 for accessible routes. *[Specifier note: Slip and fall accidents are a major concern in commercial entranceways. CS recommends that approved systems be certified by the manufacturer and a third-party source as meeting a minimum dynamic coefficient of friction, when tested in wet conditions, at minimum of 0.57]*
H. Standard rolling load performance is 500 lb./wheel (load applied to a solid 5” x 2” wide polyurethane wheel, 1000 passes without damage). *[Specifier note: For entranceways in businesses such as retail outlets, airports, banks, and casinos, rolling load performance is a critical factor. We recommend that units with the highest practical loading capability be specified for such entrances.]*
I. Single source responsibility: Obtain floor grids and frames from one source of a single manufacturer.
J. Utilize superior structural stainless steel Type 304 components.

1.04 Quality Assurance

[Specifier note: To maximize the life cycle of the entrance flooring and its appearance, the following items are critical: i) Most C/S mats are designed for traffic crossing perpendicular to the rail. ii) When designing an entranceway it is preferable to minimize the need for turning on the mat. iii) We recommend that splices in wider units (above 10') not be positioned in the middle of a door opening wherever possible.]

A. Standard rolling load performance is 500 lb./wheel with larger loading requirements as specified (load applied to a solid 5” x 2” wide polyurethane wheel, 1000 passes without damage). *[Specifier note: For entranceways in businesses such as retail outlets, airports, banks, and casinos, rolling*

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load performance is a critical factor. We recommend that units with the highest practical loading capability be specified for such entrances.]

B. Single Source Responsibility: Obtain floor grids and frames from one source of a single manufacturer.

C. Utilize superior stainless steel components- type 304

D. Utilize a manufacturer that is ISO 9001 & 14001 certified.

1.05 Delivery, Storage and Handling

Deliver materials to the project site ready for use and fabricated in as large sections and assemblies as practical, in unopened original factory packaging clearly labeled to identify manufacturer.

1.06 Project Conditions

A. Field measurements: Check actual openings for grids by accurate field measurements before fabrication. Record actual measurements on final shop drawings. Coordinate fabrication schedule with construction progress to avoid delay of work. *Specifier note: Stainless steel grids are not field adjustable therefore it is highly recommended that all stainless steel grids be ordered with optional factory template service.*

B. Recessed Conditions: IMPORTANT: Coordination with Division 03 00 00 Concrete specifications is required. For proper installation, the concrete recess must be flat and smooth throughout. If the recess is formed by a concrete contractor, the pour dimensions may require leveling grout to achieve the proper depth and a smooth finish. The final recess depth will match the specified product and must be field verified. For proper frame installation, the side walls of the concrete recess must also be straight and smooth. Inconsistencies with the recess and side walls must be remediated prior to product installation.

Part 2 - Products

2.01 Manufacturer

A. **Construction Specialties**, 3 Werner Way, Lebanon, NJ 08833 USA 800-233-8493; email cet@c-sgroup.com

B. Drawings and specifications are based on manufacturer's literature from **Construction Specialties, Inc.** unless otherwise indicated. Other manufacturers must be approved equal by Architect/Owner.

2.02 Materials

A. Stainless steel - Type 304 (316 available) stainless steel for surface wires and support structure.

2.03 Floor Grids

Model and Description - G6P(xx) GridLine 2 with tread inserts shall be manufactured from type 304 (316 available) stainless steel in 1 1/8" (28.57mm), and 5/8" (15.875mm) depth (select one, delete other). Wires to be .157" (3.99mm) x .236" (5.99mm) connected utilizing a stainless steel support structure and spaced .217 (5.51mm) apart. Utilizes a stainless steel receiver to accommodate a 1 ¼" wide carpet, recycled rubber, or SlipNot™ insert (choose one insert type, delete others). Spacing of the insert to be standard 4" (101.6mm) on center or specified by designer. Unit must withstand 500 lb./ wheel rolling loads (load applied to a solid 5" x 2" wide polyurethane wheel, 1000 passes without damage).

2.04 Tread Insert Options

(*Specifier to select one below and delete others)*

A. **HD MonoTuft HD™ Carpet** shall meet the Carpet and Rug Institute's standard for indoor air quality. Fibers shall include a minimum of 100, 12 mil monofilament fibers per square inch and colorfast, solution-dyed nylon. Available in one of 19 standard colors as offered by manufacturer. Each carpet fiber and monofilament shall be fusion-bonded to a rigid two-ply backing to prevent fraying and supplied in continuous splice-free lengths. Anti-static carpet fiber shall contain antimicrobial additive and be treated with Scotchgard® to reduce soiling. Carpet weight shall be 33-oz./yd².

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B. **EC - Exterior Carpet** shall be solution dyed polypropylene fibers with 50/50 blend of 600/12-denier multi filament and 595/D1 monofilament, available in one of 3 standard colors as offered by manufacturer. The texturized fibers have ultraviolet blockers and color as an integral part of the filament. Each carpet fiber and monofilament shall be fusion-bonded to a rigid two-ply backing to prevent fraying and supplied in continuous splice-free lengths. Waterproof fibers do not get soggy, rot, fade or stain. Carpet weight shall be 32-oz./yd².

C. **RR- Recycled Rubber** ECO Surfaces® Recycled Rubber Insert- High slip resistant rubber (SC of 90) insert manufactured with recycled rubber and EPDM (26%-90% dependent on color chosen from 22 available options).

D. **SN- SlipNot™** metallic coating applied directly to the surface of the Gridline 2 wire or to alternating strips of 1 ¼" stainless steel inserted between the surface wires (choose one insert type), with a custom spaced increment by designer.

2.05 Grid Frames

(Specifier to select one below and delete others) *[Specifier note: Although most entrance flooring systems can accommodate some variation in the flatness of grid well bases, it is recommended that the surface beneath the grid be finished with a leveling screed to ensure optimum performance of the system.]*

A. **SSA - Stainless Steel Angle Frame** shall be 1 1/4" (31.8mm) or 1" (25.4mm) (select one, delete other) deep recess in Type 304 stainless steel with 1/8" (3.2mm) exposed surface.

B. **SSA-DP - Stainless Steel Angle Frame with drain pan** shall be Type 304 stainless steel with 1/8" (3.2mm) exposed surface. Drain pan to be .050" (1.3mm) Aluminum or Stainless Steel (please choose type) with general purpose PVC drain with stainless steel strainer.

C. **SSNP- Stainless Steel Deep Pit Frame w/o drain pan (available with 1 1/8" grid depth only)** shall be Type 304 stainless steel with 1/8" (3.2mm) exposed surface at grid perimeter. Support structure to be comprised of adjustable height - aluminum support feet and legs spaced no more than 12" (304.8mm) on center. Overall depth of grid and framing system to be a minimum of 3" (76.2mm) or maximum of 8" (203.2mm) deep. Note: Rolling load capacity for this application is 300 lb. /wheel.

D. **SSDP- Stainless Steel Deep Pit Frame w/ drain pan (available with 1 1/8" grid depth only)** shall be Type 304 stainless steel with 1/8" (3.2mm) exposed surface at grid perimeter. Support structure to be comprised of adjustable height - aluminum support feet and legs spaced no more than 12" (304.8mm) on center. Overall depth of grid and framing system to be a minimum of 3" (76.2mm) or maximum of 8" (203.2mm) deep. Drain pan to be .050" (1.3mm) Aluminum or Stainless Steel (please choose type) with general purpose PVC drain with stainless steel strainer. Note: Rolling load capacity for this application is 300 lb. /wheel.

2.05 Lock Down Mechanism

A. **HL - Hidden Lock Down** shall be a 1 1/4" (31.75 mm) x 1 1/4" (31.75mm) x 1/8" (3.175mm) type 304 stainless steel hold down plate to secure Gridline to concrete surface.

Part 3 - Execution

3.01 Examination

A. Verification of conditions: 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 Preparation

A. Manufacturer shall offer assistance and guidance to provide a template of irregular shaped grid assemblies to ensure a proper installation. *Specifier note: Stainless steel grids are not field adjustable therefore it is highly recommended that all stainless steel grids be ordered with optional factory template service.*

3.03 Installation

A. Install the work of this section in strict accordance with the manufacturer's recommendations.

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B. Set grid type at height recommended by manufacturer for most effective cleaning action.
C. Coordinate top of grid surfaces with bottom of doors that swing across to provide ample clearance between door and grid.

3.04 Cleaning

A. Clean the tread surface and recessed well as frequently as possible to reduce the effects of accumulated soiling that may hinder performance and lifetime.

3.05 Protection

A. After completing required frame installation and concrete work, provide temporary filler of plywood or fiberboard in recesses, and cover frames with plywood protective flooring. Maintain protection until construction traffic has ended and project is near time of substantial completion.
B. Defer installation of floor grids until time of substantial completion of project.

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