SECTION 12 48 13

ENTRANCE FLOOR MATS AND FRAMES

**GrateDesign Rigid Grate**

PART 1 – GENERAL

1. SUMMARY
	1. Section Includes
		1. Entrance floor mats, grids, and frame assemblies.
	2. Related Requirements
		1. Division 03 - Cast-In-Place Concrete: For concrete floor slab recess, and grouting frames into recess.
		2. Division 07 - Damp-proofing.
		3. Division 23 - Sanitary Waste and Vent Piping: For floor drain if applicable.
2. 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. COORDINATION
	1. If product is to be recessed, coordinate with concrete work so that products are available for placing integrally with floor slabs.
2. SUBMITTALS
	1. Product Data: Manufacturers product specifications, installation and maintenance instructions.
	2. Shop Drawings: Show layout and types of grates and frames not less than half-scale sections of typical installations, details of patterns or designs, anchors, and accessories, and field measurements of slab recess to receive frames grates (if applicable).
	3. Samples for Selection Purposes: Actual sections of grate and frame material in a convenient but representative size showing full range of colors, textures, finishes and patterns available for each type of floor grate and frame specified.
	4. Samples for Verification Purposes: Not less than 6 inch square sections of grate material and 6 inch length of frame material in selected colors and finishes for each type of grate and frame specified.
	5. Installation, Operations and Maintenance data.
	6. 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. WARRANTY
	1. Provide manufacturer's written warranty.
	2. Warrant materials and fabrication against defects after completion and final acceptance of Work.
	3. Repair defects, or replace with new materials, faulty materials or fabrication developed during the warranty period at no expense to Owner.

PART 2 - PRODUCTS

1. ACCEPTABLE MANUFACTURERS

Nystrom

9300 73rd Avenue North

Minneapolis, MN 55428

PH: 800.547.2635

FX: 800.317.8770

1. DESIGN CRITERIA
	1. Rolling Load: 1500 lbs/wheel.
	2. Uniform Load: 80,000 lbs/sq. ft.
2. ENTRANCE SYSTEM FLOOR GRATE
	1. Model: GrateDesign Rigid Grate
	2. Aluminum Rail: ASTM B221, alloy 6063-T6
	3. Rail Finish: Rail finish shall be supplied in mill (standard) or custom colors. **(CALL FACTORY FOR CUSTOM COLORS).**
	4. Rail Spacing: 1.5 inches (38 mm)
	5. Construction: I-Beam rails joined by keylock bars spaced 6"(152.4mm) o.c. Tread cushions spaced 24" (610 mm) o.c.
	6. Fasteners: Non-corrosive screws and anchors for securing frames together and to floors
	7. Models **(SPECIFIER TO SELECT TREAD(s) BELOW AND DELETE OTHERS)**

***NOTE TO SPECIFIER: You may select two treads; for example: Premium Carpet for absorbing and Vinyl for scraping.***

* + - 1. GrateDesign rigid grate with Premium carpet tread and keylocks every 6" (152.4mm) o.c. Tread insert: Carpet fibers are 3700 denier solution-dyed woven nylon, and shall include a minimum of 100, 10 mil monofilament fibers per square inch. Available in one of 13 standard colors 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 spliced-free lengths. Fibers shall be treated with anti-stain, anti-static and anti-microbial additives. Carpet weight shall be 33 oz. /yd².
			2. GrateDesign rigid grate with RuggedScrub premium carpet tread and keylocks every 6" (152.4mm) o.c. Rugged Scrub tread insert: Crimped solution-dyed 600 denier polypropylene fibers tufted into a woven double backing and mechanically secured to tread rails. Available colors include: Charcoal, Chocolate Chip, Licorice, Tan, or Navy.
				1. 5 year warranty
			3. GrateDesign rigid grate with vinyl tread insert and keylocks every 6" (152.4mm) o.c Tread insert: rubber convex profile and continuous serrations Available colors include: Blue, Grey, Beige, Red, Dark Brown,
			4. GrateDesign rigid grate with rubber tread insert and keylocks every 6" (152.4mm) o.c. Tread insert: Black TPV rubber, with convex shape and continuous serrations. Available in Black.
			5. GrateDesign rigid grate with recycled rubber tread insert and and keylocks every 6" (152.4mm) o.c. Tread insert: ECO Surfaces® Recycled Rubber - High slip resistant rubber (SC of 90) insert manufactured with recycled rubber and EPDM (64%-92% dependent on color chosen). Available colors include: Black, Midnight Blue, Rock Storm and Milky Way
			6. GrateDesign rigid grate with vinyl abrasive tread and keylocks every 6" (152.4mm) o.c. Tread insert: Vinyl abrasive factory bonded abrasive grit. Available in Brick Red, Dark Brown, Ocean Grey, Safety Yellow, and Flat Black
			7. GrateDesign rigid grate with aluminum abrasive tread and keylocks every 6" (152.4mm) o.c. Tread insert: Serrated aluminum surface covered with aluminum oxide grit embedded in two-part epoxy coating. Available in Grey, Beige, Rose, Black, Blue and Dark Brown
			8. GrateDesign rigid grate with serrated aluminum tread and keylocks every 6" (152.4mm) o.c.
1. ENTRANCE SYSTEM FLOOR GRATE FRAME **(SPECIFIER TO SELECT ONE BELOW AND DELETE OTHERS)** **(CALL FACTORY FOR CUSTOM COLORS).**
2. F-1: Aluminum Cast-in Place, Level Bed frame, Extruded 6063-T5 aluminum alloy; 1/2” profile; 1 15/16” overall depth. Frame finish shall be supplied in mill (standard) or custom colors.
3. F-1AB: Aluminum Cast-in Place, Level Bed frame, Extruded 385 bronze alloy; 1/2” profile; 1 15/16” overall depth. Frame finish shall be supplied in mill (standard) or custom colors.
4. F-2T: Aluminum, Deep Pit frame. Extruded 6063-T5 aluminum alloy, 1/2” profile; 3” overall depth. Frame finish shall be supplied in mill (standard) or custom colors.
5. F-2C: Aluminum, Deep Pit frame. Extruded 6063-T5 aluminum alloy; 1/2” profile; 4 1/2” overall depth. Frame finish shall be supplied in mill (standard) or custom colors.
6. F-Lang: Aluminum Large Angle frame. Extruded 6063-T5 aluminum; 1/8” profile;1 7/8” overall depth. Frame finish shall be supplied in mill (standard) or custom colors.

PART 3 - EXECUTION

1. EXAMINATION
2. 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.
3. 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.
4. INSTALLATION
5. Install products in accordance with manufacturer’s instructions, at locations shown and with top of products level with adjoining finished flooring where applicable.
6. 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.

1. 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 underdoor clearance.

C. Clean dirt and debris from frame recess before installing floor system.

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

END OF SECTION