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**Mad Matter GB-200 Mad Matter GB-500**

## **PART 1 - GENERAL 1.01 SUMMARY**

### **MASTER SPECIFICATION**

#### **SECTION 12 48 13**

#### **FURNISHINGS – BASETREAD ENTRANCE SYSTEMS**

1. Section includes: [Entrance matting systems, including aluminum treads and frames]
2. Related Sections: The following sections contain requirements related to this section:
  1. Grouting frames into recess; refer to Section 03 30 00, “Cast-in-Place Concrete” and Section 03 60 00, “Grouting.”
  2. Special requirements of various flooring types; refer to Section 09400, “Terrazzo.”

#### **1.02 REFERENCES**

1. American Society for Testing and Materials (ASTM)
2. The Aluminum Association
3. The Carpet and Rug Institute (CRI)
4. The National Floor Safety Institute (NFSI)
5. Other referenced documents

1. LEED v3 and LEED v4

#### **1.03 SYSTEM DESCRIPTION**

A. Performance Requirements: Provide [aluminum entrance floor tread system], which has been manufactured and installed to maintain performance criteria stated by Manufacturer without defects, damage or failure.

#### **1.04 SUBMITTALS**

1. General: Submit listed submittals in accordance with the Conditions of the Contract and Division 1 Submittal Procedures Section.
2. Product data: Submit product data, including Manufacturer's specification sheet and installation instructions for specified products. Include methods of installation and substrate preparation for each type of substrate.
3. Sustainable Design Submittals: For projects requiring LEED submittal based on LEED v3

1. Submit documentation substantiating that GB-200 Series and GB-500

Series contain a minimum of 45.8% (HD carpet inserts) and 38.3” (all other) pre-consumer recycled content and therefore contributes to Materials & Resources Credit 4.

2. Submit documentation substantiating that the project is located within 500 miles of the manufacturing facility and therefore contributes to Materials & Resources Credit 5
3. Submit documentation substantiating that the project has permanently installed GB-200 Series or GB-500 Series at least 10 feet in length and therefore contributes to Indoor Environmental Quality Credit 5.
4. Sustainable Design Submittals: For projects requiring LEED submittal based on LEED v4
  1. Submit documentation substantiating that GB-200 Series and GB-500

Series contain a minimum of 45.8% (HD carpet inserts) and 38.3% (all other) pre-consumer recycled content and therefore contributes to Materials & Resources Credit.

2. Submit documentation substantiating that the project is located within 100 miles of the manufacturing facility and therefore contributes to Materials & Resources Regional Material Credit.
3. Submit documentation substantiating that the project has permanent entryway system at least 10 feet in length that is maintained on a weekly basis and therefore contributes to Indoor Environmental Quality Enhanced Indoor Air Quality Strategies Credit.
  5. Shop drawings: Submit shop drawings showing layout, profiles and product components, including anchorage, accessories, finish colors, patterns and textures.
  6. Samples: Submit samples for each type and color of exposed entrance mat, frames and accessories required. Provide samples of materials.
  7. Quality Assurance Submittals: (1) Certified test reports showing compliance with specified performance characteristics and physical properties, and (2) Manufacturer's Installation Instructions.
  8. Closeout Submittals: (1) Cleaning & Maintenance Data (Include methods for maintaining installed products and precautions against cleaning materials and methods detrimental to finishes and performance), and (2) Warranty.

#### 1.05 QUALITY ASSURANCE

1. Standard rolling load performance: 750 lb./wheel rating for the GB-200 product and 1,000 lb./wheel rating for the GB-500 product. (testing used 1,000 passes) ASTM F2753 Rolling Load Over Resilient Floor Covering.
2. Slip resistance in accordance with ASTM D-2047 Coefficient of Friction, minimum 0.60 for accessible routes.
3. Flammability in accordance with ASTM E648, Class 1, Critical Radiant Flux, minimum of 0.45 watts/m<sup>2</sup>. Exceeds Class 1 rating as specified in NFPA Life Safety Code 101 and IBC 804.2 Classification.
4. Corrosive resistant surpassed in PPS 1001 Corrosion testing.
5. Single Source Responsibility: Obtain floor mats/grids and frames from one source of a single manufacturer.
6. All materials are sourced domestically in the continental United States, with 99.8% of all materials being manufactured domestically. Finished product manufactured entirely in the United States.

#### 1.06 SEQUENCING/SCHEDULING

1. Ordering: Comply with Manufacturer's ordering instructions and lead-time requirements to avoid construction delays.
2. Delivery: Deliver materials in Manufacturer's original, unopened, undamaged packaging.
3. Storage: Store materials in temperature and humidity conditions recommended by Manufacturer and protect materials from exposure to harmful weather conditions.
4. Installation: Except as otherwise indicated herein, sequencing or scheduling for performance of work of this section in relation with other work is Contractor's option. Delay installation of mats until near time of substantial completion for the project.

### 1.07 PROJECT CONDITIONS

A. Temperature: Maintain temperature where products will be installed before, during and after installation as recommended by Manufacturer.

B. Field Measurements: Where possible, verify actual measurements by field measuring before fabrication and include measurements in shop drawings. To avoid construction delays, coordinate field measurements and fabrication schedule based upon construction progress.

C. Recessed Conditions: It is imperative that the concrete recess is entirely flat and smooth for successful installation. If a concrete contractor is responsible for forming the recess, the pour dimensions may require leveling grout to achieve the proper depth and a smooth finish. The final recess depth must match the specified product and must be field verified. Also, for proper frame installation, the side walls of the concrete recess must also be straight and smooth. Variances with the recess and side walls must be adjusted/corrected prior to product installation

### PART 2.01 A.

### 2 - PRODUCTS ACCEPTABLE MANUFACTURER

Provide GB-200 Series (1/2") or GB-500 Series (3/4")

### 2.02 MATERIALS

A. Exposed hinge rail connectors shall be vinyl hinge only complete with perforations for drainage. Tread rails shall be manufactured from 6063-T6 aluminum, complete with co-extruded soft- durometer combination hinge/cushion, supplied in mill finish, unless otherwise indicated (anodized – clear, light bronze, medium bronze, dark bronze or black).

1. LEED v3
  1. IEQ Credit 5: GB-200 Series and GB-500 Series are designed for permanent installation.
  2. MR Credit 4: With vinyl inserts, 45.8% pre-consumer recycled content; with all other, 38.3% pre-consumer recycled content.
  3. MR Credit 5: Material must be manufactured within 500 miles of project location.
2. LEED v4
  1. MR Sources of Raw Materials Credit: 45.8% (vinyl inserts) and 38.3% (all other) pre- consumer.
  2. MR Regional Material Credit: Material must be manufactured within 100 miles of project location.

c. IEQ Enhanced Indoor Air Quality Strategies Credit: GB-200 Series and GB- 500 Series are LEED acceptable permanent entryway systems.

B. Tread insert options for GB-200 and GB-500:

1. **MonoScape™ HD Carpet Inserts** shall meet the Carpet and Rug Institute's standard for good 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 12 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. Carpet weight shall be 33 oz./sq. yd.
2. **Polybrush Inserts** shall be solution-dyed polypropylene fibers with 4,500 total deniers, available in one of three standard colors as offered by the Manufacturer. The textured fibers have ultraviolet blockers and color as an integral part of the filament. Each polybrush carpet fiber and monofilament shall be fusion-bonded to a rigid two-ply backing to prevent fraying and supplied in continuous splice-free lengths. Carpet weight shall be 33 oz./sq. yd.
3. **Vinyl Inserts** shall include a flexible dual durometer vinyl insert in any one of three colors as offered by Manufacturer.
4. **Vinyl Abrasive Inserts** shall include a flexible abrasive grit tape, bonded to a rigid vinyl tread insert. Tread insert shall be supplied in black, complete with one of five abrasive colors as offered by Manufacturer.
5. **Serrated Aluminum Inserts** shall be extruded 6063-T6 alloy. Serrated aluminum inserts shall be in mill finish, unless otherwise indicated (anodized – clear, light bronze, medium bronze, dark bronze or black).

Framing for Aluminum Series

1. **L-2 - Aluminum Recessed Angle Frame** for GB-200 shall be a 7/16" deep recessed frame in 6063-T5 aluminum alloy with 1/8" wide exposed surface. Frame color shall be supplied in mill finish unless otherwise indicated (anodized – clear, light bronze, medium bronze, dark bronze or black).
2. **L-5 – Aluminum Recessed Angle Frame** for GB-500 shall be a 3/4" deep recessed frame in 6063-T5 aluminum alloy with 1/8" wide exposed surface. Frame color shall be supplied in mill finish unless otherwise indicated (anodized – clear, light bronze, medium bronze, dark bronze or black).
3. **THFR - Threshold Frame (option for GB-200)** shall be supplied in 6063-T5 aluminum alloy. For surface/recess installations to provide a flush transition from the entryway door threshold to the tread surface. The frame does not require a leveling screed. The threshold frame shall be supplied in mill finish unless otherwise indicated (anodized – clear, light bronze, medium bronze, dark bronze or black).

## PRODUCT SUBSTITUTIONS

A. Substitutions: No substitutions permitted.

## PART 3 – EXECUTION

### 3.01 SUBSTRATE PREPARATION

A. Examine substrates and conditions where floor mats will be installed. Do not proceed with installation until unsatisfactory conditions are corrected. Subfloor shall be clean and dry, and within acceptable tolerances.

### 3.02 INSTALLATION

1. Sizes: Shop-fabricate units of floor mat to greatest extent possible in sizes as indicated. Where not indicated otherwise, provide single unit for each mat installation, but do not exceed manufacturer's maximum size recommendation for units intended for removal and cleaning. Where joints in mats are necessary, space symmetrically and away from normal traffic lanes. Miter corner joints in framing elements with hairline joints or provide prefabricated corner units without joints. Where possible, verify sizes by field measurement before shop fabrication.
2. Accessories: [Where indicated for recessed or wall-to-wall installations, provide aluminum framework as recommended by Manufacturer.]
3. General: Strictly comply with Manufacturer's installation instructions and recommendations. Coordinate installation with adjacent work to ensure proper clearances and to prevent tripping hazards.

### 3.03 CLEANING AND PROTECTION

1. General Cleaning: Refer to Manufacturer's Cleaning and Maintenance Instructions.
2. Owner's Personnel: Instruct Owner's personnel in proper maintenance procedures.
3. Protection: Protect installed product and finish surfaces from damage during construction and until acceptance.

END OF SECTION

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## Field Joining Instructions GB-200 and GB-500

1. Upon receiving mats, unroll them and allow to lay flat for at least an hour allowing the hinge material to relax. Amount of time will vary based on installation conditions.
2. Determine location of each section to be field joined so that the appropriate sections line up. For example, if there are three sections, make sure the bottom of section “A” is matched up to the top of section “B” while the bottom of section “B” will need to be matched up with the top of section “C.”



3. Once all sections are laid out in their respective order, remove the set screw from the top rail of section “B” using a 3/32” hex wrench (provided in the field join kit). This rail should have a hinge connected to the top of it.
4. Slide the rail off the top of that mat section, and pull section “A” up to section “B” to be joined.



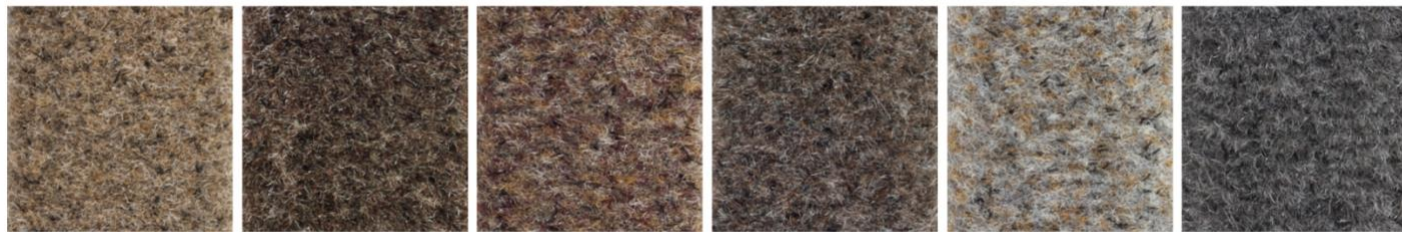
5. Once the sections of mat are lying next to each other, slide the removed rail back into place joining it with the hinge-receiving rail on the bottom of section “A” and the top of section “B.”



6. Once the two sections are joined with the rail, put a set screw in the open-hinge channels to securely hold the sections together.



## Carpet Insert Colors



Espresso

Suede

Java

Spice

Silvermine

Charcoal



Fernwood

Denim

Cast Iron

Black Iron

Onyx

Gray Castle



Shadow

## Poly-Brush Insert Colors

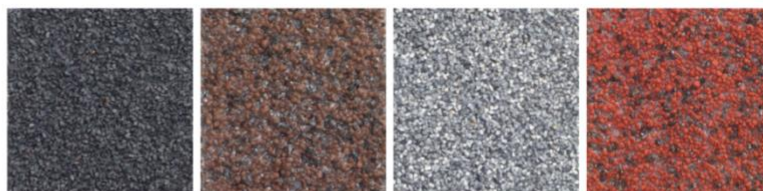


Charcoal

Chocolate Brown

Gray

## Abrasive Insert Colors



Black

Dark Brown

Gray

Brick Red

## Serrated Metal Insert



Serrated Metal

## Vinyl Insert Colors



Black

Brown

Gray



## INSTALLATION INSTRUCTIONS

Mid-Profile Roll Grate 3/4" & Roll Up Tread 1/2"

### Guidelines:

Before any installation is started, be sure to verify:

- Model of tread and frame
- Size of tread and frame
- Product color
- That there are no visual defects or damage from shipment

**Important: No returns will be accepted after the material has been installed.**

**Failure to follow these installation instructions may void your warranty.**

### Mad Matter Shallow Recessed Installation Instructions:

1. Prepare a recess in the concrete flooring at least 1/2" deep (for Roll Up Tread 1/2") or 3/4" deep (Mid-Profile Roll Grate 3/4") for frame. The designated cut out area will also be the outside frame dimension. Consult your shop drawing for proper depth and overall outside frame dimensions.
2. Drill holes in the frame at 18 to 24-inch intervals for the bolts/screws. Countersink the holes as the tread will set inside the frame. (This prevents tread from riding up.)
3. Set the frames into position within the recess. Mark the hole locations on the concrete. Remove the frames and drill holes in the floor for the anchors. Clean the concrete dust away and install the anchors.
4. Reinstall the frames using the appropriate anchor bolts. If needed, shim under the frame sections so the top edge of the frame is flush with the finished floor and level.
5. Secure the frame to the concrete bed (straight down) using anchor bolts or screws of choice that are set vertically. Stainless steel screws and plastic anchors may also be used.
6. Pour concrete (using non-shrinking grout) around the edges of the frame (if needed) and in the center of the frame, level with the inside lip of the frame.
7. Level the concrete. Use a board slightly smaller than the frame opening and level the concrete in each part of the recess. Make sure the concrete (using non-shrinking grout) is smooth and level with the leg of the frame so the tread lies perfectly flat and will not shift.
8. Before the concrete hardens, verify that the dimensions are correct, frame is square and level, and the frame corners are at correct angles, so the mat will fit properly. Verify the outside frame dimensions are identical to your shop drawing.

9. After concrete has hardened, install plywood into the recess to fully protect the frame edges until the entrance is opened and the mat is installed.
10. Clean all frames and recess before installing mat; debris cannot be tolerated between the frame and tread.

### **Recessed Mat Fabrication Instructions:**

1. Place mat to be cut on sturdy tabletop surface. On one end of the table, fasten a straight edge bar or angle piece to serve as a stop edge for one end of the product. Be sure bar is square on the table.
2. Butt one end of the mat tight to bar fastened to table. Secure width of mat (traffic direction) to the table with screws in between drain holes of hinge.
3. Measure to desired length to be cut and mark product with fine tip black marker.
4. If trimming only 1/4" or so, cut carefully with a portable band saw. Prior to cutting it would be ideal to clamp an additional bar or straight edge to top of product to hold mat steady. If trimming more than 1/4" or so, a circular saw with a sturdy carbide-tipped blade would work just as well. Use a straight edge or angle piece for saw to travel against to achieve a nice even cut. **Be sure to clamp straight edge to product prior to cut.**
5. After cut, clean any smudges or markings with lacquer thinner. Remove set screws from cut-off pieces and install set screws to secure hinge in rails. Brush out ends of tread, then singe with a propane torch (on low setting).
6. Clean up product and return to service.

### **Recessed Rail Removal/Addition Instructions:**

1. Use an H-3 (3/32") Hex Tip Bit Driver, or a 3/32" Allen Wrench Hex Key.
2. Install the driver bit in the tip of a cordless hand drill, screw gun, or use the wrench for manual removal.
3. Back out set screws in the sockets at the ends of the rails.
4. Slide rail forward to remove rail from mat.
5. Using the same process in reverse, reassemble and re-set screw remaining mat pieces together.

## CLEANING & MAINTENANCE INSTRUCTIONS

The following cleaning and maintenance instructions are for Recessed products.

### General:

- ➤ During the winter season, remove product and clean rails once per week. During other seasons, once per month should be sufficient.
- ➤ Debris between the rails should be removed during the cleaning process. Each time the rails are cleaned, make sure there is no debris underneath in the recess; this will prevent product from warping due to an uneven substrate and prevent long-term problems. (Vacuuming is the most effective method for this cleaning.)
- ➤ If the units are above a drain, ensure that nothing is blocking the water flow to the drain.
- ➤ Never apply wax or other polishing products to the surface of the units; this would create a potential hazard.

### Specifics:

- ➤ Clean aluminum surfaces with soap and hot water, then allow mat to dry.
- ➤ If applicable, periodically clean carpet and scraping inserts with a hot water extraction machine to remove soil and restore pile.

## **POTENTIAL LEED CREDITS**

### **for projects using Recessed Mats (based on LEED-NC, version 3)**

➤ **Indoor Environmental Quality Credit 5 (1 point): Indoor Chemical & Pollutant Source Control**

Recessed products are intended for permanent installation. To qualify for IEQ Credit 5, the product must be at least 10 feet in length in the primary direction of travel. Recessed products may contribute to LEED IEQ Credit 5.

➤ **Materials & Resources Credit 4 (1-2 points): Recycled Content**

Recessed products are manufactured from approximately 49% pre-consumer recycled content. Recessed Series products may contribute to LEED MR Credit 4.

- Recessed Series products with HD carpet or polybrush insert have 45.8% pre-consumer recycled content.
- Recessed Series products with all other inserts have 38.30% pre-consumer recycled content.

➤ **Materials & Resources Credit 5 (1-2 points): Regional Materials**

The manufacturing facilities are located in Minnesota, USA. Depending upon the project location, using these products may qualify for LEED MR Credit 5.

## Warranty

The Mad Matter, Inc warrants to its purchasers, for a period of two years on standard products from the date of shipment, that any entrance floor mat or grid will be free of defects in workmanship and materials. The liability of The Mad Matter, Inc is strictly limited to repair or replacement of the product that, in our opinion, were properly installed and subsequently found defective. The warranty is not applicable if the mats or grids are damaged by overloading or if standard cleaning and maintenance procedures are not respected. No claims for consequential damages of any nature will be allowed. This warranty is in lieu of all other warranties, expressed or implied.