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This MANU-SPEC® utilizes the Construction Specifications Institute (CSI) *Project Resource Manual* (PRM), including *MasterFormat*™, *SectionFormat*™ and *PageFormat*™. A MANU-SPEC is a manufacturer-specific proprietary product specification using the proprietary method of specifying applicable to project specifications and master guide specifications. Optional text is indicated by brackets []; delete optional text in final copy of specification. Specifier Notes typically precede specification text; delete notes in final copy of specification. Trade/brand names with appropriate symbols typically are used in Specifier Notes; symbols are not used in specification text. Metric conversion, where used, is soft metric conversion.

This MANU-SPEC specifies door thresholds. These products are manufactured by Hager Companies. Revise MANU-SPEC section number and title below to suit project requirements, specification practices and section content. Refer to CSI *MasterFormat* for other section numbers and titles.

**SECTION 08 71 00
 DOOR HARDWARE**

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:

1. Door Thresholds:
 - a. Saddle Thresholds.
 - b. Thermal Barrier Thresholds.
 - c. Panic Thresholds.
 - d. Thermal Barrier Panic Thresholds.
 - e. Half Saddle Threshold.
 - f. Floor Plate Assembly.
 - g. Bumper Thresholds.
 - h. Carpet Thresholds.
 - i. Interlocking Thresholds.
 - j. Residential Thresholds.
 - k. Abrasive Cast Aluminum Thresholds.
 - l. Cover Plates.
 - m. Threshold Anchors.
 - n. Abrasive Cast Aluminum Nosings.
 - o. Threshold Cover Plate Assembly for Saddle Floor Closers.

Specifier Note: Revise paragraph below to suit project requirements. Add section numbers and titles in accordance with CSI *MasterFormat* and specifier's practice.

B. Related Sections:

1. Section [01 33 00 - Submittal Procedures] [_____].



2. Section [01 45 00 - Quality Control] [_____].
3. Section [01 78 00 - Closeout Submittals] [_____].
4. Section [08 11 00 - Metal Doors and Frames] [_____].
5. Section [08 11 16 - Aluminum Doors and Frames] [_____].
6. Section [08 14 16 - Flush Wood Doors] [_____].

Specifier Note: Article below may be omitted when specifying manufacturer's proprietary products and recommended installation. Retain Reference Article when specifying products and installation by an industry reference standard. If retained, list standard(s) referenced in this section. Indicate issuing authority name, acronym, standard designation and title. Establish policy for indicating edition date of standard referenced. Conditions of the Contract or Division 01 References Section may establish the edition date of standards. This article does not require compliance with standard, but is merely a listing of references used. Article below should list only those industry standards referenced in this section. Retain only those reference standards to be used within the text of this Section. Add and delete as required for specific project.

1.02 REFERENCES

- A. American National Standards Institute/Builders Hardware Manufacturers Association (ANSI/BHMA):
 1. ANSI/BHMA A156.21 - Thresholds.

Specifier Note: Article below includes submittal of relevant data to be furnished by Contractor before, during or after construction. Coordinate this article with Architect's and Contractor's duties and responsibilities in Conditions of the Contract and Division 01 Submittal Procedures Section.

1.03 SUBMITTALS

- A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 01 Submittal Procedures.
- B. Product Data: Submit manufacturer's complete product literature for specified hardware items, detailed installation diagrams and instructions, including:
 1. Preparation instructions and recommendations.
 2. Storage and handling requirements and recommendations.
 3. Installation methods.
 4. Manufacturer's SPEC-DATA® product sheet.
- C. Samples:

Specifier Note: Describe specific types and quantities of samples required to determine style, finish or other characteristics.

1. Submit samples upon request.
 2. Identify each sample by label indicating applicable specification paragraph number, brand name and number, finish and hardware package number.
 3. After approval, samples will be returned for incorporation into work.
- D. Templates: Submit templates detailing installation procedures, including layout, dimensions and placement of hardware.

Specifier Note: Coordinate paragraph below with Part 3 Field Quality Requirements Article. Retain or delete as applicable.

- E. Closeout Submittals: Submit the following:
 1. Warranty: Manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under Contract Documents.

1.04 QUALITY ASSURANCE

- A. Qualifications: Installer experienced in performing work of this section who has specialized in installation of work similar to that required for this project.

Specifier Note: Paragraph below should list obligations for compliance with specific code requirements particular to this section. General statements to comply with a particular code are typically addressed in Conditions of the Contract and Division 01 Regulatory

Requirements Section. Repetitive statements should be avoided.

- B. Preinstallation Meetings: Conduct preinstallation meeting to verify project requirements, manufacturer's installation instructions and manufacturer's warranty requirements. Comply with Division 01 Project Management and Coordination (Project Meetings).

1.05 DELIVERY, STORAGE & HANDLING

- A. General: Comply with Division 01 Product Requirements.
- B. Ordering: Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.
- C. Delivery, Storage and Protection:
 - 1. Deliver, store and handle in accordance with Section [01 61 00 - Common Product Requirements] [_____].
 - 2. Deliver, store and handle materials in accordance with manufacturer's written instructions.
 - 3. Deliver in original packaging with labels and identification intact.
 - 4. Ship hardware items in lots coordinated with openings, as numbered in door schedule.
 - 5. Inspect hardware items upon delivery to ensure that specified products have been received.
 - 6. Store hardware items in secure dry location, protected from weather until ready for installation.
- D. Waste Management and Disposal:

Specifier Note: Environment: The disposal of packaging waste into landfill site demonstrates an inefficient use of natural resources and consumes valuable landfill space.

- 1. Separate waste materials for [Reuse] [And] [Recycling] [_____] in accordance with Section [01 74 19 - Construction Waste Management and Disposal] [_____].
- 2. Remove from site and dispose of packaging materials at appropriate recycling facilities.
- 3. Collect and separate for disposal [Paper] [Plastic] [Polystyrene] [Corrugated cardboard] [_____] packaging material [In appropriate onsite bins] [_____] for recycling.

1.06 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

Specifier Note: Coordinate article below with Conditions of the Contract and with Division 01 Closeout Submittals (Warranty).

1.07 WARRANTY

- A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.
- B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under Contract Documents. Manufacturer's standard warranty: one calendar year from date of delivery to Project.

PART 2 PRODUCTS

Specifier Note: Retain article below for proprietary method specification. Add product attributes, performance characteristics, material standards and descriptions as applicable. Use of such phrases as "or equal" or "or approved equal" or similar phrases may cause ambiguity in specifications. Such phrases require verification (procedural, legal and regulatory) and assignment of responsibility for determining "or equal" products.

2.01 DOOR THRESHOLDS

- A. Manufacturer: Hager Companies.
 - 1. Contact: 139 Victor St., St. Louis, MO 63104; Telephone: (800) 325-9995, (314) 772-4400; Fax: (800) 782-0149; E-mail: webmaster@hagerco.com; website: www.hagerco.com.
- B. Proprietary Products/Systems: Hager Door Thresholds and Accessories.

Specifier Note: Repeat the following article when more than one type of saddle threshold is required for project. Refer to Hager

Companies door hardware catalog when selecting and specifying thresholds.

1. Saddle Thresholds:

- a. Applicable Standard: ANSI/BHMA A156.21.
- b. Size: Height [5/16 inch (7.9 mm)] [____ inch (____) mm], width [2 1/2 inches (64 mm)] [____ inches (____) mm], length to suit door opening.
- c. Material: [Aluminum] [Mill finish bronze] [____].

Specifier Note: Refer to Hager Companies product catalog for product finish designations.

- d. Finish: [Mill finish aluminum] [Dark bronze aluminum] [Gold anodized aluminum] [Mill finish brass (bronze)] [Stainless steel] [____].
- e. Fasteners: #10 × 1 1/2 inches (38 mm) flathead wood screws.
- f. Coating: [Non-slip abrasive] [None].
- g. Surface: [Serrated] [Smooth].
- h. Handicap accessible.

Specifier Note: Select and specify raised extension to suit project requirements. When project does not include elevators, delete the following article.

- i. Special Applications: Raised extension for use with elevator thresholds, material and finish to match threshold.

Specifier Note: Select or delete following sentences to suit chosen hardware. Refer to Hager Companies product catalog for description of part number.

- j. Acceptable Materials: Hager Companies Part Number [____].

Specifier Note: Repeat the following article when more than one type of thermal barrier threshold is required for project. Refer to Hager Companies door hardware catalog when selecting and specifying thresholds.

2. Thermal Barrier Thresholds:

- a. Applicable Standard: ANSI/BHMA A156.21.
- b. Size: Height: 1/2 inch (12.7 mm), width [4 inches (102 mm)] [____ inches (____) mm], length to suit door opening.
- c. Material: [Aluminum] [Mill finish bronze] [____].
- d. Finish: [Mill finish aluminum] [Dark bronze aluminum] [Gold anodized aluminum] [____].
- e. Fasteners: #10 × 1 1/2 inches (38 mm) flathead wood screws.
- f. Coating: [Non-slip abrasive] [None].
- g. Surface: Serrated.
- h. Handicap accessible.

Specifier Note: Select or delete following sentences to suit chosen hardware. Refer to Hager Companies product catalog for description of part number.

- i. Acceptable Materials: Hager Companies Part Number [____].

Specifier Note: Repeat the following article when more than one type of panic threshold is required for project. Refer to Hager Companies door hardware catalog when selecting and specifying thresholds.

3. Panic Thresholds:

- a. Applicable Standard: ANSI/BHMA A156.21.
- b. Size: Height [1/2 inch (12.7 mm)] [____ inches (____) mm], width [5 inches (127 mm)] [____ inches

(_____) mm], length to suit door opening.

- c. Material: [Extruded aluminum] [Bronze].

Specifier Note: Refer to Hager Companies product catalog for product finish designations.

- d. Finish: [Mill finish aluminum] [Dark bronze aluminum] [Gold anodized aluminum] [Mill finish brass (bronze)] [_____].
- e. Fasteners: #10 × 1 1/2 inches (38 mm) flathead wood screws.
- f. Coating: [Non-slip abrasive] [None].
- g. Surface: [Serrated] [Smooth].
- h. Handicap accessible.
- i. Door Seal Insert: Replaceable [Vinyl] [Neoprene] [Silicon] [Pile].

Specifier Note: Select or delete following sentences to suit chosen hardware. Refer to Hager Companies product catalog for description of part number.

- j. Acceptable Materials: Hager Companies Part Number [_____].

Specifier Note: Repeat the following article when more than one type of thermal barrier panic threshold is required for project. Refer to Hager Companies door hardware catalog when selecting and specifying thresholds.

4. Thermal Barrier Panic Thresholds:

- a. Applicable Standard: ANSI/BHMA A156.21.
- b. Size: Height 7/8 inch (22.2 mm), width [4 1/8 inches (105 mm)] [_____ inches (_____) mm], length to suit door opening.
- c. Material: [Extruded aluminum].

Specifier Note: Refer to Hager Companies product catalog for product finish designations.

- d. Finish: [Mill finish aluminum] [Dark bronze aluminum].
- e. Fasteners: #10 × 1 1/2 inches (38 mm) flathead wood screws.
- f. Coating: [Non-slip abrasive] [None].
- g. Surface: Serrated.
- h. Door Seal Insert: Replaceable [Vinyl] [Neoprene] [Silicon] [Pile].

Specifier Note: Select or delete following sentences to suit chosen hardware. Refer to Hager Companies product catalog for description of part number.

- i. Acceptable Materials: Hager Companies Part Number [_____].

Specifier Note: Repeat the following article when more than one type of half saddle threshold is required for project. Refer to Hager Companies door hardware catalog when selecting and specifying thresholds.

5. Half Saddle Threshold:

- a. Applicable Standard: ANSI/BHMA A156.21.
- b. Size: Height [1/2 inch (12.7 mm)] [_____ inch (_____) mm], width [3 inches (76 mm)] [_____ inches (_____) mm], length to suit door opening.
- c. Material: [Extruded aluminum] [Bronze] [_____].

Specifier Note: Refer to Hager Companies product catalog for product finish designations.

- d. Finish: [Mill finish aluminum] [Dark bronze aluminum] [Gold anodized aluminum] [Mill finish brass (bronze)] [_____].

- e. Fasteners: #10 × 1 1/2 inches (38 mm) flathead wood screws.
- f. Coating: [Non-slip abrasive] [None].
- g. Surface: Serrated.
- h. Handicap accessible.

Specifier Note: Select or delete following sentences to suit chosen hardware. Refer to Hager Companies product catalog for description of part number.

- i. Acceptable Materials: Hager Companies Part Number [_____].

Specifier Note: Repeat the following article when more than one type of floor plate assembly is required for project. Refer to Hager Companies door hardware catalog when selecting and specifying thresholds.

6. Floor Plate Assembly:

- a. Type: [Flat] [Beveled] [Sloped] [_____] [With fastener holes provided].
- b. Size: Length [2 inches (51 mm)] [_____ inches (_____) mm] [Length to suit door opening].
 - 1) Height: [_____ inches (_____) mm].
- c. Material: [Extruded aluminum] [Bronze].

Specifier Note: Refer to Hager Companies product catalog for product finish designations.

- d. Finish: [Mill finish aluminum] [Dark bronze aluminum] [Gold anodized aluminum] [Mill finish brass (bronze)].

Specifier Note: Plates are supplied without holes and fasteners unless otherwise specified. Remove following sentence when holes and fasteners are not required.

- e. Fasteners: #10 × 1 1/2 inches (38 mm) flathead wood screws.
- f. Coating: [Non-slip abrasive] [None].
- g. Surface: Serrated.

Specifier Note: Select or delete following sentences to suit chosen hardware. Refer to Hager Companies product catalog for description of part number.

- h. Acceptable Materials: Hager Companies Part Number [_____].

Specifier Note: Repeat the following article when more than one type of bumper threshold is required for project. Refer to Hager Companies door hardware catalog when selecting and specifying thresholds.

7. Bumper Thresholds:

- a. Applicable Standard: ANSI/BHMA A156.21.
- b. Size: Height [5/8 inch (15.9 mm)] [_____ inch (_____) mm], width [3 1/8 inches (79 mm)] [_____ inches (_____) mm], length to suit door opening.
- c. Material: Extruded aluminum.

Specifier Note: Refer to Hager Companies product catalog for product finish designations.

- d. Finish: [Mill finish aluminum] [Dark bronze aluminum] [Gold anodized aluminum] [_____].
- e. Fasteners: #10 × 1 1/2 inches (38 mm) flathead wood screws.
- f. Coating: [Non-slip abrasive] [None].
- g. Surface: Serrated.
- h. Door Seal Insert: Replaceable [Vinyl] [Neoprene] [Silicon] [Pile] [_____].

Specifier Note: Select or delete following sentences to suit chosen hardware. Refer to Hager Companies product catalog for description

of part number.

- i. Acceptable Materials: Hager Companies Part Number [_____].

Specifier Note: Repeat the following article when more than one type of carpet threshold is required for project. Refer to Hager Companies door hardware catalog when selecting and specifying thresholds.

8. Carpet Thresholds:

- a. Applicable Standard: ANSI/BHMA A156.21.
- b. Type: [Edge] [Divider] [ADA accessible].
- c. Size: Height [1/2 inch (12.7 mm)] [_____ inch (_____) mm], width [2 inches (51 mm)] [_____ inch(es) (_____) mm], length to suit door opening.
- d. Material: Extruded aluminum.

Specifier Note: Refer to Hager Companies product catalog for product finish designations.

- e. Finish: [Mill finish aluminum] [Dark bronze aluminum] [Gold anodized aluminum] [_____].
- f. Fasteners: #10 × 1 1/2 inches (38 mm) flathead wood screws.
- g. Coating: [Non-slip abrasive] [None].
- h. Surface: Serrated.

Specifier Note: Select or delete following sentences to suit chosen hardware. Refer to Hager Companies product catalog for description of part number.

- i. Acceptable Materials: Hager Companies Part Number [_____].

Specifier Note: Repeat the following article when more than one type of interlocking threshold is required for project. Refer to Hager Companies door hardware catalog when selecting and specifying thresholds.

9. Interlocking Thresholds:

- a. Applicable Standard: ANSI/BHMA A156.21.
- b. Size: Height [5/16 inch (7.9 mm)] [_____ inch (_____) mm], width [1 1/2 inches (38 mm)] [_____ inches (_____) mm], length to suit door opening.
- c. Material: [Extruded aluminum] [Bronze] [_____].

Specifier Note: Refer to Hager Companies product catalog for product finish designations.

- d. Finish: [Mill finish aluminum] [Dark bronze aluminum] [Gold anodized aluminum] [Mill finish brass (bronze)] [_____].
- e. Fasteners: #10 × 1 1/2 inches (38 mm) flathead wood screws.
- f. Coating: [Non-slip abrasive] [None].
- g. Surface: Serrated.

Specifier Note: Select or delete following sentences to suit chosen hardware. Refer to Hager Companies product catalog for description of part number.

- h. Acceptable Materials: Hager Companies Part Number [_____].

Specifier Note: Repeat the following article when more than one type of residential threshold is required for project. Refer to Hager Companies door hardware catalog when selecting and specifying thresholds.

10. Residential Thresholds:

- a. Applicable Standard: ANSI/BHMA A156.21.

- b. Size: Height [1/2 inch (12.7 mm)] [____ inch (____) mm], width [3 1/2 inches (89 mm)] [____ inches (____) mm], length to suit door opening.
- c. Material: Extruded aluminum.

Specifier Note: Refer to Hager Companies product catalog for product finish designations.

- d. Finish: [Mill finish aluminum] [Dark bronze aluminum] [Gold anodized aluminum] [____].
- e. Fasteners: #10 × 1 1/2 inches (38 mm) flathead wood screws.
- f. Coating: [Non-slip abrasive] [None].
- g. Surface: Serrated.
- h. Door Seal Insert: Replaceable vinyl.

Specifier Note: Refer to Hager Companies product catalog for description of part number.

- i. Acceptable Materials: Hager Companies Part Number [____].

Specifier Note: Repeat the following article when more than one type of abrasive cast aluminum threshold is required for project. Refer to Hager Companies door hardware catalog when selecting and specifying thresholds.

11. Abrasive Cast Aluminum Thresholds:

- a. Applicable Standard: ANSI/BHMA A156.21.
- b. Type: Heavy duty aluminum with silicon carbide granules cast into surface, [Standard] [Interlocking] [Half saddle] [____].
- c. Size: Height as required by profile, width [4 inches (102 mm)] [5 inches (127 mm)] [6 inches (152 mm)], length to suit door opening.
- d. Material: Cast aluminum.
- e. Finish: Cast aluminum.
- f. Fasteners: #10 × 1 1/2 inches (38 mm) flathead wood screws.
- g. Surface: [Serrated] [Smooth].
- h. Coating: Silicon carbide granules cast into surface.

Specifier Note: Refer to Hager Companies product catalog for description of part number.

- i. Acceptable Materials: Hager Companies Part Number [____].

Specifier Note: Repeat the following article when more than one type of cover plate is required for project. Refer to Hager Companies door hardware catalog when selecting and specifying threshold accessories.

12. Cover Plates:

- a. Finish: Mill finish aluminum.
- b. Width: [3 inches (76 mm)] [____] [24 inches (610 mm)].
- c. Height: [1/8 inch (3.2 mm)] [1/4 inch (6.4 mm)].

Specifier Note: Refer to Hager Companies product catalog for description of part number.

- d. Acceptable Materials: Hager Companies Part Number [676S] [677S].
- e. Surface: Smooth.
- f. Handicap accessible.

Specifier Note: Repeat the following article when more than one type of threshold anchor is required for project. Refer to Hager Companies door hardware catalog when selecting and specifying threshold accessories.

- 13. Threshold Anchors:
 - a. Finish: Mill finish aluminum.
 - b. Width: 2 7/8 inches (73 mm).
 - c. Height: 1 inch (25.4 mm).

Specifier Note: Refer to Hager Companies product catalog for description of part number.

- d. Acceptable Materials: Hager Companies Part Number 619S.

Specifier Note: Repeat the following article when more than one type of abrasive cast aluminum nosing is required for project. Refer to Hager Companies door hardware catalog when selecting and specifying threshold accessories.

- 14. Abrasive Cast Aluminum Nosings:
 - a. Finish: Cast aluminum.
 - b. Width: [3 inches (76 mm)] [4 inches (102 mm)] [5 inches (127 mm)] [6 inches (152 mm)].
 - c. Height: [9/16 inch (14.3 mm)] [5/8 inch (15.9 mm)] [1 5/16 inches (33 mm)].

Specifier Note: Refer to Hager Companies product catalog for description of part number.

- d. Acceptable Materials: Hager Companies Part Number [640S] [641S] [642S].
- e. Surface: Serrated.
- f. Coating: Silicon carbide granules cast into surface.

Specifier Note: Repeat the following article when more than one type of threshold cover plate assembly for saddle floor closers is required for project. Refer to Hager Companies door hardware catalog when selecting and specifying threshold accessories.

- 15. Threshold Cover Plate Assembly for Saddle Floor Closers:
 - a. Finish: [Mill finish aluminum] [Dark bronze anodized] [Mill finish brass (bronze)].
 - (1) Size: [1/2 inch x 7 inches (12.7 x 178 mm)] [1/2 inch x 5 inches (12.7 x 127 mm)] [1/2 inch x 7 inches x 4 inches.7 x 178 x 102 mm)].

Specifier Note: Refer to Hager Companies product catalog for description of part number.

- b. Acceptable Materials: Hager Companies Part Number [651S] [652S] [653S] [654S] [655S].
- c. Handicap accessible.
- d. Coating: [None] [Sure-Step non-slip abrasive].
- e. [Center] [Offset] hung [With] [Without] mitered ends.

Specifier Note: Edit Paragraph below to suit project requirements. If substitutions are permitted, edit text below. Add text to refer to Division 01 Project Requirements (Product Substitutions Procedures) Section.

2.02 PRODUCT SUBSTITUTIONS

- A. Substitutions: No substitutions permitted.

PART 3 EXECUTION

3.01 MANUFACTURER'S INSTRUCTIONS

Specifier Note: Article below is an addition to the CSI *SectionFormat* and a supplement to MANU-SPEC. Revise article below to suit project requirements and specifier's practice.

- A. Compliance: Comply with manufacturer's written data, including product technical bulletins, product catalog installation instructions, product carton installation instructions and Hager SPEC-DATA sheets.

3.02 EXAMINATION

A. Site Verification of Conditions:

1. Verify that substrate conditions are acceptable for product installation in accordance with manufacturer's instructions.
2. Clean surfaces thoroughly prior to installation.
3. Prepare surfaces using methods recommended by manufacturer for achieving best result for substrate under project conditions.

3.03 INSTALLATION

- A. Assembly: Install in accordance with manufacturer's instructions.

3.04 ADJUSTING

- A. Adjust thresholds and accessories to allow for unobstructed door operation.

3.05 PROTECTION

- A. Protect installed products until completion of project.
B. Touch up, repair or replace damaged products before Substantial Completion.

3.06 FIELD QUALITY CONTROL

- A. Site Tests, Inspection: Inspect completed assembly for proper level and alignment, after installation and prior to final acceptance. Report component damage to [Supplier] [_____].

3.07 COMPLETION & CLEANUP

- A. Proceed in accordance with Section [01 74 00 - Cleaning and Waste Management] [_____].
B. Upon completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.

END OF SECTION