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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 sliding door hardware. 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. Bypass door hardware.
 2. Bifold door hardware.
 3. Pocket door hardware.
 4. Pocket door kit.
 5. Sliding door components:
 - a. Guides.
 - b. Hangers and hanger components.
 - c. Knobs and pulls.
 - d. Pivots and hinges.
 - e. Stops.
 - f. Track and track components.

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 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 A156.14 Sliding and Folding Door Hardware.
 - 2. ANSI/BHMA A156.18 Materials & Finishes.

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 Section [01 61 00 - Common 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 materials in accordance with manufacturer's written instructions.
 - 2. Deliver in original packaging with labels and identification intact.
 - 3. Ship hardware items in lots coordinated with openings, as numbered in door schedule.
 - 4. Inspect hardware items upon delivery to ensure that specified products have been received.
 - 5. 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 SLIDING DOOR HARDWARE

- 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 Sliding Door Hardware.

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

- 1. Bypass Door Hardware: To ANSI/BHMA A156.14, Type [D8731] [D8741] [D8742] [D8751] [D8752] [_____] ; With [3 7/8 inches (98 mm)] [3 1/2 inches (89 mm)] [3 inches (76 mm)] [2 5/8 inches (67 mm)] [1 3/4 inches (44.5 mm)] fascia.
 - a. Track: [Extruded aluminum] [Galvanized steel]
 - b. [_____] with [V] [Twin V] [I-beam] [Box track] [Double box track] [Double I-beam] -shaped rails.
 - c. Hanger: [Adjustable] [Jump-proof box design] with [4] [_____] [Side mounted] [7/8 inch (22.2 mm)] [_____] [Heavy

duty nylon] [Celcon] wheels with steel ball bearings [Mounted on steel shafts].

- d. Capacity: Door thickness range [_____] inches (____ mm) to [_____] inches (____ mm) door weight to [275 lb (125 kg)] [_____].

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

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

2. Bifold Door Hardware: To ANSI/BHMA A156.14, Type [D8621] [D8641] [D8642] [D8651] [D8652] [D8661] [D8662] [____], [With full mortise hinges] [With bifold hinge, pivot].

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

- a. Track: [Galvanized finish steel] [Extruded aluminum] [_____] [Box style] with [I] [V] -shaped rails.
 b. Hanger: [Adjustable] [Jump-proof box design] with [4] [_____] [Side mounted] [7/8 inch (22.2 mm)] [_____] [Heavy duty nylon] [Celcon] wheels with steel ball bearings [Mounted on steel shafts].
 c. Capacity: Door thickness range [_____] inches (____ mm) to [_____] inches (____ mm); door weight [50.69 lb (23 kg)] [_____] per panel [Bi] [Multi] -fold.
 d. Pivots: [Heavy duty top] [And] [Bottom {Only with jamb bracket}] [With {Ball bearing} {Solid brass} bottom socket assembly].

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

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

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

3. Pocket Door Hardware: To ANSI/BHMA A156.14, Type [D8681] [D8711] [____].
 a. Track: Extruded aluminum with [I] [V] [Box style twin V] -shaped rails.
 b. Hanger: [Jump-proof design] with [4] [_____] [7/8 inch (22.2 mm)] [_____] [Heavy duty nylon] [Lubricated Celcon] wheels with steel ball bearings [Mounted on steel shafts].
 c. Capacity: Door thickness range [_____] inches (____ mm) to [_____] inches (____ mm); door weight to [125.63 lb (57 kg)] [_____].

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

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

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

4. Pocket Door Kit: To ANSI/BHMA A156.14, Type [D8671] [D8701] [____], with [1 preassembled header assembly], [2 heavy duty hangers] [{2} {3} pairs steel encased, 3/4 inch (19 mm), 1 5/8 inches (41 mm) wood split studs] [2 door hanger plates] [1 adjusting wrench] [1 end bracket] [1 bumper stop] [1 pair of door guides] [2 floor plates] [1 end bracket].
 a. Track: [Galvanized steel] [Heavy duty aluminum] [Box design] [Jump-proof].
 b. Hanger Bearings: [Steel ball] [Molded Celcon].
 c. Capacity: Door thickness range [_____] inches (____ mm) to [_____] inches (____ mm); door weight to [275 lb (125 kg)] [_____].

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

of part number.

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

Specifier Note: Select the following sentence for 1 3/4 inches (44 mm) doors to allow for additional clearance between the jamb and the door. This kit can be used with KD Frame Nos. 9629, 9630 and 9631 for 4 bifold doors only.

- e. Pocket Door Adapter Kit for 1 3/4 inches (44 mm) pocket door.
- f. Acceptable Materials: Hager Companies Part Number 9634.

5. Components:

- a. Guides:

Specifier Note: Aligners keep lead doors aligned when closed. Specify one on each lead door.

- 1) Aligner: Steel with brasstone dichromate finish.

Specifier Note: Carpet risers provide a stable base for mounting 9351 and 9353 floor guides over carpeting.

- 2) Carpet Riser: Steel with brasstone dichromate finish.

Specifier Note: Guides are available for bifold, bypass and pocket applications. Select appropriate guide based on product literature and application.

- 3) Guides: [Zinc plated with bronze roller] [Aluminum] [Diecast zinc] [Extruded aluminum] [High density polyethylene] [ABS plastic] [Tan polyethylene] [Steel with brasstone dichromate finish] [Steel with bright zinc finish].

- a) Acceptable Materials: Hager Companies Part Number [9114] [9115] [9122] [9351] [9353] [9877] [9883] [9889] [9902] [9906] [9909].

- b. Hanger and Hanger Components:

Specifier Note: One-wheel hangers are for use on doors weighing up to 60 lb (27 kg), and for 9810, 9820, 9830 and 9840 track.

- 1) One-Wheel Hangers: 0.075 inch (2 mm) zinc plated steel with molded Celcon wheels with [3/8 inch (9.5 mm)] [11/16 inch (17.5 mm)] offset.

- a) Acceptable Materials: Hager Companies Part Number [9200] [9201].

Specifier Note: Two-wheel hangers are for use on bypass and pocket applications.

- 2) Two-Wheel Hangers: [0.075 inch (2 mm)] zinc plated steel with [Nylon wheels and steel ball bearings] [Molded Celcon wheels] [And] [{11/16 inch (17.5 mm)} {3/8 inch (9.5 mm)} offset].

- a) Acceptable Materials: Hager Companies Part Number [9102] [9202] [9203].

Specifier Note: Four-wheel hangers are for use on bifold, bypass and pocket applications. Hanger capacity and track compatibility vary per model. Refer to product literature to select appropriate hangers.

- 3) Four-Wheel Hangers: [0.075 inch (2 mm)] [Zinc plated steel with nylon wheels and steel ball bearings] [Zinc plated steel with Celcon wheels] [Steel with brasstone dichromate finish and Celcon wheels] [On steel ball bearing shafts] [And] [{7/8 inch (22.2 mm)} {1 1/4 inches (32 mm)} diameter wheels].

- a) Acceptable Materials: Hager Companies Part Number [9105] [9572] [9605] [9606] [9704] [9816] [9817].

Specifier Note: Side mount plates are used in conjunction with Hangers 9572, 9605, 9606, 9704 and 9816 to attach hanger to door.

- 4) Side Mount Plate: 1/8 inch (3.2 mm), zinc plated steel.

Specifier Note: Top door plates are used in conjunction with Hangers 9605, 9606, 9607, 9608, 9704 and 9816 to attach hanger to door.

- 5) Top Door Plate: 1/8 inch (3.2 mm), zinc plated steel.
 - a) Acceptable Material: Hager Companies Part Number 9609.
- c. Knobs and Pulls.

Specifier Note: Flush Cup Pulls are for use on bifold, bypass or pocket applications.

- 1) Flush Cup Pull: [Solid brass finger pull] [Solid brass flush cup pull] [Tan ABS plastic] [{3/4 inch (19 mm)} {1 3/4 inches (45 mm)} {2 1/8 inches (54 mm)} {_____} diameter].
 - a) Acceptable Materials: Hager Companies Part Number [2610] [2630] [9865].

Specifier Note: Keyed lock models vary depending on door type and thickness. Refer to product literature to select appropriate lock.

- 2) Keyed Locks: Steel to suit door type and thickness.
 - a) Acceptable Materials: Hager Companies Part Number [9262] [9264] [9268].

Specifier Note: Knob and rose handles are for use on bifold applications on doors 3/4 inch - 1 3/8 inches (19 - 35 mm) thick.

Specifier Note: Refer to Hager Companies product catalog for product finish designations. BHMA finish designations are available on the Hager Companies website.

- 3) Knob and Rose: [1 3/8 inches (35 mm)] [3/4 inch (19 mm)] diameter, diecast zinc knob; finish to ANSI/BHMA A156.18, BHMA [_____], [_____].
 - a) Acceptable Materials: Hager Companies Part Number [9566] [9567], Pocket Door Edge Pull [5/8 inch x 3 7/16 inches (16 x 87 mm) diecast zinc] [3/4 inch x 3 7/8 inches (19 x 98 mm) solid brass].
 - b) Acceptable Materials: Hager Companies Part Number [9884] [9882].

Specifier Note: Pocket door latch models 330L and 330M have turn piece locks.

- 4) Pocket Door Latches: 2 3/4 inches x 2 1/2 inches (70 x 64 mm) solid brass with 1 3/8 inches (35 mm) finger piece extension.
 - a) Acceptable Materials: Hager Companies Part Number [330D] [330L] [330M].

Specifier Note: Wood knobs are for use in bifold applications. They may be painted or stained.

- 5) Wood Knob: 1 1/2 inches (38 mm) solid wood.
 - a) Acceptable Materials: Hager Companies Part Number 9558.

d. Pivots and Hinges:

Specifier Note: Bifold door hinges are for use on bifold doors of 7/8 inch (22.2 mm) thickness or greater.

- 1) Bifold Door Hinge: 3 inches x 1 inch (76 x 25.4 mm), steel [With brasstone dichromate finish] [_____].
 - a) Acceptable Materials: Hager Companies Part Number 9220.

Specifier Note: Each bottom pivot model should be used in conjunction with different components. Refer to product literature to select appropriate pivot.

- 2) Bottom Pivot: Zinc plated steel [With brass brushing].
 - a) Acceptable Materials: Hager Companies Part Number [9123] [9124] [9134].

Specifier Note: Part number 9618 is for bifold applications on door panels up to 50 lb (23 kg) with 9601 or 9599 Track. Part number 9818 is for bifold applications on door panels up to 125 lb (57 kg) with 9801 Track.

- 3) Pivot Set: Zinc plated steel.
 - a) Acceptable Materials: Hager Companies Part Number 9618.

- 4) Top Pivot: [1 3/8 inches x 2 inches (35 x 51 mm) plate with aluminum body, brass bushing and rubber bumper] [1 inch x 3 1/2 inches x 1 7/16 inches (25.4 x 89 x 37 mm) zinc plated steel].
 - a) Acceptable Materials: Hager Companies Part Number [9155] [9169].

Specifier Note: Door stops are for use on bypass, bifold and pocket applications. Different model numbers are for use in conjunction with certain hangers. Refer to product literature to select appropriate stop.

- e. Stops: [Aluminum and rubber] [Zinc plated steel and rubber] [Zinc plated steel with rubber bumper].
 - 1) Acceptable Materials: Hager Companies Part Number [9112] [9113] [9815] [9880] [9881].
- f. Track and Track Components:

Specifier Note: Aluminum box track applications vary depending on model selected. Restrictions may apply for door type or weight. Refer to product literature to select appropriate track.

- 1) Aluminum Box Track: Jump-proof [0.05 inch (1.3 mm)] [_____] extruded aluminum, [_____] long.
 - a) Acceptable Materials: Hager Companies Part Number [9601] [_____].

Specifier Note: Aluminum I-beam track applications vary depending on model selected. Restrictions may apply for door type or weight. Refer to product literature to select appropriate track.

- 2) Aluminum Double Box Track: [0.125 inch (3 mm)] [_____] extruded aluminum.
 - a) Acceptable Materials: Hager Companies Part Number [9101] [9701] [9702].
- 3) Aluminum Fascia: [0.062 inch (1.6 mm)] [0.072 inch (1.8 mm)] [_____] thick, [2 3/4 inches (70 mm)] [3 7/8 inches (98.4 mm)] [_____] high, extruded aluminum with grooved finish.

Specifier Note: Restrictions apply to various tracks in regard to door size and weight and hanger wheel size. Refer to product literature to select appropriate track.

- a) Acceptable Materials: Hager Companies Part Number [9101] [9701] [9702] [9709] [9809], aluminum track: [0.05 inch (1.3 mm)] [0.06 inch (1.5 mm)] [_____] corrosion resistant, extruded aluminum [With built-in fascia] [With 1 3/4 inches (44.5 mm) fascia] [With 2 5/8 inches (67 mm) fascia] [With 3 inches (76 mm) fascia] [With 3 1/2 inches (89 mm) fascia].
- b) Acceptable Materials: Hager Companies Part Number [9603] [9803] [9820] [9830].

Specifier Note: Side mount bracket is reversible for use with the 9601 or 9801 box track.

- 4) Face/Side Mount Bracket: Zinc plated steel.
 - a) Acceptable Materials: Hager Companies Part Number 9900.
- 5) Steel Track: [Jump-proof], 0.03 inch (0.8 mm) galvanized steel.
 - a) Acceptable Materials: Hager Companies Part Number 9840.

Specifier Note: Track Spacer Kit is for use on bypass applications to properly space single track - 9801.

- 6) Track Spacer Kit: Celcon Plastic Spacers.
 - a) Acceptable Materials: Hager Companies Part Number 9574.

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 hardware components to allow for smooth, 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