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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 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 overhead sectional panel garage doors. These products are manufactured by Martin Door Manufacturing. 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 36 00

PANEL DOORS

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes: This Section specifies chain and belt driven overhead sectional panel garage doors, hardware and their installation.
- B. Related Sections:

Specifier Note: Include in this Article only those sections that directly affect the work of this section. Do not include Division 00 or Division 01 sections since it is assumed that all technical sections are related to all project Division 00 and Division 01 sections to some degree.

1. Section [05 05 23 - Metal Fastenings: Bolts and Fasteners] [_____].
2. Section [05 50 00 - Metal Fabrications: Steel angle supports and bracing] [_____].

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 Section 01 42 19 - Reference Standards 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. Aluminum Association (AA):
 1. DAF-45 Designation Systems for Aluminum Finishes.
- B. American National Standards Institute (ANSI):
 1. ANSI/DASMA 103 Standard for Counterbalance Systems on Residential Sectional Garage Doors.
 2. ANSI/DASMA 107 Room Fire Test Standard for Garage Doors Using Foam Plastic Insulation.
 3. ANSI/DASMA 108 Standard Method for Testing Garage Doors: Determination of Structural Performance Under Uniform Static Air Pressure Difference.

4. ANSI/DASMA 109 Standard Method for Testing Garage Doors: Determination of Life Cycling Performance.
5. ANSI/DASMA 115 Standard Method for Testing Sectional Garage Doors and Rolling Doors: Determination of Structural Performance Under Missile Impact and Cyclic Wind Pressure.

C. ASTM International:

1. ASTM A653/A653M Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
2. ASTM B117 Standard Practice for Operating Salt Spray (Fog) Apparatus.
3. ASTM B221 Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
4. ASTM B370 Standard Specification for Copper Sheet and Strip for Building Construction.
5. ASTM D3363 Standard Test Method for Film Hardness by Pencil Test.
6. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials.
7. ASTM G154 Standard Practice for Operating Fluorescent Light Apparatus for UV Exposure of Nonmetallic Materials.

D. Door & Access Systems Manufacturers Association, International (DASMA):

1. DASMA 116 Standard for Section Interfaces on Residential Sectional Garage Doors.

E. International Code Council (ICC):

1. International Building Code.

F. Underwriters Laboratories, Inc. (UL):

1. UL 325 Door, Drapery, Gate, Louver, and Window Operators and Systems.

G. Uniform Building Code (UBC):

1. UBC 26-8 Room Fire Test Standard for Garage Doors Using Foam Plastic Insulation.

H. Underwriters Laboratories, Inc. (UL).

1.03 ACTION SUBMITTALS

A. General: Submit listed action submittals in accordance with Conditions of the Contract and Section [01 33 00 - Submittal Procedures] [_____].

B. Shop Drawings: Indicate information on shop drawings as follows:

1. Size and description of panel corners, hardware reinforcement, track profiles, materials, attachment devices, finish, and construction details.

C. Samples: Submit as follows:

1. [Duplicate] [_____], 12 inches × 12 inches (305 × 305 mm) [_____] samples of panel corner.
2. [2] [_____] rollers.
3. [Duplicate] [_____], 12 inches (305 mm) [_____] mm) long sample of track.

D. Product Data: Submit product data, including manufacturer's SPEC-DATA® product sheet, for specified products.

1. Material safety data sheets (MSDS).

1.04 PERFORMANCE REQUIREMENTS

A. Design Exterior Door Assembly to Withstand:

1. Wind load of [_____] mph (kPa) [Wind Certification for Miami Dade County] [_____] with [Standards Certification] [_____].
2. Hurricane Missile Impact Test in accordance with [DASMA 115] [_____].
3. Hurricane Wind Pressure Test in accordance with [DASMA 108] [_____].
4. Section interface entrapment safety in accordance with [DASMA 116-6] [_____].
5. Cycle Life in accordance with [DASMA 109] [_____].
6. Counterbalance safety in accordance with [DASMA 103] [_____].

7. Smoke and flamespread compliance in accordance with [DASMA 107] [_____].
8. Electrical Safety Compliance in accordance with [UL 325] [_____].
9. Design exterior door with a maximum horizontal deflection of [1/240] [_____] of opening width.

1.05 INFORMATION SUBMITTALS**A. Quality Assurance:**

1. Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties.
2. Certificates: Product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
3. Manufacturer's Instructions: Manufacturer's installation instructions.

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

B. Manufacturer's Field Reports: Manufacturer's field reports specified.**1.06 CLOSEOUT SUBMITTALS****A. Warranty: Submit warranty documents specified.****B. Operation and Maintenance Data: Submit operation and maintenance data for installed products in accordance with Section [01 78 00 - Closeout Submittals] [_____].****1. Include:**

- a. Manufacturer's instructions covering maintenance requirements and parts catalog giving complete list of repair and replacement parts with cuts and identifying numbers.

1.07 QUALITY ASSURANCE**A. Qualifications:**

1. Installer experienced in performing work of this section who has specialized in installation of work similar to that required for this project.
2. Manufacturer Qualifications: Manufacturer capable of providing field service representation during construction and approving application method.

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 Section 01 41 00 - Regulatory Requirements. Repetitive statements should be avoided. Current data on building code requirements and product compliance may be obtained from manufacturer technical support specialists.

B. Regulatory Requirements:

Specifier Note: Overhead sectional panel doors must also meet the requirements of building codes and zoning bylaws issued by federal, state and local government authorities having jurisdiction. Ensure that project specification section reflects the need to meet these requirements. Edit paragraph below as applicable.

1. [International Building Code (IBC)] [Building Code for the [State] [City] of [_____].

C. Preinstallation Meetings: Conduct preinstallation meeting to verify project requirements, manufacturer's installation instructions and manufacturer's warranty requirements. Comply with [Section 01 31 19 - Project Meetings] [_____].**1.08 DELIVERY, STORAGE & HANDLING****A. General: Comply with [01 61 00 - Common Product Requirements] [_____].****B. Ordering: Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.****C. Delivery:**

1. Deliver materials in manufacturer's original packaging with identification labels intact and in sizes to suit project.

D. Storage and Protection:

1. Store materials protected from exposure to harmful weather conditions and at temperature conditions recommended

by manufacturer.

E. 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. Specifying appropriate packaging and construction waste management and disposal procedures may contribute to points required for LEED® construction project certification.

1. Separate waste materials for [Reuse] [And] [Recycling] [_____] in accordance with [Section 01 74 19 - Construction Waste Management and Disposal] [_____].

Specifier Note: Manufacturer may take back packaging and delivery materials for recycling.

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.

1.09 SEQUENCING

- A. Sequence With Other Work: Comply with overhead sectional panel system manufacturer's written recommendations for sequencing construction operations.

Specifier Note: Coordinate article below with Conditions of the Contract and with [01 78 36 - Warranties] [_____].

1.010 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.

Specifier Note: Coordinate article below with manufacturer's warranty requirements.

- C. Warranty: Commencing on date of acceptance by [Owner] [Architect] [Consultant] [_____].

1.011 MAINTENANCE

- A. Include complete maintenance on overhead sectional panel system for 12 months after date of acceptance by [Owner] [Architect] [Consultant] [_____].
- B. Regularly and systematically [Weekly] [Semi-monthly] [Monthly] [_____] examine, clean, adjust and lubricate hinges, chains, belts and motors.
- C. Repair or replace parts of overhead sectional panel system whenever required due to defect and normal wear and tear.
- D. Use only standard parts of product line of manufacturer of overhead sectional panel system.
- E. Maintain locally adequate stock of parts for replacement or emergency purposes.
- F. Provide personnel to perform work under supervision and in direct employ of overhead sectional panel system manufacturer or manufacturer's licensed agent.
- G. Perform work during regular trade working hours satisfactory to [Owner] [Architect] [Consultant] [_____].
- H. Provide emergency call-back at no extra cost and ensure fulfillment of maintenance and emergency service without undue loss of time to [Owner] [Architect] [Consultant] [_____].
- I. Ensure that maintenance personnel register with designated building personnel at time of inspections and maintenance.

1.012 EXTRA MATERIALS

- A. Provide maintenance materials in accordance with Section [01 78 00 - Closeout Submittals] [_____].

PART 2 PRODUCTS

2.01 MANUFACTURER

- A. Ensure manufacturer has minimum [5] [_____] years experience in manufacturing components similar to or exceeding requirements of project.

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.

2.02 PANEL DOORS

A. Manufacturer: Martin Door Manufacturing.

1. Contact: 2828 S 900 W, Salt Lake City, UT 84119; Telephone: (800) 388-9310, (801) 973-9310; Fax: (801) 977-4222; E-mail: architect@martindoor.com; website: www.martindoor.com.

B. Proprietary Products/Systems:

1. Door Style: [Fully insulated] [Noninsulated], 2 inch (51 mm) thick door panel construction.
 - a. Wind Load Rating: [85 mph (137 kph)] [95 mph (153 kph)] [110 mph (177 kph)] [146 mph (235 kph)] [_____].
 - b. Insulation: Polystyrene insulation with [26 gauge (0.478 mm)] [30 gauge (0.318 mm)] [_____], [White] [_____] steel backing [With baked enamel finish] [_____] and fire tested to [ASTM E84] [_____] and [UBC 26-8] [_____].

Specifier Note: Doors come in a variety of size ranges. Common ranges are 8 feet 2 inches - 10 feet 2 inches (2.5 - 3.1 m), 12 feet 2 inches - 15 feet 2 inches (3.7 - 4.6 m) and 16 feet 2 inches - 24 feet 2 inches (4.9 - 7.4 m). Manufacturer can usually deliver custom sizes within these ranges. Ensure that door size chosen is 2 inches (51 mm) wider than door opening. Insert appropriate dimensions in the following paragraph to meet project requirements.

2. Door Materials:
 - a. Steel: To [ASTM A653] [_____], [24 gauge (0.635 mm)] [26 gauge (0.478 mm)] [_____], [Hot dip galvanized, structural] [Commercial quality carbon steel sheets].
 - b. Copper: To [ASTM B370] [_____], structural, commercial quality, Architectural Grade Sheet Copper (AGSC).
 - c. Aluminum: To [ASTM B221] [_____], heavy-etch commercial aluminum with powder coated alloy [6063-T6] [_____] finish to [AA DAF-45] [_____].
3. Exterior Panel Style: [Ribbed] [Pressed] [Mixed pressed], [Short] [And] [Long], [Flush] [Raised] panel sections, weather resistant tested to [ASTM B117] [_____] and abrasion resistant tested to [ASTM D3363] [_____].
4. Steel Door Panel Color: [Light almond] [White mist] [Adobe stone] [Dark brown] [Dessert taupe] [_____].
5. Glazing Insert: [Acrylic glazing] [Double fused, high-impact polymer glazing with color coordinated to door], [Customized] pattern [From manufacturer's standard range].
6. Door Accessories:
 - a. Vents: [Brown] [White] [_____] exhaust vents.
 - b. Mail Slots: [Brass] [Brushed aluminum] mail slots.
 - c. Handles: [Black] [Silver] [_____] colored.

2.03 HARDWARE

A. Rollers: [11] [_____] ball-bearing, no maintenance rollers with sealed bearings.

1. Acceptable Material: Martin Door Manufacturing, Premium Rollers with Rollershield.

Specifier Note: A typical residential garage door will open and close approximately 10,000 times per year. For commercial applications, choose hardware that has 20,000 cycles per year minimum.

- B. Springs: Galvanized rust and break resistant steel springs to [ASTM A653/A653M] [_____], rated at [12,000] [20,000] [30,000] cycles per year.
 1. Acceptable Material: Martin Door Manufacturing Galvanized Springs.
- C. Track: [Galvanized steel with rounded edges to [ASTM A653/A653M] [_____]] [Aluminum alloy with rounded edges to [ASTM B221] [_____]].

1. Acceptable Material: Martin Door Manufacturing Safety Track.
- D. Cables: Heavy grade [14 gauge (3.2 mm)] [_____] [Stainless] steel cables, rated [2000 lb (907 kg)] [_____] lifting capacity with heavy duty loop reinforcement.
 1. Acceptable Material: Martin Door Manufacturing Heavy-Grade Cables.
- E. Hinges: [14 gauge (3.2 mm)] [_____] galvanized steel to [ASTM A653/A653M] [_____].
 1. Acceptable Material: Martin Door Manufacturing Heavy-Gauge Hinges.
- F. Weatherseal: [1 inch (25.4 mm)] [3 inch (76 mm)] [_____], foam bottom, seal secured by galvanized steel angle iron to [ASTM A653/A653M] [_____].
 1. Acceptable Material: Martin Door Manufacturing Foam Bottom Weatherseal.

Specifier Note: Models DC2500e and DC3700e are belt-driven openers. Model DC3700e features 2 lights, including a deluxe wall console with a light switch, a lock-out vacation switch and a lifetime warranty. Model DC2500e includes a single pushbutton switch, a light and a 15 year warranty.

2.04 DOOR OPENER

- A. [UL Approved] [_____], [0.5 hp (0.373 (kW))] [_____] motor, [Illuminated wall console] [Control button], [Vacation lock], [Light switch] and [1] [2] [_____] transmitters.
 1. Motor with built-in lighting system tested to [ASTM G154] [_____].
- B. Door Opener Accessories:
 1. Wireless keyless entry.
 2. [2] [4] [_____] button transmitters.
 3. Three-button key chain transmitter.
 4. Battery back-up system.
- C. Acceptable Material: Martin Door Manufacturing, Model [DC2500e] [DC3700e].

2.05 OVERHEAD DOOR SYSTEM SUPPORT

- A. Steel angle supports and bracing in accordance with Section [05 50 00 - Metal Fabrications] [_____].
- B. Nuts, bolts and fasteners in accordance with Section [05 05 23 - Metal Fastenings] [_____].

Specifier Note: Acceptable materials for the complete overhead sectional panel door system include the Door Opener and accessories shown above as well as a combination of the insulation style, panel type and door design and style. Consult manufacturer's SPEC-DATA sheet to determine insulation, panel and door design and style combinations that work together.

2.06 ACCEPTABLE MATERIALS

Specifier Note: Series I has standard insulation and a 30 gauge (0.318 mm) steel back. Series II has standard insulation and a 26 gauge (0.478 mm) steel back.

- A. Insulation Style: Martin Door Manufacturing, [Series I] [Series II] [_____].

Specifier Note: For short panels, choose the Woodline model. For long panels, use the Ranch model. For a ribbed appearance, choose the Hi-Tensil model. For a door that uses a combination of long and short panels, choose the Camelot model.

- B. Door Design: Martin Door Manufacturing, [Woodline] [Ranch] [Hi-Tensil] [Camelot] [_____].

Specifier Note: Silver Door is an all aluminum system. Supersteel Doors are 24 gauge (0.635 mm) construction.

- C. Door Type: Martin Door Manufacturing, [Steel Carriage House] [Copper Carriage House] [Carriage House Aluminum] [Flushline] [Montana] [SP Supersteel] [SL Supersteel] [Silver Door] [_____].

2.07 SOURCE QUALITY CONTROL

- A. Ensure overhead sectional panel door system components and materials are from single manufacturer.

Specifier Note: Edit Paragraph below to suit project requirements. If substitutions are permitted, edit text below. Add text to refer to Section 01 25 13 - Product Substitution Procedures.

2.08 PRODUCT SUBSTITUTIONS

A. Substitutions: [In accordance with Section 01 25 13 - Product Substitution Procedures] [_____] [No substitutions permitted].

PART 3 EXECUTION

3.01 INSTALLERS

A. Provide experienced and qualified technicians to carry out erection, assembly and installation of overhead sectional panel doors.

3.02 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 Martin Door Manufacturing SPEC-DATA sheets.

3.03 EXAMINATION

A. Site Verification of Conditions:

1. Verify that substrate conditions, which have been previously installed under other sections or contracts, are acceptable for product installation in accordance with manufacturer's instructions prior to installation of overhead sectional panel door system.
2. Inform [Owner] [Architect] [Consultant] [_____] of unacceptable conditions immediately upon discovery.
3. Proceed with installation only after unacceptable conditions have been remedied.

3.04 PREPARATION

A. Ensure structure is adequate to support overhead sectional panel door system.

B. Ensure adequate power supply of [120] [208] [240] [600] [_____] Volts, [3] [_____] phase, 60 Hz [_____] is available.

3.05 INSTALLATION

Specifier Note: Coordinate installation with the manufacturer's written installation details and instructions.

A. Coordinate overhead sectional panel door work with work of other trades for proper time and sequence to avoid construction delays.

B. Install overhead sectional panel door system plumb and level in accordance with manufacturer's written instructions.

C. Fasten vertical track assembly to framing at not less than [24 inch (610 mm)] [_____] increments.

D. Hang horizontal track from structural overhead framing with steel punched angle welded or bolt fastened in place. Provide sway bracing, diagonal bracing and reinforcement as required for rigid installation of track and door operation.

E. Install electrical motors, controller units, pushbutton stations, relays and other electrical equipment required for door operation.

F. Installation includes electric wiring from power supply located near door opening and low voltage control wiring.

3.06 FIELD QUALITY CONTROL

Specifier Note: Use the following Articles when manufacturer's field services are desired to verify the quality of the installed components. Establish the number and duration of periodic site visits required by the Manufacturer and specify below. Consult with the Manufacturer for services required. Delete if field services are not required.

A. Manufacturer's Field Services: Have manufacturer's technical representative schedule site visits to review work as follows:

1. After delivery and storage of products.
2. When preparatory work for which work of this Section depends is complete, but before installation begins.

3. [Weekly] [2 times] [_____] during progress of work [at [25%] and [60%]] [_____] of completion.
4. Upon completion of work, after cleaning is carried out.

3.07 ADJUSTMENT

- A. Adjust weatherstripping to form a weathertight seal.
- B. Lubricate hinges, adjust doors to operate smoothly and fit accurately for entire perimeter.

3.08 FINAL CLEANING

- A. Do cleanup in accordance with Section [01 74 00 - Cleaning and Waste Management] [_____].
- B. Clean glass and glazing materials with approved nonabrasive cleaner.
- C. Upon completion, remove surplus and excess materials, rubbish, tools and equipment.

3.09 PROTECTION

Specifier Note: Coordinate the following Article with Section 01 76 00 - Protecting Installed Construction.

- A. Protect installed product from damage during construction in accordance with Section [01 76 00 - Protecting Installed Construction] [_____].
- B. Repair damage to adjacent materials caused by overhead sectional panel system installation.

END OF SECTION