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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 prefinished steel door frames for interior and exterior doors, including sidelites, borrowed lites and transom assemblies, as manufactured by Rediframe Door Frames. 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 11 00

METAL DOORS AND FRAMES

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes: Prefinished steel frames for interior and exterior doors, including sidelites, borrowed lites and transom assemblies.

Specifier Note: Revise Paragraph below to suit project requirements. Add section numbers and titles per CSI *MasterFormat* and specifier's practice.

- B. Related Sections: Section(s) related to this section include:
1. Wood Moldings: Division 06 Finish Carpentry Sections.
 2. Metal Doors: Division 08 Steel Door Sections.
 3. Wood Doors: Division 08 Wood Door Sections.
 4. Finish Hardware: Division 08 Hardware Sections.
 5. Glass and Glazing: Division 08 Glass and Glazing Sections.

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.

1.02 REFERENCES

- A. ASTM International:
1. ASTM A366 Standard Specification for Commercial Steel (CS) Sheet, Carbon (0.15 Maximum Percent) Cold-Rolled.
 2. ASTM A653 Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

3. ASTM B117 Standard Practice for Operating Salt Spray (Fog) Apparatus.
 4. ASTM D1735 Standard Practice for Testing Water Resistance of Coatings Using Water Fog Apparatus.
 5. ASTM D3363 Standard Test Method for Film Hardness by Pencil Test.
- B. American National Standards Institute (ANSI):
1. ANSI 115.1 Specifications for Steel Door and Frame Preparation for Hardware.
- C. National Fire Protection Association (NFPA):
1. NFPA 80 Fire Doors and Windows.
- D. Underwriters Laboratories, Inc. (UL):
1. UL 10B Fire Tests of Door Assemblies.
 2. UL 10C Positive Pressure Fire Tests of Door Assemblies.

1.03 PERFORMANCE REQUIREMENTS

- A. 1 1/2 hour fire rating in accordance with UL 10B.
- B. Passes positive pressure test in accordance with UL 10C.

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.

1.04 SUBMITTALS

- A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 01 Submittal Procedures Section.
- B. Product Data: Submit product data, including manufacturer's SPEC-DATA product sheet, for specified products. Include details of design and construction and printed instructions covering installation.
- C. Shop Drawings: Submit shop drawings showing layout, profiles and product components, including anchorage, accessories, finish colors and textures. Indicate installation requirements of finish hardware and reinforcements.
- D. Samples: Submit the following for selection and verification of finishes, colors and textures.

Specifier Note: Retain subparagraph below if casings are required to meet project requirements.

1. Sample of door frame corner construction, complete with snap-on casings.
 2. Samples of factory stocked colors of prefinished components.
 3. Samples of custom colors for color matching.
- E. Quality Assurance Submittals: Submit the following:
1. Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties.
 2. Certificates: Manufacturer's certification that installer is acceptable.
 3. Warranty: Submit the warranty documents specified.

Specifier Note: Article below should include prerequisites, standards, limitations and criteria that establish an overall level of quality for products and workmanship for this section. Coordinate Article below with Division 01 Quality Assurance Section.

1.05 QUALITY ASSURANCE

- A. Installer Qualifications: Installer experienced in performing work of this section who has specialized in the installation of work similar to that required for this project.
 1. Personnel: Assembly and installation shall be performed by qualified personnel who have successfully completed manufacturer's prefinished steel door frame installation course online and have been approved by the manufacturer.

Specifier Note: Paragraph below should list obligations for compliance with specific code requirements. General statements to comply with a particular code are typically addressed in Conditions of the Contract. Repetitive statements should be avoided.

- B. Regulatory Requirements: Fire-rated steel frames shall be of types tested and approved by Intertek Testing Services, Warnock Hersey and shall bear labels of same.
 - 1. Three-sided frames shall receive a permanent embossed 90 minute label. Sidelite and borrowed lite frames shall receive a Mylar Warnock Hersey label when specified.

Specifier Note: Article below should include special and unique requirements. Coordinate below Article with Division 01 Product Requirements Section.

1.06 DELIVERY, STORAGE & HANDLING

- A. General: Comply with Division 01 Product Requirements Sections.
- B. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
 - 1. Factory package components in protective cartons to prevent damage during shipping.
- C. Storage and Protection: Store materials protected from exposure to harmful weather and at temperature conditions recommended by manufacturer.
 - 1. Store material on wooden skids under cover in a protected area and keep vented to avoid condensation until ready for installation.

1.07 PROJECT CONDITIONS

- A. Field Measurements: Verify actual measurements/openings by field measurements before fabrication. Show recorded measurements on shop drawings. Coordinate field measurements and fabrication schedule with construction progress schedule to avoid construction delays.

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

1.08 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 the Contract Documents.
 - 1. Warranty Period: 1 year.

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 approved equal" or similar phrases may cause ambiguity in the specifications. Such phrases require procedural, legal and regulatory verification and assignment of responsibility for determining "or equal" products.

2.01 PREFINISHED STEEL DOOR FRAMES

Specifier Note: Paragraph below is an addition to CSI *SectionFormat* and a supplement to MANU-SPEC. Retain or delete Paragraph below per project requirements and specifier's practice.

- A. Manufacturer: Rediframe Door Frames.
 - 1. Contact: 1101 Technology Drive, Dothan, AL 36303; Telephone: (800) 633-7553, (334) 794-0661; Fax: (334) 793-3462; E-mail: sales@dunbarton.com; website: www.dunbarton.com.
- B. Proprietary Product(s)/System(s): Rediframe prefinished steel door frames.
 - 1. Refer to drawings, door schedule and details for required types and sizes of frames.

Specifier Note: Edit article 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: Substitutions in accordance with Section [01 25 13 - Product Substitution Procedures] [No substitutions permitted].

2.03 MATERIALS

- A. Header and Jamb Members: Form interior door frames of ASTM A366 commercial quality cold rolled steel. Form exterior door frames of galvanized steel (A40) per ASTM A653. Provide frames in the following gages:

Specifier Note: Retain paragraphs below to suit project requirements. Select gages below.

1. Fire Rated Standard Frames for 1 3/4 Inch (44 mm) Doors: [18] [20] gage.
2. 1 3/8 Inch (35 mm) or 1 3/4 Inch (44 mm) Door Frames: [18] [20] gage.
3. 1 3/4 Inch (44 mm) Door Sidelite Frames: [18] [20] gage.
4. Borrowed Lite Frames: [18] [20] gage.

Specifier Note: Retain appropriate paragraph below if casings are required to meet project requirements.

- B. Casings:
1. Steel: 22 gage cold rolled steel to ASTM A366.
 2. Aluminum: 0.050 inch (1.3 mm) aluminum extrusion 6063-T5 alloy.
 3. S56 Steel Colonial: 24 gage galvanized (A40) steel to ASTM A653.
- C. Hinge Reinforcements: 14 gage hot dipped galvanized (G60) steel to ASTM A653 (10 gage equivalent number of threads, SDI-107).
- D. Strikes and Deadbolt Covers and Dust Box: 18 gage commercial quality cold rolled steel to ASTM A366.
- E. Door Closer Reinforcement: Steel or aluminum in accordance with manufacturer's standard.
1. Standard Arm Mounting: Aluminum extrusion 6063-T5 alloy in accordance with manufacturer's standard.
 - a. Door Guard: Aluminum extrusion 6063-T5 alloy in accordance with manufacturer's standard.
 2. Parallel Arm Mounting: 16 gage galvanized (A40) steel per ASTM A653.

Specifier Note: Retain paragraph below if casings are required to meet project requirements.

- F. Casing Corner Alignment Clips: Prepainted 22 gage ASTM A366 commercial quality cold rolled steel.
- G. Felt Silencers, Weatherstripping and Smoke Gasketing (Standard Profile): In accordance with manufacturer's standard.
1. Interior Frames: Install felt silencers on the header and strike jamb. Single door opening, 3 per strike jamb. Pair door opening, 2 per header.
 2. Exterior and Fire-Rated Frames: Weatherstripping and smoke gasket material to seal opening. Material must compress to 1/16 inch (2 mm). Ultra WS176, Pemko S88 and Pemko S44 are acceptable.
- H. Weatherstripping and Smoke Gasketing (Kerf Profile):
1. Interior and Exterior Frames: Kerf weatherstrip to seal opening. Schlegel QDS500 is acceptable.
- I. Removable Glazing Bead for Sidelite and Borrowed Lite Frames:
1. 18 gage galvanized (A60) steel to ASTM A653, 3/4 inch x 5/8 inch (19.1 x 15.9 mm).
 2. Prepunched for #6 x 1 1/4 inch (32 mm) bugle-head self-tapping screws.
- J. Fasteners: In accordance with manufacturer's standards, to comply with labeling agency for fire-rated frames.
1. Fastener shall be a minimum of 1/2 inch (12.7 mm) longer than combined thickness of drywall.
 - a. Fastener: 1 1/4 inch (32 mm) minimum Type "S" bugle-head self-tapping screws.
 - b. Fastener: 1 1/4 inch (32 mm) minimum drywall screws (coarse thread).
- K. Paint: Frame manufacturer's standard baked-on synthetic enamel, applied over a cleaned and phosphate coated surface.
1. Application shall be by electrostatic method.
 2. Finish paint dry film thickness on doors panels shall be approximately 1 mil (0.03 mm) for finished paint.
 3. Factory finish paint shall pass 200 hour salt spray test in accordance with ASTM B117 and 700 hour humidity test in

accordance with ASTM D1735 with no blistering.

4. Paint hardness shall meet calibrated pencil lead test to ASTM D3363.
5. Prime painted frames shall be field painted within 30 days of installation with a good quality oil based enamel as recommended, or a high quality water base latex. A flash rust inhibitor shall be used with water base latex method.

2.04 MANUFACTURED UNITS

- A. General: Frames shall be prefinished type designed for installation at rough wall openings over prefinished walls.

Specifier Note: Retain or delete paragraphs 1 and/or 2 below to suit project requirements.

1. Provide steel frames to receive metal casings to conceal fasteners.
2. Prepare steel frames to receive decorative wood moldings to conceal fasteners.
3. Provide accessories and fasteners necessary for field assembly and installation in accordance with frame manufacturer's standards.
4. Prepare for and provide reinforcements in accordance with manufacturer's standards as required to receive finished hardware.

B. Door Frames:

1. Construct jamb member to interlock and align with header members to form a strong joint.

Specifier Note: Retain appropriate paragraph below if casings are required to meet project requirements.

2. Provide die cut mitered metal casings held tight together and in alignment with concealed corner backing pieces. Casings shall conceal all frame fasteners. Provide concealed clips to receive snap-on casings.

C. Sidelite and Borrowed Lite Frames:

1. Construct same as specified for door frames. Where required, provide concealed field applied mullion clips for securing mullions to head/jamb members.
2. Form fixed glazing stops integral with frame members. Provide removable metal stops with prepunched screw holes complete with installation screws.

D. Hardware Preparations:

1. In accordance with an approved Hardware Schedule, ANSI A115 and manufacturer's recommendations:
 - a. Mortise frames for hinges and strikes.
 - b. Drill and tap or reinforce frames for mortised or surface mounted hardware.

2.05 FINISHES

Specifier Note: Frames, Sidelite and Borrowed Lites are available prime painted and ready for field applied finish paint, or with standard, premium or custom color finishes. Retain one of the paragraphs below to suit project requirements.

A. Frames, Sidelite and Borrowed Lites Finish:

1. Prime painted.
2. Standard Color: [Rediframe Brown] [Bright White] [Ivory] [Prime Grey] [White Prime].
3. Premium Color: [Mojave Brown] [Light Grey] [Tan] [Black] [Alusteel].

Specifier Note: Insert custom color below to suit project requirements.

4. Custom Color: [_____].

2.06 SOURCE QUALITY CONTROL

- A. Obtain steel door frame products from a single manufacturer.

PART 3 EXECUTION

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.

3.01 MANUFACTURER'S INSTRUCTIONS

- A. Compliance: Comply with manufacturer's product data, including product technical bulletins, product catalog installation instructions and product carton instructions for installation.

3.02 EXAMINATION

- A. Site Verification of Conditions: Verify that conditions of substrates previously installed under other sections are acceptable for product installation in accordance with manufacturer's instructions.

Specifier Note: Coordinate Article below with manufacturer's recommended installation details.

3.03 INSTALLATION

- A. Prefinished Steel Door Frames:

1. Install frames plumb and square, in accordance with shop drawings and manufacturer's instructions. Verify opening and dimensions with shop drawings. Use door as a template to ensure proper alignment and clearances.
2. Attach hinges and hang door in frame. Adjust frame to door for equal and uniform clearance between top and sides of door and frame.

Specifier Note: Retain second sentence below if casings are required to meet project requirements.

3. Secure frame to wall with the appropriate type fasteners. Install casing on frame.
4. Install silencers on interior door frames. Install weatherstripping on exterior door frames. Install smoke gaskets as required.
5. Adjust strike plate to hold door tight to stops when closed.
6. Install fire-rated door frames in accordance with NFPA 80.

Specifier Note: Coordinate Article below with Division 01 Execution Requirements (Cleaning) Section.

3.04 CLEANING

- A. Cleaning: Remove temporary coverings and protection of adjacent work areas. Repair or replace damaged installed products. Clean installed products in accordance with manufacturer's instructions prior to Owner's acceptance. Remove construction debris from project site and legally dispose of debris.

Specifier Note: Coordinate Article below with Division 01 Execution Requirements Section.

3.05 PROTECTION

- A. Protection: Protect installed product and finish surfaces from damage during construction.

1. Repair or replace damaged or defective frames.
2. Touch up damaged areas of factory-applied finishes with aerosol spray cans of same paint as used in factory.

END OF SECTION