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## ARCHITECTURAL SPECIFICATIONS

### REVOLVING DOOR ENTRANCES

**EasyFlow® Series 9500**  
**Manual Aluminum & Glass Revolving**  
**Door with Speed Control**

**F4.1**

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#### **DIVISION 08 - OPENINGS** **SECTION 08 42 33 - REVOLVING DOOR ENTRANCES**

*Specifier Note: Coordinate and edit articles and paragraphs below to suit project requirements. Add section numbers and titles per CSI "MasterFormat" and specifier's practice. Consult with manufacturer regarding performance requirements for units applicable to project, as well as, related equipment and accessories required.*

#### **PART I – GENERAL**

##### **1.01 SUMMARY**

- A. **WORK INCLUDED:** Furnish complete manual aluminum door system, as specified, that has been manufactured, fabricated and installed to maintain performance criteria stated by manufacturer without defects, damage or failure.
- B. **RELATED WORK:**
  - 1. Concrete: Division 03, applicable sections.
  - 2. Masonry: Division 04, applicable sections.
  - 3. Thermal and Moisture Protection: Division 07, applicable sections.
  - 5. Openings: Division 08, applicable sections.
  - 6. Electrical: Division 26, applicable sections.

##### **1.02 REFERENCES**

- A. AMERICAN ARCHITECTURAL MANUFACTURERS ASSOCIATION (AAMA) 101: Appendix Dissimilar Materials.
- B. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI):
  - 1. ANSI 156.27: Power and Manual Operated Revolving Pedestrian Doors
  - 2. ANSI Z97.1: Safety Glazing Materials Used in Buildings - Methods of Test.
- C. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) B221: Aluminum-Alloy Extruded Bars, Rods, Shapes and Tubes.
- D. THE ALUMINUM ASSOCIATION (AA): Aluminum Finishes Manual

##### **1.03 SUBMITTALS**

- A. **SHOP DRAWINGS & PRODUCT DATA:** Submit drawings and product data showing layout, profiles, product components including anchorage, accessories, finish and glazing details (where required).
- B. **QUALITY ASSURANCE AND CLOSEOUT SUBMITTALS:** Submit the following:
  - 1. Manufacturer's Operation and Maintenance Data.
  - 2. Warranty document as specified herein.

##### **1.04 QUALITY ASSURANCE**

- A. **INSTALLERS QUALIFICATIONS:** Installer shall be factory trained and experienced to perform work of this section.
- B. **MANUFACTURER'S QUALIFICATIONS:** Manufacturer to have minimum (5) five years successful experience in the fabrication of manual doors of the type required for this project. Manufacturer capable of providing field service representation during installation, approving acceptable installer and approving application method.



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#### 1.05 WARRANTIES

- A. MANUFACTURER'S WARRANTY: Units to be warranted against defect in material and workmanship for a period of one year from the Date of Substantial Completion. Manufacturer's warranty is in addition to, and not a limitation of, other rights owner may have under Contract Documents.
- B. DISTRIBUTOR'S WARRANTY: One year warranty: Labor & transportation charges for defective parts replacement. Three year Distributor's Warranty for electronic speed control.

#### 1.06 PROJECT CONDITIONS

FIELD MEASUREMENTS: Verify actual dimensions/openings by field measurements before fabrication and record on shop drawings. Coordinate with fabrication and construction schedule to avoid construction delays.

#### 1.07 DELIVERY, STORAGE AND HANDLING

- A. ORDERING AND DELIVERY: Comply with factory's ordering instructions and lead time requirements. Delivery shall be in factory's original, unopened, undamaged containers with identification labels intact.
- B. STORAGE AND PROTECTION: Provide protection from exposure to harmful weather conditions and vandalism.

### PART II – PRODUCTS

#### 2.01 MANUFACTURER

HORTON AUTOMATICS, a division of Overhead Door Corporation, shall manufacture manual revolving door(s) of type(s) and size(s) specified on plans and door schedule.

#### 2.02 EQUIPMENT

- A. MANUFACTURED DOOR UNITS: Shall be EasyFlow® Series 9500 Manual Revolving Door in three or four wing configuration.
- B. SPEED CONTROL: Precision machined steel casting overhead speed control with precision machined 100:1 ratio gear train, steel case, adjustable and replaceable brake blocks. The overhead speed control device is limited up to 12 RPM (refer to ANSI standard 156.27) and provides a smooth and effective braking action with brake shoes operating in an oil bath.
- C. COLLAPSING MECHANISM: Door design shall be equipped with mechanical breakaway and completely bookfold in case of emergency as required by Codes. Wings can be broken away with 80-130 lbs (355-578 N) of force (adjustable).
- D. ENCLOSURE: Shall be extruded aluminum and glass/glazing material and shall be constructed maintaining proper clearances and weather seal.
  - 1. Segmented® Design: Shall be 1 3/4" (44 mm) deep with standard glazing prep for 1/4" (6 mm) flat glass/glazing material and offset to interior. Optional glazing prep. up to 1" (25 mm).
  - 2. Round Design: Shall be 1 3/4" (44 mm) deep with standard glazing prep for 7/16" (6 mm) curved glass/glazing material and offset to interior. Optional glazing prep. up to 9/16" (14 mm).
- E. ENCLOSURE: Shall be extruded aluminum and glass/glazing material and shall be constructed maintaining proper clearances and weather seal.
  - 1. Segmented® Design: Shall be 1 3/4" (44 mm) deep with standard glazing prep for 1/4" (6 mm) flat glass/glazing material and offset to interior. Optional glazing prep: for 1/8" (3 mm) to 1-5/16" (33 mm) flat glass/glazing/ bullet-resistant material.



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2. Round Design: Shall be 1 3/4" (44 mm) deep with standard glazing prep for 7/16" (6 mm) curved glass/glazing material and offset to interior. Optional glazing prep: 1/8" (3 mm) to 9/16" (14 mm).
3. Canopy: Standard canopy shall be round with curved aluminum 1/8" (3) fascia panels and shall be minimum 12" (305 mm) high. Interior ceiling shall be 3/4" thick plywood laminated with .060" (1.5 mm) aluminum to match door finish.

Canopy options shall include:

- a. Extended canopy.
- b. Segmented® canopy on Segmented® enclosure.
- c. Cropped canopy.
- d. Exterior roof fabricated from .090" (2 mm) anodized aluminum.
- e. Two ceiling lights with energy efficient lighting systems with flush lens.

- F. PANEL/DOOR WING: Shall be aluminum, 1-3/4" (44 mm) deep with narrow stile construction for door diameters up to 8'-0" (2438 mm). Door diameters 8'-0" and over shall be medium stile construction. Perimeter weatherstripping utilizing affixed sweeps shall ensure weatherseal. Standard glazing prep to be for 1/4" (6 mm) glass/glazing material and shall have sloped stops on horizontal rails (except on clad units). An intermediate surface applied horizontal flat aluminum pushbar, 3/8" (10 mm) thick x 1 1/2" (38 mm) wide, shall be furnished for each wing for safety.

Door Wing options shall include:

1. Stainless Steel or brass flat pushbars.
2. Round pushbars: 1" (25 mm) diameter, aluminum, stainless steel or brass
2. Horizontal muntins (mid rails): 2 1/4" (57 mm) or 4" (102 mm) wide.
2. Optional bottom rails: 6 1/2" (165 mm) (standard for medium stile), 8" (203 mm), or 10" (254 mm).
2. Medium stile rails (standard for diameters 8'-0" and over)
3. Prep for glazing up to 1" (25 mm).
4. Fixed wings. (must be approved by the authority having jurisdiction)

- G. HARDWARE: Provided shall include:

1. Locks with five pin cylinders and concealed bolts provided on two door wings.
2. Bottom pivot/bearing: Surface mounted with no excavation below floor line required.
3. Center Shaft: 1-1/2" (38 mm) diameter steel shaft with connections to speed control and bottom pivot/bearing.

### 2.03 RELATED WORK REQUIREMENTS

- A. ELECTRICAL: (for lighting only). 120/240 VAC, 50/60 cycle (field selectable), single phase, 15 amp.
- B. GLASS AND GLAZING: Glass stops, glazing vinyl and setting blocks for field glazing as per Safety Glazing standard ANSI Z97.1.2. General contractor to coordinate acquisition of glass, not already provided by manufacturer, in thickness and type in accordance with manufacturer's recommendations for prescribed design.
1. Door Wing Glazing: (provided by others) Standard material will be flat safety glass in clear, 1/4" (6 mm) tempered. Optional: Glass up to 1" (25 mm) insulated.
  2. Segmented® Enclosure Glazing: (provided by others) Standard material will be flat safety glass in clear, 1/4" (6 mm) tempered. Optional: Glass up to 1" (25 mm) insulated. Enclosure glass can be tinted or enclosure can be glazed with 1/8" aluminum.
  3. Round Enclosure Glazing: (provided by factory) Standard material will be curved safety glass in clear, 7/16" laminated. Optional: 9/16" laminated glass. Enclosure glass can be tinted or enclosure can be glazed with 1/8" aluminum.



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#### 2.04 MATERIALS, FINISHES AND FABRICATION

- A. EXTRUDED ALUMINUM: ASTM B221, 6063-T5 alloy and temper, anodized:
1. Structural Drum/Enclosure Sections: Minimum 1/8" (3 mm) thickness.
  2. Structural Panel/Door Wing Sections: Commercial grade.
- B. FINISHES (for all exposed aluminum surfaces): Shall be one of the following:
1. 204-R1 Clear: Arch. Class 2 Clear Anodized Coating, AA-MI2C22A31.
  2. 313-R1 Dark Bronze: Arch. Class 1 Anodized Coating, AA-MI2C22A44.
  3. 312-R1 Light Bronze: Arch. Class 1 Anodized Coating, AA-MI2C22A44.
  4. 315-R1 Black: Arch. Class I Anodized Coating, AA-MI2C22A44.
  5. Special Paint Coating: Color as selected.
  6. Cladding (door wings and round drum only): shall be stainless steel or muntz metal (brass alloy) in #8 mirror finish or #4 brushed satin finish.
- C. DOOR WING CONSTRUCTION:
1. Corner block type with 3/16" steel backup plate construction, mechanically secured with minimum of four hardened steel screws. Sash consists of snap-in glass stops, snap-in glazing beads and vinyl gaskets.
  2. Weatherstripping material captured in extruded aluminum door panel. Surface applied self-adhesive weatherstripping not acceptable.
- D. ENCLOSURE CONSTRUCTION: Butt joints, mechanically secured by means of screws and formed aluminum corner brackets.

### PART III - EXECUTION

#### 3.01 EXAMINATION

**SITE VERIFICATION OF CONDITIONS:** Installer must verify that base conditions previously installed under other sections are acceptable for product installation according to with manufacturer's instructions. Notify the Contractor in writing of conditions detrimental to the proper and timely completion of work. Do not start work until all negative conditions are corrected in a manner acceptable to the installer and manufacturer.

#### 3.02 INSTALLATION

- A. GENERAL: Install door unit(s) plumb, level and true to line, without warp or rack of enclosure. Drum enclosure can be center connected to adjacent construction or 'throat connected' (at entry vertical rails). Allow for 1/4" shim space each side and at canopy. Anchor in place. Unit is free-standing with no additional support required. Adjacent construction not to bear down on revolving door.
- B. DISSIMILAR MATERIALS: Comply with AAMA 101, Appendix Dissimilar Materials by separating aluminum materials and other corrodible surfaces from sources of corrosion or electrolytic action contact points.
- C. WEATHER-TIGHT CONSTRUCTION: Install enclosure with joint filler or gaskets and sealant. Coordinate installation with wall flashings and other components of construction.
- D. ELECTRICAL: General or electrical contractor to install all wiring to optional equipment on a separate circuit breaker routed into canopy.

#### 3.03 CLEANING, ADJUSTMENT AND PROTECTION

- A. CLEANING: After installation, installer to take following steps:



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1. Remove temporary coverings and protection of adjacent work areas.
  2. Remove construction debris from construction site and legally dispose of debris.
  3. Repair or replace damaged installed products.
  4. Clean product surfaces and lubricate operating equipment for optimum condition and safety.
- B. ADJUSTMENT: Installer to adjust operator and controls for optimum condition and safety.
- C. ADVISE CONTRACTOR: of precautions required through the remainder of the construction period, to ensure that doors will be without damage or deterioration (other than normal weathering) at the time of acceptance.

*Note: Horton Automatics reserves the right to make product improvements and change specifications without notice.*

**END OF SECTION**