

SPECIFICATIONS FOR CRANE "ALL GLASS" REVOLVING DOORS

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DIVISION 8 - DOORS AND WINDOWS

SECTION 08470 - REVOLVING DOORS

Note: Within this section, double back slash marks (\\ \\) enclose language that should be originally selected for deletion or inclusion in its entirety. For example, when double back slash marks enclose an entire paragraph regarding bronze materials and bronze is not to be used, delete the entire wording within the set of enclosed double back slash marks.

If the wording within the set of double back slash marks is chosen to be included, the single back slash marks within the wording indicate other choices to be made by the specifier.

Single back slash marks (\ \) enclose words, numerals, or terms that should be carefully considered and edited by the specifier.

Parentheses () enclose content that is informational only for the specification writer and should not be included in the edited document.)

PART 1 - GENERAL

1.01 DESCRIPTION

A. This section includes the furnishing and installation of a complete revolving door assembly including metal, glass, and hardware as detailed and specified. (Crane "All Glass" construction is a proprietary specification - there are no equals.)

1.02 RELATED WORK COVERED BY OTHER SECTIONS OF THIS SPECIFICATION INCLUDING BUT NOT LIMITED TO:

- A. Installation of glass - Section 08800 "Glazing".
- B. Furnishing of cylinders for locks - Section 08700 "Finish Hardware".
- C. Perimeter caulking and sealing of canopy cover - Section 07900 "Sealants"
- D. Floor work within enclosure including all holes and cut-outs - Section _____.

\\E. Electrical hook-up \and lamps for ceiling fixtures if required\ - Division 16 "Electrical".\\

\\F. Swing doors and frames, tube mullions and transom bars, shims and sealant adjacent to revolving door - Section 08410 "Entrances and Storefronts".\\

\\G. Field touch-up of door is specified in \Section 01700 "Final Cleaning." \Section"____".\ \\

1.03 QUALITY ASSURANCE

A. Manufacturer shall provide the name and address of 5 current similar projects within the architect's area code, city, state or country.

B. References

AGMA American Gear Manufacturers Association
ANSI American National Standards Institute (Safety glazing)
ASME American Society of Mechanical Engineers (Welding)
ASTM American Society of Testing and Materials
CDA Copper Development Association (Bronze alloys)
DIN Deutschland Engineering Normalization
IRDA International Revolving Door Association
NAAMM National Association of Architectural Metal Manufacturer
NEMA National Electrical Manufacturers Association

C. Manufacturer shall have all welding performed by certified welders, having passed the American Welding Society (AWS) tests within the previous 12 months.

D. Manufacturer shall label each door unit with the manufacturer's name, model number, serial number and date of manufacture. \

1.04 SUBMITTALS

A. PRODUCT DATA: Submit manufacturer's standard literature and details for proof of compliance with specifications. Delete inapplicable information. Include information on maintenance of finishes, weathersweep replacement, \and lamp replacement.\

B. SHOP DRAWINGS: Submit \one sepia and three blue line prints\ or \1 DXF or AUTO CAD disk\ showing sections of all members, dimensional plans and elevations including anchors and all other components. Minor variations in details for the purpose of improving fabrication and installation procedures, but not affecting the exterior design concept or structural stability will be given consideration if submitted.

C. FINISH SAMPLES: Submit two (2) 3" x 5" samples of the metal and finish specified.

1.05 WARRANTY

A. Units shall be warranted against defective materials and workmanship for a 3-year period from the date of \installation\ \substantial completion.\ The speed control shall be warranted for a period of 5 years. No warranty on glass nor for normal wear and tear on weathersweep material will be required.

\1. Applied finishes shall be warranted for the length of time stated in the manufacturer's literature for finish selected.\

1.06 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Materials shall be packed, unloaded, stored, and protected to avoid abuse, damage, and defacement from any source.

B. When unloading, remove all paper type wrappings that are wet or which could become wet.

C. Store inside, if possible, in a clean, well drained area free of dust and corrosive fumes.

D. Stack vertically or on edge so that water cannot accumulate on or within materials, using wood or plastic shims between components to provide water drainage and air circulation.

E. Cover materials with tarpaulins or plastic hung on frames to provide air circulation and prevent contaminants from contacting finished metal.

F. Keep water away from stored assemblies.

G. When installing, protect materials from lime, mortar, run-off from concrete and copper, careless handling of tools, weld splatter, acids, roofing tar, solvents, and abrasive cleaners.

H. Owner will pay for stored materials if project is delayed.

I. Owner will request a waiver of lien from the manufacturer prior to release of final payment.

PART 2 - PRODUCT

2.01 MANUFACTURER

A. Revolving doors shall be "All-Glass" type as indicated on Drawings and as manufactured by Crane Revolving Door Company, Inc.

2.02 MATERIALS AND FINISHES

A. All welded construction requires all-welded metal to be ground down, polished, and blended to remove distortions created by the concealed welds and by surface welds.

B. Aluminum, exposed and clad: Minimum thickness .125", except snap-in glass stops and canopy covers shall be minimum thickness .0625"; all exposed extrusions and sheets shall be Aluminum Association alloy as recommended by manufacturer

for the use intended and required to produce the specified finish. All other extrusions shall be 6063-T52, sheets 5005-H34 AQ as required for the use intended.

1. All concealed aluminum shall be anodized for protection.
2. Interior grade anodizing (0.4 mils thickness) shall not be acceptable.

3. Exposed finishes:

a. Natural anodized finish - NAAMM AA-M31 M32-C22-A41 (minimum thickness of 0.7 mils), Natural aluminum color. -or-

a. Colored anodized finish - NAAMM AA-M31 M32-C22-A44 (minimum thickness of 0.7 mils), integral color Medium Bronze. Dark Bronze. -or-

a. Painted finish - NAAMM AA-M32-C12-A11 painted per manufacturer's instructions, color to match approved sample.

Liquid coat Powder coat Manufacturer _____,
Designation_____.

B. Stainless Steel: Extrusions and Sheets, Type 304, .060" minimum sheet thickness.

1. Finish:

- a. #4 Satin #6 Fine Satin #7 Mirror-Like #8 Mirror Custom per architects sample.

C. Bronze: Extruded architectural CDA alloy 385, 0.125" minimum thickness except glass stops; breakform CDA 280 Muntz metal CDA 220 Commercial bronze CDA Nickel silver sheet .062" minimum sheet thickness.

1. Finish:

- a. Satin and lacquered Mirror finish and lacquered.
Satin, statuary and lacquered.

D. Steel: All steel shapes, plates and tubes shall conform to ASTM A36-94. Mild steel reinforcing bar shall be .250" minimum thickness. Steel reinforcing sheet shall be minimum .106" thickness. All steel shall be prime coated to prevent corrosion due to electrolysis.

E. Galvanized Steel: Minimum thickness .060" steel sheet shall conform to ASTM A527.

F. Glass: Fabricate and deliver curved glass for the enclosure and flat glass for the wings and canopy, to match the profiles shown on the Drawings. Thickness shall be as required to comply with all applicable provisions of governing codes. All glass shall meet the code. Where safety glazing is required, shall fulfill requirements of ANSI Z97.1.

1. Glass for Wings:

a. Glass shall be 1/2" clear tempered float for Herc style wings. (Clear only, for safety.)

2. Glass for Enclosures:

a. Glass shall be 9/16" nominal thickness bent laminated float, clear. tinted. (Please specify color and type if tinting is required.) -or-

a. Enclosures without center posts: Glass shall be two pieces 9/16" nominal thickness bent laminated float, clear. tinted. (Please specify color and type if tinting is required.)

3. Glass for Canopy:

a. Glass shall be two pieces 13/16" nominal thickness laminated float with center divider, clear. tinted. (Please specify color and type if tinting is required.) (No tempered ceiling glass.) -or-

a. For exterior applications glass shall be one piece 13/16" nominal thickness resin laminated float with center divider, clear. tinted. (Please specify color and type if tinting is required.) (No tempered ceiling glass.) -or-

a. Glass shall be one piece 13/16" nominal thickness laminated float without center divider, clear. tinted. (Please specify color and type if tinting is required.) (No tempered ceiling glass.) -or-

a. For exterior applications glass shall be one piece 13/16" nominal thickness resin laminated float without center divider, clear. tinted. (Please specify color and type if tinting is required.) (No tempered ceiling glass.)

2.03 EQUIPMENT

A. Manual Speed Control

1. Precision machined steel casting with precision machined 100-1 gear train, steel brake drum, adjustable and replaceable brake blocks. Adjust speed to comply with applicable Life Safety and governing codes. The peripheral speed shall not exceed 210 Feet Per Minute (70 Meters Per Minute).

a. Floor Speed Control - Mount in steel cement case complete with removable cover plate:

1. Shape shall be Rectangular. Round.

2. Material shall be Stainless steel. Bronze. Aluminum.

2. Material shall be Stainless steel pan for terrazzo. Stainless steel pan for granite flooring.

2.04 CURVED ENCLOSURE WALLS

A. Glass with metal trim as indicated:

\1. Aluminum and glass, as detailed: Aluminum breakformed sheet closely fitted with tight hairline joints. Tightly fit enclosure bases. Aluminum reinforcing bar welded in place. Welds shall be on the unexposed surface, equally spaced, 8" maximum center to center. Exposed metal shall be dressed after welding to original finish. A 2" minimum clearance shall be maintained between the enclosure wall and wing for ease of operation and safety. \ -or-

\1. Stainless Steel and glass: Stainless steel sheet cut, formed and reinforced with stainless steel sheet and mild steel bar welded into place. Welds shall be equally spaced, maximum 8" center to center on unexposed surface. Exposed surfaces to be dressed after welding. Welds to be ground down, blended, and polished to match adjacent finish. Tightly fit enclosure bases. A 2" minimum clearance shall be maintained between the enclosure wall and wing for ease of operation and safety.\ -or-

\1. Bronze (Muntz Metal): Bronze sheet cut, formed, and reinforced with galvanized sheet and mild steel bar welded into place. Welds shall be equally spaced, maximum 8" center to center on the unexposed surface. Exposed surface to be dressed after welding. Welds to be ground down, blended, and polished to match adjacent finish. Tightly fit enclosure bases. A 2" minimum clearance shall be maintained between the enclosure wall and wing for ease of operation and safety.\ \

2.05 WINGS

\A. Four - wing as indicated\

1. Wings shall be tempered glass style with manufacturers standard dimensions as detailed.

\2. Aluminum: Provide extruded aluminum top and bottom rails. Finish to be \ anodized \ painted \ clad in stainless steel \ clad in bronze. \ \ -or-

\2. Stainless Steel: Provide cut and formed stainless sheet welded to mild steel bar and to formed and welded stainless steel sheet. Welds to be on the unexposed surface, equally spaced maximum 8" center to center. Exposed surface to be dressed after welding to its original shape. All welds to be ground down, blended, and polished to match adjacent finish.\ \ -or-

\2. Bronze: Provide cut and formed bronze sheet welded to mild steel bar and to formed and welded galvanized reinforcing. Welds to be on the unexposed surface, equally spaced maximum 8" center to center. Exposed surface to be dressed after welding to its original shape. All welds to be ground down, blended, and polished to match adjacent finish.\ \

2.06 CANOPY

A. Glass Ceiling, as indicated:

1. Provide glass ceiling as shown on drawings.

2.07 BOOKFOLD DEVICE

A. Chilled cast, precision machined bronze hangers and discs finished to match door. Adjustable spring tension set in field by installer to comply with applicable Life Safety and governing codes.

(Purpose: To allow the individual door wings to bookfold like leaves of a book when pressure is applied and rotation is restricted.)

B. Mechanism: Wings shall be held in radial positions by means of stainless steel balls, engaging in top and bottom disc of each wing. Excess pressure shall rotate balls from socket and allow each wing to be bookfolded. Tension shall be adjustable.

A. Center shaft shall be one-piece type with housing and seal to fit contour of wing.

2.08 PUSH BARS

\A. The push bars shall be 1" diameter bars of the same material and finish as the door wings, mounted thru holes in the tempered glass, or custom push bars as detailed. \A. Flush mounted push plate per detail in lieu of push bar.

2.09 BUMPER

A. A 5/8" diameter x 2 -1/8" rubber tipped bumper, finished to match the door. One per wing installed on the top rail - to separate wings when bookfolded.

2.10 LOCKS

\A. For "Herc" style wings: Two concealed deadlocks, bottom rail mounted.

2.11 PIVOT BEARING

A. Overhead Pivot Assembly shall consist of sealed ball type radial bearing firmly mounted in place and accessible.\

2.12 WEATHERSWEEP

\A. Black EPDM and woven felt on wings to engage the enclosure side walls and ceiling. EPDM only to engage the floor.\

\A. Horse hair brush type weathersweep.\

2.13 FASTENERS

A. All exposed fasteners shall be finished to match doors.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Installer shall examine area and conditions under which revolving doors are to be installed. Notify the contractor in writing of conditions detrimental to the proper and timely completion of the work. The finished floor shall be smooth and level and the adjacent work in its proper place before the door shall be installed.

3.02 INSTALLATION

A. Comply with the manufacturer's specifications, recommendations, installations manual and approved shop drawings.

B. Set units plumb and level. Set the enclosure base and anchor securely in place. Provide a full size floor template to facilitate installation.

C. Set enclosure glass as detailed, including edge strips and top trim.

D. Bolt canopy glass to the enclosure wall in field with buttons provided.

E. Finished surfaces shall be cleaned and left free of imperfections. All protective tape and labels shall be removed.

3.03 ADJUST AND CLEAN

A. Adjust speed control and bookfold tension to comply with all applicable Life Safety and governing codes.

B. Advise contractor of protective treatment and other precautions required through the remainder of the construction period to insure that the revolving doors will be without damage or deterioration (other than normal weathering) at the time of acceptance.

3.04 MAINTENANCE

A. Maintenance: All moving parts shall be kept clean and lubricated, bookfold tension must be tested and adjusted annually. Weathersweeps must be inspected and replaced every two to three years to insure proper operation.

\B. Bronze requires annual maintenance. A professional metal finisher may be retained by the owner for the annual maintenance. Touch-up and annual maintenance is not included in this section.\