

SPECIFICATIONS FOR ALUMINUM & STAINLESS STEEL/BRONZE CLAD ALUMINM 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.

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 08400 "Entrances and Storefronts". \\\

\\G. Field touch-up to bronze 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

ANSI American National Standards Institute (Safety glazing)

ASTM American Society of Testing and Materials

CDA Copper Development Association (Bronze alloys)

IRDA International Revolving Door Association

NAAMM National Association of Architectural Metal Manufacturer

C. 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 one-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.

PART 2 - PRODUCT

2.01 MANUFACTURER

- A. Revolving doors shall be Crane Aluminum or Clad/ Bronze Muntz Metal/ Stainless Steel as indicated on drawings and as manufactured by Crane Revolving Door Company, Inc.

2.02 MATERIALS AND FINISHES

- A. 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 anodized finish aluminum (0.4 mils thickness) shall not be acceptable for exterior surfaces.

3. Exposed Finishes:

- a. Natural anodized finish - NAAMM AA-M12-C22-A41 (minimum thickness of 0.7 mils), Natural aluminum color. -or-

\a. Colored anodized finish - NAAMM AA-M12-C22-A44 (minimum thickness of 0.7 mils), integral color \Medium Bronze\ \Dark Bronze\ -or-

\a. Painted finish - NAAMM AA-M12-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, except that cladding shall be .036" minimum sheet thickness.

1. Finish:

a. \Satin\ \Mirror\ \

\C. Bronze: Extruded architectural CDA alloy 385, 0.125" minimum thickness except glass stops. Breakform sheet shall be 280 Muntz metal, .062" minimum sheet thickness, except that cladding shall be .032" 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, to match the profiles shown on the Drawings. Thicknesses 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 \1/4" clear tempered float\ \1/2" clear tempered float for Herc style wings.\ (Clear only, for safety.)

2. Glass for Enclosures:

\a. Glass shall be 7/16" nominal thickness bent laminated float, \clear.\ \tinted.\ (Please specify color and type if tinting is required.)\

\a. Glass shall be 1/4" nominal thickness bent tempered float, \clear.\ \tinted.\ (Please specify color and type if tinting is required.)\

\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.)\

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. Overhead Speed Control - Mount overhead in the 3-1/8" high metal canopy with rubber isolation mounts and 1/8" thick insulation panel.

2.04 CURVED ENCLOSURE WALLS

A. Metal and Glass, as indicated:

\1. Aluminum: Provide standard extrusions closely fitted with hairline joints and removable enclosure bases for glazing. A 2" minimum clearance shall be maintained between the enclosure wall and wing for ease of operation and safety.\

\1. Stainless Steel: Provide breakformed profiles closely fitted with hairline joints and removable enclosure bases for glazing. A 2" minimum clearance shall be maintained between the enclosure wall and wing for ease of operation and safety.\

\1. Bronze (Muntz Metal): Provide breakformed profiles closely fitted with hairline joints and removable enclosure bases for glazing. A 2" minimum clearance shall be maintained between the enclosure wall and wing for ease of operation and safety.\

2.05 WINGS

\A. Three - wing,as indicated\

\A. Four - wing as indicated\

1. Wings shall be constructed of extruded aluminum \clad with stainless steel\ \clad with bronze\ . Wings shall be \narrow stile\ \"Herc" style\ as detailed on Drawings. Glass stops shall be snap-in style where possible. Corners of wings shall be closely fitted and bolted with tight hairline joints.

2.06 CANOPY

A. Metal, 3-1/8" high:

1. Canopy shall be partially assembled using construction adhesives and 2-sided adhesive tapes. Clean all exposed surfaces of excess adhesives.

2. Aluminum clad with stainless steel \ clad with bronze \ : Constructed of extruded and sheet aluminum reinforcing. Canopy cover shall be same material and finish as door mill finished aluminum. Reinforcing blocks for bolting the canopy to the enclosure wall shall be aluminum.

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.

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 in the field.

C. Center shaft shall be one-piece type with housing to fit contour of wing, with felt seal mounted in wing stiles providing positive air lock at center of door.

2.08 PUSH BARS

A. The push bars shall be 1/2" x 1-1/2" 1" diameter aluminum bar finish to match door satin finish stainless steel bar mirror finish stainless steel bar and lacquered finish bronze bar mirror and lacquered finish bronze bar (one per wing), mounted through stiles glass for "Herc" style.

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. Two special revolving door type deadlocks, finished to match door - cylinder to be furnished by Section 08700 "Finish Hardware," installed as specified under another section. Surface mounted on top rail on bottom rail with dust proof strikes. -or-

A. For "Herc" style wings: Two concealed deadlocks. Top rail mounted bottom rail mounted with dust proof strikes.

2.11 PIVOT BEARING

A. Floor pivot assembly shall consist of bearing, lubricant and upper and lower retainers. The bearing shall be a ball thrust type bearing. The lubrication fitting shall be accessible without dismantling door. Upper and lower retainers shall be plastic castings using PTFE lubricated, glass fiber reinforced nylon castings.

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.

2.13 FASTENERS

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

2.14 CEILING LIGHTS

\A. Provide two Crane special ceiling lights including white painted metal housing for fluorescent fixture and white painted ballast, light lens with flush mounted snap-in trim ring of the same material and finish as the soffit. Lamps required, FC8T9, and hook up are not supplied by Crane.\ -or-

\A. Provide cut outs in soffit for down lights, provided as specified under another section, as shown in details.\ -or-

\A. Provide two Incandescent light - each with 2 bulbs with sockets and mounting angle and lens. Mounting by installer. Electrical hook up by Division 16 "Electrical". Lens installed with two-sided tape.\ \

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 manufacturers specifications, recommendations, installations manual and approved shop drawings.

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

C. Bolt canopy to the enclosure wall in the field.

D. 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. This maintenance is not included within this section.

\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.\