SECTION 08 11 16
HINGED AND PIVOT DOORS

Specifier Note: This specification document shall serve as a guide specification for typical projects where the CJ Rush Hinged and Pivot Door entrance system will be the basis of design. Specification must be reviewed for applicability on a per project basis. Specification is not appropriate for projects where a wind force and/or impact rating are required. The specifier is directed to select appropriate options included herein. Consult with the local authorized CJ rush distributor when options, not specified, are required. See last page of this document for a summary of unspecified options.

PART I – GENERAL

1.1 WORK INCLUDED

.1 Comply with General Requirements for Building Envelope and documents referred to therein.

.2 Furnish labour, materials and other services to complete the fabrication and installation of the balanced doors and door frames, as manufactured by CJ Rush Entrance Systems Ltd. including all materials and fitments required for the operation of the units in the manner, direction and performance shown on the shop drawings and specified herein

1.2 REFERENCE DOCUMENTS

ASTM B209-96 - Specification for Aluminum and Aluminum-Alloy Sheet and Plate

ASTM B22 1-96 - Specification for Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.

CSA G40.20/G40.21- General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steels.

CAN/CGSB-19.13-M87 - Sealing Compound, One-Component, Elastomeric, Chemical Curing.

CAN/CGSB-12.3-M91 - Flat, Clear Float Glass.

CAN/CGSB-12.1, Type 2, Class B - Tempered safety glass

CAN/CGSB-12.1, Type 1, Class B - Laminated safety glass

CISC/CPMA 2-75a - Primer paint for ferrous metals / Quick drying paint for Structural Steel

CAN/CGSB-1 .1 32-M90 - Zinc Chromate Primer, Low Moisture Sensitivity

AA-M12C22A41 / AA-M12C22A31. Clear anodized aluminum finish,

AA-M12C22A42 / 44. Anodic Colour Coating

1.3 DESIGN

.1 Design members and their connections to withstand within acceptable deflection limitations their own weight, the weight of the glass, loads imposed by the motion of operable elements and the minimum design loads, and combinations of loads, due to the pressure and suction of wind as calculated in accordance with the National Building Code requirements, and designed internal pressure.

.2 Deflection limits for all members: A maximum of 1/175 of the span or 12mm (1/2”) whichever is less, under design loading.

.3 Design assemblies, their connections, glazing clearances and glazing and sealing details to accommodate a material temperature range of -40^{0}C (-40^{0}F) to 66^{0}C (155^{0}F) without overstressing materials or generating sound.

.4 Design glazing systems and glass units to minimize the possibility of thermal breakage.

1.4 SUBMITTALS

.1 Submit shop drawings showing all components revolving door assemblies in as large a scale as practical, and showing the construction, methods of joining, welding, bonding, fastening, sealing, gasketing and anchorage, as well as type of metal, material thickness, finishes and other pertinent data.

.2 Shop drawings shall include a schedule of hardware items that are to be supplied under this Section.

.3 Submit samples of materials and products with their respective finish before fabrication, as required. Samples shall fully represent the physical and chemical properties of the materials to be supplied.

.4 Maintenance Instructions: For inclusion in Maintenance Manuals, printed copies of maintenance instructions for Work of this Section.

1.5 DELIVERY, STORAGE, AND HANDLING

.1 Apply a temporary protective coating or other means of protection, as required, of the fabricator's choice as required to ensure protection from damage for all finished metal surfaces. Remove coating at the most suitable time during erection. Do not use adhesive papers or sprayed coatings, which will become firmly bonded when, exposed to the sun. Do not leave coating residue on any surface.

.2 Store and protect fabricated units from damage until required for installation. Replace or repair damaged units as required.

1.6 QUALITY ASSURANCE

.1 Work shall be performed by trade specialists having minimum of five (5) consecutive years of successful completion of balanced entrance door work of similar size and character and installed by door manufacturer’s authorized installer.

1.7 WARRANTY

.1 Warrant the balanced doors and operating mechanism, the work of this Section against defects in materials and workmanship for a period of one (1) year.

PART 2- PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

.1 **CJ Rush Entrance Systems Ltd. ,**
65 Riviera Drive,
Markham, Ontario.
L3R 5J6
Phone: 905 944 8005
Fax: 905 944 8006

.2 Approved alternate with minimum 5 consecutive years of successful completion of balanced entrance door work of similar size, character. Alternate to be pre-approved before close of tender.

2.2 MATERIALS

.1 Drawings and specifications for work of this section are based upon (Specifier select one of the following **door** series) as manufactured by **CJ Rush Entrance Systems Ltd.**

.1 Series 10 Door; 67mm (2-5/8") stiles, 29mm (4 1/8”) top rail, 114mm(4 1/2”) bottom rail 45mm(1-3/4") depth. c/w 6mm glass

.2 Series 30 Door; 25mm (1") stiles, 29mm (4 1/8”) top rail, 114mm (4 1/2”) bottom rail 45mm (1-3/4") depth c/w 12mm glass

.3 Series 60 Door: 29mm (4 1/8”) top rail, 114mm(4 1/2”) bottom rail 45mm(1-3/4") depth c/w 12mm glass

.2 Drawings and specifications for work of this section are based upon (Specifier select one of the following **framing** series) as manufactured by CJ Rush Entrance Systems Ltd.

.1 Framing Series 2000 Framing; 70mm x 127mm (2-3/4" x 5”) header and jamb profile with snap on covers and glass stops to eliminate exposed screws

.2 Exposed shaft framing, Series 3000 Framing, 50mm (2”) diameter exposed shaft and 70mm x 127mm (2-3/4" x 5”) header profile resulting in maximum glass design with snap on header cover plate and glass stops to eliminate exposed screws.

.3 Extruded Aluminum Sections: Alcan 6063 T54, T5, or T6 aluminum alloy and temper, other approved alloy and temper, accurately formed, extruded and free from defects impairing appearance, strength and durability.

.4 Aluminum Sheet and Plate: alloy and temper suitable for purpose, of type, characteristics and finish required, special hardness for flat panel application, minimum 3.2mm (0.125") thick for panels. Sheet, which is not exposed, shall be Alcan Utility, AA-3003 mill finished.

.5 Bolts, screws, nuts, washers and other fasteners: to be stainless steel of austenitic grade, 300 series for aluminum to aluminum connections; cadmium plated steel or galvanized steel elsewhere.

.6 Sealants shall be non-bleeding, non-staining and capable of supporting their own weight. Sealants exposed to exterior shall also be UV resistant and ozone resistant. Sealants used in glazing systems shall also be capable of supporting specified loads associated with the glazing systems.

.7 Sealant at door where exposed and weather seal sealant: one component silicone base sealant. Co-ordinates with other Sections to ensure the sealants are compatible.

.8 Sealants used in contact with edges of laminated glass shall not cause damage or disfigurement of vinyl laminate interlayer of the laminated glass.

.9 Primers: As recommended by the sealant manufacturer to suit the various conditions of the Work.

.10 Cleaning material: solvent as recommended by the sealant manufacturer.

.11 Joint backing for sealants: Chemically compatible rod stock as recommended by sealant manufacturer, of a diameter sized 25% greater than the joint width before application.

.12 Sealant tape: Extruded, ribbon-shaped, non-drying, non-skinning, non-oxidizing, reinforced, polyisobutylene tape of sufficient width and thickness to permit continuous seal.

.13 Miscellaneous and Sub-Frame Steel: brake formed pre-galvanized steel sheet with zinc chromate coating and joints touched up after fabrication.

.14 Prime paint ferrous metals.

.15 Touch-up primer for galvanized steel: Zinc rich primer.

.16 Glass and Glazing Accessories: In accordance with Appropriate Section, thickness and shapes as detailed.

.17 Float glass: clear glazing quality.

.18 Tempered safety glass: Clear glazing quality. Tempering shall be performed using the horizontal tong-free method.

.19 Laminated safety glass: clear glazing quality with clear polyvinyl butyral interlayer laminate.

.20 Glass for doors: Tempered safety glass, minimum 6mm (¼") thick for door leaves.

.21 Weather-stripping: shall be of wool pile of size and density appropriate to function.

.22 Insulation where required: Resilient, fibrous glass having a nominal density of 12kg/m^2 (0.75 lbs./ft).

2.3 FINISHES…(Specifier to select finish from items below)

.1 Aluminum - Painted…(Specifier to choose one of the following)

.1 Duranar Paint

.1 Exposed aluminum sections shall be given a factory applied thermosetting Duranar coating in accordance with American Architectural Manufacturers Association specification AAMA 605.2.

.2 Color shall match … (Specifier provide color reference number)

.2 Fluropolymer Paint

.1 Exposed aluminum sections shall be given a factory applied thermosetting fluorpolymer coating in accordance with American Architectural Manufacturers Association specification AAMA 605.2.

.2 Color shall match … (Specifier provide color reference number)

.2 Aluminum - Anodized…(Specifier to choose one of the following)

.1 Exposed aluminum sections shall be given an anodic oxide treatment in accordance with Aluminum Association specification.

.1 #14 Clear (AA-M12C22A41)
.2 #17 Clear (AA-M12C22A31)

.2 Permanodic Hard Color

Exposed aluminum sections shall be given an anodic oxide treatment in accordance to obtain an Architectural Class 1 Anodic Colour Coating in accordance with Aluminum Association specification AA-M12C22A42/44. Colour shall be: (Specifier to choose one of the following).

.1 #18 Champagne
.2 #26 Light Bronze
.3 #40 Medium Bronze
.4 #29 Black
.5 #42 Dark Bronze

.3 Stainless Steel Finish

.1 Material to be either 304 (Used predominantly in North America where salt corrosion from ocean conditions are not present) or 316 alloy (Used predominantly in areas where salt corrosion from the ocean is present)

.2 Exposed aluminum sections shall be clad in stainless steel with minimum thickness of 0.050” (1.27 mm) on door wings and 0.062” (1.57mm) on framing.

.3 Finish to be …(Specifier to choose one of the following)
.1 #4
.2 X-L Blend “S”
.3 #8 Mirror
.4 Other (Specifier provide reference numbers)

.4 Muntz Metal Cladding (A specialty alloy of bronze to allow bending without cracking)

.1 Exposed aluminum sections shall be clad in alloy 280 Muntz metal with minimum thickness of 0.050” (1.27 mm) on door wings and 0.062” (1.57mm) on framing.

.2 Finish to be….(Specifier to choose one of the following)
.1 #4
.2 #4 Oxidized
.3 Satin Oxidized
.4 Mirror

.3 All bronze finishes are recommended to have a factory applied wax finish

2.4 DOOR REQUIREMENTS

.1 Door requirements shall be (Specifier include design limitations & framing)

.1 Recommended maximum door leaf sizes, large sizes may be available – contact factory for oversized requirements.

.1 Framed Doors (Series 10, 30)
.1 1067mm x 2438 mm pairs (3-6" x 8'-0") pairs
.2 1143mm x 2438 mm single (3'-9" x 8'-0") single
.3 1219mm x 2134 mm single (4'-0" x 7'-0") single

.2 Glass Doors (Series 60)
.1 914mm x 2438 mm pairs (3'-0" x 8'-0") pairs
.2 1067mm x 2438mm (3'-6" x 8'-0" single) single

2.5 GLASS

.1 Door glass shall be …(Specifier to choose from the following)
.1 Color (tint)
.2 Tempered (6mm, 12mm) (1/4", 1/2")
.3 Insulated (19mm) (3/4")
.4 Laminated (6mm, 12mm) (1/4", 1/2")

2.6 SIGNS

.1 Signage is available and shall be …(Specifier to select from the following criteria).
.1 Lettering
.2 Engraving
.3 Hinged panels

2.7

HARDWARE

SPEC NOTE: Schedule items as per paragraph 3.4.
SPEC NOTE: For automatic doors use centre pivots.

Hardware for doors shall be…(**Specifier include style, finish, type, model, series, manufacturer, etc. to ensure a complete description of requirements**).

Butts: [1 1/2] [2] pair per door leaf, [114 mm x 102 mm] [114 mm x 114 mm] [127 mm x 114 mm], FBB 199, NRP, [ ] finish.

Pivot hinges: [offset] [centre] pivots, self-lubricating bronze bearings, hardened steel pins, adjusting pivot with locking screw, [mortised intermediate pivot hinge], finish shall match door frame.

Cylinder: [supplied under Section 08 70 00] [mortised cam type, [master keyed to building keying system], 5 pin type, finish same as door, [thumb turn], mount 1520 mm above floor.

Maximum security lock: 5 ply steel bolt, 35 mm throw, anti-saw roll pins, to accept mortised cylinder.

Push: aluminum bar with push plate similar to Kawneer style [ ], mount 1140 mm above floor.

Pull: extruded aluminum shape similar to Kawneer style [ ], mount 1140 mm above floor.

Panic: [concealed] [surface] rim device, Russwin [ ] model, [roller strike], mount 1025 mm above floor.

Threshold: extruded aluminum, ribbed, full width of opening, [as required to cover floor mounted closer].

Closer: [single] [double] acting, overhead, [surface] [concealed] mounted, rectangular slim profile, LCN [ ] model [including support bracket], [ ] finish, adjustable closing and latch speeds.

Floor closer: [offset] [centre] pivot type, [single] [double] acting, hydraulic action, [105° hold open], floor cover plate [flush with threshold], metal concrete form box, adjustable closing and latch speeds.

Holder: overhead [surface] [concealed] type, adjustable check for [°] opening, Glynn-Johnson Model [ ], [ ] finish.

Computer Monitoring Systems And Specialty Controls
.1 Magnetic locks
.2 Electric strikes
.3 Card readers
.4 Sensors

2.8 FABRICATION

.1 Construct door from extrusions of size and shape shown on shop drawings.

.2 Door top rails, bottom rails and stiles shall be porthole extrusions.

.3 Corner construction shall be mechanical clip fastening or welded when required.

.4 Glazing stops shall be either an integral part of extrusion or screw applied with glazing gaskets.

.5 Weathering to be all around door wherever possible to maximize weatherseal.

.6 Meeting stiles on pairs of doors shall be provided with an adjustable weathering astragal.

.7 Oversize or custom size rails, stiles and framing may be fabricated from brake formed 3mm (0.125”) pre-galvanized or aluminum sheet and clad with (Choose one) aluminum, stainless steel or Muntz metal.

.8 Where specified door leaves to be clad with 1.27mm (0.050”, 18 gauge) thick sheet.

.9 Where specified framing to be clad with 1.57mm (0.062”, 16 gauge) thick sheet.

PART 3 EXECUTION:

3.1 INSPECTION

.1 Installer must examine the areas and conditions under which doors and framing are to be installed and notify the Contractor in writing of conditions detrimental to the proper and timely completion of the work.

.2 Do not proceed with the work until all unsatisfactory conditions have been corrected in a manner acceptable to the installer

3.2 INSTALLATION

.1 Doors shall be installed, glazed and adjusted by experienced personnel in accordance with the manufacturer's instructions and approved shop drawings.

.2 Comply with manufacturer's specifications and recommendations.

.3 Set units plumb, level and true to line, without warp or rack of frames or doors. Anchor securely in place.

.4 Aluminum and other corrodible materials must be isolated from sources of electrolytic action at points of contact.

3.3 ADJUST AND CLEAN

.1 Adjust operator and controls for optimum condition and safety.

.2 Lubricate operating equipment.

.3 Clean Aluminum surfaces promptly after installation, exercising care to avoid damage of the protective coating (if any).

.4 Advise contractor of protective treatment and other precautions required through the remainder of the construction period, to ensure that the installation will be without damage or deterioration (other than normal weathering) at the time of acceptance. Thereafter, it shall be the responsibility of the General Contractor to maintain protection and provide final cleaning.

3.4 HARDWARE SCHEDULE

.1 Provide and install hardware to the following schedule:

SPEC NOTE: Set out a hardware schedule listing door numbers down left column and set out column headings as for specified items: Room # to Room #, handling, single or double leaf, hinges, cylinder, push/pull, panic, threshold, closer, holders, weatherstripping.

END OF SECTION

The CJ Rush Hinged and Pivot Doors offers many different combinations. The specifications herein cover the most popular systems. CJ Rush products and systems are built with quality and flexibility in mind. For further assistance please feel free to contact your local CJ Rush Entrance Systems Ltd. representative for more information on specifying the right revolving door entrance for your project.

.