

1 General

1.1 **SUMMARY**

.1 Section Includes

- .1 Furnish labour, materials, equipment, and services necessary for installation of interior aluminum framed glazed partition systems, including but not limited to:
 - .1 Interior aluminum framing systems for interior use
 - .2 Glazed aluminum fixed screens
 - .3 Sliding doors for interior use
 - .4 Glass and other Glazing Panels
 - .5 Related work as shown on the drawings or specified herein.

1.2 **REFERENCES**

- .1 The Aluminum Association (AA).
- .2 American Architectural Manufacturers Association (AAMA).
 - .1 AAMA 611, Voluntary Specification for Anodized Architectural Aluminum.
 - .2 AAMA 2603, Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic coatings on Extruded Aluminum and Panels.
- .3 American National Standards Institute (ANSI).
 - .1 ANSI ICC A117.1, Accessible and Usable Buildings and Facilities.
 - .2 ANSI/BHMA A156.115, Hardware Preparation in Steel Doors or Steel Frames.
 - .3 ANSI Z97.1, Safety Glazing Materials Used in Buildings – Safety performance Specifications and Methods of Test.
- .4 ASTM International (ASTM).
 - .1 ASTM A666, Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
 - .2 ASTM B221, Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
 - .3 ASTM B456, Standard Specification for Electrodeposited Coatings of Copper Plus Nickel Plus Chromium and Nickel Plus Chromium.
 - .4 ASTM B633, Standard Specification for Electrodeposited Coatings of Zinc on iron and Steel.
 - .5 ASTM C864, Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers.
 - .6 ASTM C1048, Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass.

1.3 **DESIGN CRITERIA**

- .1 Drawing and Specifications.
 - .1 Details shown on Drawings are schematic and show general arrangement and intent.
 - .2 Drawings indicate profiles and configurations required together with relationships to the building structure and other exterior and interior building elements with which the Work is required to interface.
 - .3 Drawings do not purport to solve problems at the glass lines associated with glass installation, movements, pressure fractures and thermal shocks.
 - .4 Drawings contain details that suggest directions for addressing some of the major design requirements. The Contractor may use the details and develop them as deemed best to obtain the required design criteria.
 - .5 Specifications are performance type and include minimum requirements. Specifications are not intended to limit the method of achieving the required performance.
- .2 General: Provide aluminum-framed office partitions and doors of dimensions and configurations shown. Design members and their connections to withstand within acceptable deflection limitations their own weight, the weight of glass, loads imposed by the motion of operable elements and the minimum design loads, and combinations of loads, in accordance with Ontario Building Code, and interior pressure changes.
 - .1 Aluminum frames and fixed panels shall withstand gravity loads and a lateral deflection is limited to the lesser of $L/175$ or 12 mm (3/4 inch), whichever is less, when tested under a uniformly distributed load of 5 lb/sq. ft. (24.4 kg/sq. m) according to ASTM E 72.
 - .2 Glazing Rebates: Design glass framing system to limit lateral deflections of glass panel edges to less than $1/175$ of glass-edge length or 3/4 inch (19 mm), whichever is less.
- .3 Provide glazing of thicknesses and strengths to meet these requirements. Framing members be sized and reinforced as required. Provide written confirmation from the engineer responsible for the review of the shop drawings that these requirements have been met.
- .4 Ensure glazing assemblies are capable of accommodating expansion and contraction without causing buckling, opening of joints, undue strain on fasteners or other detrimental effects. Make allowance for horizontal and expansion in each vertical mullion.

1.4 **SUBMITTALS**

- .1 Product data and certifications: Submit manufacturer's product data, installation instructions, use limitations and recommendations for each door and frame product used. Provide manufacturer's certifications stating that products and assemblies comply with specification requirements.
 - .1 Include construction details, material descriptions, dimensions of individual components and profiles, hardware, finishes, and installation instructions for each type of aluminum frames indicated.

- .2 Include information on factory finish, glass, glazing gaskets, deflection tracks, accessories and other required components.
 - .2 Shop Drawings: Submit schedule indicating opening numbers, frame types, dimensions, slide direction and clearances, and hardware requirements.
 - .1 Include plans, elevations and details indicating frame types, profiles, conditions at openings, methods and locations of anchoring, glazing requirements, hardware locations and reinforcements for hardware.
 - .3 Samples: One sample, minimum 200 mm x 200 mm, with factory-applied color finishes.
- 1.5 **QUALITY ASSURANCE**
 - .1 Installer Qualifications: Contractor executing Work, must have a minimum of five (5) years continuous Canadian experience in successful installation of work of type and quality shown and specified. Contractor must have adequate equipment and skilled tradesmen to perform it expeditiously and to the highest quality standards for this type of Work. Submit proof of experience upon Consultant's request.
 - .2 Single source responsibility: Provide aluminum frames, glass, aluminum and glass doors and accessories produced by a single manufacturer for each type of product indicated.
 - .3 Engineering: Provide the Services of a Professional Engineer, currently registered in the Province of Ontario, to design and certify that the Work of this Section meets or exceeds the performance requirements specified in this section.
- 1.6 **DELIVERY, HANDLING AND STORAGE**
 - .1 Transport materials to the job site in such a manner as to prevent in-transit damage. These measures shall include, but not be limited to, crating, polyethylene wrapping system, etc.
 - .2 Inspect frames and doors upon delivery for damage.
 - .1 Repair minor damage to pre-finished products by means as recommended by the manufacturer.
 - .2 Replace frames that cannot be satisfactorily repaired.
 - .3 Store frames at the project site under cover and as near as possible to the final installation location. Do not use covering material that will cause discoloration of aluminum finish.
- 1.7 **PROTECTION**
 - .1 Protect the Work of this trade from damage. Protect Work of other trades resulting from the Work of this section.
 - .2 Comply with unpacking procedures as recommended by framing and glass manufacturers.
 - .3 Make good all damaged Work caused by failure to provide adequate protection. Remove unsatisfactory Work and replace at no expense to the Owner.

1.8 **ENVIRONMENTAL REQUIREMENTS**

- .1 Do not begin installation of aluminum frames until area of work has been completely enclosed and interior is protected from outside elements.
- .2 Maintain temperature and humidity in areas of installation within reasonable limits, as close as possible to final occupancy standards.

1.9 **WARRANTY.**

- .1 Warrant Work against defects in materials and workmanship in accordance with the General Conditions, for a period of two (2) years from date of Substantial Performance and agrees to repair or replace faulty materials or Work which appears during the warranty period, without cost to the Owner.
- .2 Defects include but not limited to, structural failures including excessive deflection, faulty operation of operators and hardware, deterioration of metals, metal finishes and other frame component materials.

2 **Products**

2.1 **MATERIALS**

- .1 Aluminum Components:
 - .1 Controlled alloy billets of 6063 T5, to assure compliance with tight dimensional tolerances and maintain colour uniformity.
 - .2 Sheet and Plate: ASTM B209M (ASTM B209).
 - .3 Extrusions: ASTM B221 (ASTM B221M) Alloy and temper 6063-T5 or as recommended by aluminum frame manufacturer for strength, corrosion resistance, and application of required finish.

2.2 **INTERIOR FRAMES AND SCREENS**

- .1 Products: Subject to compliance with requirements, manufacturers whose products that may be incorporated into the Work include, but are not limited to, the following:
 - .1 '487 Series Framed Glass Wall Office Partitions' by C.R. Laurence Co.,Inc. / US Aluminum.
 - .2 'InFrame, Interior Framing System' by Kawneer Company Inc.
 - .3 Elite Glass Wall Solution with Inline Sliding Doors by PC350.
 - .4 'Aluminum Office Fronts and Doors' by PK30 System LLC.
 - .5 Or accepted equivalent
- .2 Fixed Glass Panel Partitions: Framed glass panel partition with perimeter channel frames, butt-glazed dry joint and framed joints between panels, equipped with sliding doors where indicated. Provide manufacturer's standard extruded aluminum frames, reinforced as required to support imposed operational loads.

2.3 **SLIDING DOOR SYSTEM**

- .1 Single sliding framed glass door with extruded-aluminum tubular rail and stiles members.
 - .1 Door configuration: as indicated on Drawings
 - .2 Top hung with concealed track
 - .3 Door hardware: Provide manufacturers' standard hardware. Provide door pull to match frame finish.
- .2 Bottom guide Channel: Provide lower guide channel for sliding doors to maintain lateral stability.
- .3 Hardware: Use manufacturer recommended compact, strong and reliable sliding door hardware that requires only a soft touch to operate quietly and smoothly.
- .4 Provide with surface mounted door pull.

2.4 **FINISH**

- .1 Factory finish extruded frame components so that any part exposed to view upon completion of installation will be uniform in finish and color.
 - .1 Color Anodic Finish: AAMA 61, AA-M12C22A42/A44, Class I, 0.07 mm or thicker.
 - .2 Color: Black.

2.5 **GLAZING**

- .1 Refer to Section 08 80 00.
 - .1 Tempered Glass (TGL): Conforming to ASTM C1048, Kind FT or CAN/CGSB-12.1. Type 2 tempered, Class B float glass, Category II, minimum 10 mm
- .2 Glazing Film:
 - .1 Frosted privacy band applied to interior lit face, height as indicated on Drawings. Refer to Section 08 87 00 - Glazing Surface Films.
- .3 Provide factory-cut penetrations for ductwork and devices.

2.6 **ACCESSORIES**

- .1 Fasteners and Accessories: Manufacturer's standard non-corrosive, non-bleeding fasteners compatible with adjacent materials.
- .2 Glazing Sealants: In accordance with ASTM C920, Type S, Grade NS, Class 25, Use NT, permanently elastic, non-shrinking, and non-migrating silicone type recommended by manufacturer.

2.7 **FABRICATION**

- .1 Pre-machine jambs and prepare for hardware, with concealed reinforcement plates, drilled and tapped as required and fastened within frame with concealed screws.

- .2 Provide corner reinforcements and alignment clips for precise butt or mitered connections.
- .3 Fabricate all components to allow secure installation without exposed fasteners.

3 Execution

3.1 EXAMINATION

- .1 Examine Project conditions and verify that the work of this section may properly commence. Do not proceed with installation until unsatisfactory conditions have been corrected.
- .2 Verify wall thickness does not exceed standard tolerances allowed by specified frame throat sizes.

3.2 INSTALLATION

- .1 Comply with frame manufacturer's printed installation instructions and reviewed Shop Drawings. Strictly adhere to maintaining specified wall thickness to insure dimension does not exceed frame throat size specified.
- .2 Install frames plumb and square, securely anchored to substrates with fasteners recommended by frame manufacturer.
- .3 Install doors to glide smoothly and quietly.
- .4 Install drywall or partition components in the longest possible lengths, with no component less than 1200 mm. Fasten to suspended ceiling grid at 1200 mm on center maximum, using #6 sheet metal screws or other fasteners approved by frame manufacturer.
- .5 Install glass in accordance with Section 08 80 00.
- .6 Use concealed installation clips to assure that splices and connections are tightly butted and properly aligned.
- .7 Secure clips to main structural components and not to snap-in or trim members.
- .8 Do not use screws or other fasteners that will be exposed to view when installation is complete.

3.3 ADJUSTING AND CLEANING

- .1 Test operate doors and hardware and adjust for smooth operation.
- .2 Clean exposed frames promptly after installation, using cleaning methods recommended by frame manufacturer.
- .3 Touch up marred areas so that touch-up is not visible from a distance of 1200 mm. Remove and replace frames that cannot be satisfactorily adjusted.

3.4 PROTECTION

- .1 Provide protection required to assure that frames will be without damage or deterioration upon substantial completion of the project.

End of Section