1. GENERAL

1. GENERAL REQUIREMENTS

    1. Division One, General Requirements, is part of this section and shall apply as if repeated here.

2. QUALIFICATIONS

    1. Manufacturers approved for the work of this Section are:

        1. Kawneer Company, Canada Limited.
        2. Alumicor

    2. No other manufacturer or supplier, except those noted above, shall be used unless approved in writing by the Architect seven (7) days prior to tender closing.

    3. It is the responsibility of the approved manufacturers to meet or exceed and submit OBC SB-10 Energy Efficiency Compatibility Results.

        Note: The above-mentioned submittal is to incorporate the specified sealed glazing unit and each opening component as a whole before the shop drawings are accepted or before any shop drawings are reviewed.

3. SHOP DRAWINGS

    1. Submit shop drawings in accordance with GC 3.11 of CCDC Document 2-2020 and Section 01300 – Submittals.

    2. Submit shop drawings for the fabrication and installation of associated components of the work. Indicate anchors, joint system, expansion provisions, hardware, and other components not included in manufacturer's standard data. Include glazing details (where required).

    3. Before shop drawings and fabrication are started, take critical measurements at the site to facilitate installation and fitting of work.

    4. Shop drawings that are submitted are to be in the units of the tendered drawings with critical on center mullion dimensions (dimension string from datum level to top of opening noting center of mullions) noted along with all other regular shop drawing dimensions, no exceptions. Both units (metric and imperial) are allowed. Openings are to be identified with the corresponding tags on the tendered drawings.

4. SUBMITTALS

    1. Submit samples of sections and finishes for Architect's approval before fabrication.

2. Furnish templates, diagrams, and other data to fabricators and installers of related work, as needed for coordination installation.

3. Coordinate with Division 16, Section 08700 Finish Hardware and security subcontractor for any electrical provisions required.

5. DESIGN

1. Design for wind and snow loads as set out by the Ontario Building Code, 2012 as currently amended for the building location. Copies of any and all structural calculations made in connection with the supplementary design and/or detailing of the work of this section shall be promptly furnished to the Architect if requested.

2. Submit with shop drawings certification that window and entrance design and construction will meet the specified requirements. Certification shall be in the form of test reports on similar units performed by an independent testing laboratory, and shall meet approval of Architect before fabrication commences.

6. WARRANTY

1. The Work and materials of this Section shall be under warranty in accordance with GC 12.3 of CCDC Document 2 - 2020 but for a period of five years and ten (10) years for hermetically sealed units from the date of Architect's Certificate of Substantial Completion.

2. PRODUCTS

1. MATERIALS

1. Aluminum: Extruded Members: 6063-T54 alloy and temper.

2. Fasteners, Screws & Bolts: 300 Stainless Steel or 400 series stainless steel cadmium plated and of sufficient size and quantity to perform their intended function.

3. Glazing Tape: Tremco 440 tape with built-in shim and as recommended by window manufacturer.

4. Weathering and Glazing Gaskets: Extruded black closed cell or dense elastomer of durometer appropriate to the functions.

5. Spacer Shims: oil resistant rubber or plastic acceptable to glass manufacturer, channel shaped and approximately 4" long (100 mm).

6. Silicone Sealant: Dow Corning #795 or as per manufacturers recommendations exceeding CAN2-19.13-M82 Class 40 requirements.

7. Isolating Coating: Black alkali resistant bitumastic enamel.

8. Spray-On Insulation: Supply and install by this section as per Section 07215.

9. Miscellaneous: Supply all covers, copings, special flashings, filler pieces, termination pieces, caps closures and expansion joint covers as required and as indicated on drawings.

10. Glass for Aluminum Doors: as per 08800 Glass and Glazing Section.

11. Glass for Exterior Aluminum Entrance Framing: as per 08800 Glass and Glazing Section.

12. Glass for Interior Aluminum Screens: as per 08800 Glass and Glazing Section.

2. FABRICATION

1. General

1. Construct aluminum assemblies of extruded sections to size and profile shown on drawings.

2. Build units square, true, accurate to size, free from distortions, waves, twists, buckles or other defects detrimental to performance or appearance.

3. Units too large for handling or shipping shall be prefabricated in shop, disassembled and marked for shipping and field assembly.

4. Use concealed fastenings. No exposed screws shall show in the finished work unless approved by the Architect. Such screws shall be countersunk and finish match surfaces in which they occur.

5. Joints shall be accurately cut and fitted to result in a tightly closed joint.

3. DOORS, ENTRANCE SCREENS, INTERIOR SCREENS

1. Frames

1. Kawneer 1620 Thermally broken SSG curtain wall framing at exterior entrance screens where the door system is part of a curtain wall frame system and "Kawneer 1600 System 1 & 2" framing for interior entrance screens where the door system is part of a curtain wall frame system. Provide 19mm door stops / seals clipped into curtain wall framing around door perimeters.

2. "Kawneer Trifab 451UT, Center, Interior Glazed" thermally broken framing at exterior entrance screens where the door system is stand alone.

3. "Kawneer Trifab 451, Center, Interior Glazed" framing at interior entrance screens where the door system is stand alone.

4. "TGP Fireframes Clearfloor System" framing at interior floor screens.

5. For products listed above, coordinate with manufacturer and drawings for side light base heights (dimension to match doors) with associated aluminum sill flashing, metal liner, insulation and aluminum panels where indicated on drawings.

6. Provide Storefront GLASSvent UT (Ultra Thermal) top pivoting awning / side pivoting casement projecting-out window operation with Crank Operator (Pivot Shoe Roto-Operator) with scissor arm assembly and complete with removable insect screens. Operator to work from interior without removing insect screen. Install lock suitable for operation and that will not interfere with operation and insect screen.

   NOTE:
   Maximum operable opening not to exceed 4" (100mm) on any floor level from above ground (Main, Level 1) floor and up.

7. Provide Versoleil SunShade – Outrigger System as shown on elevations.

8. Provide Versoleil SunShade – Single Blade System as shown on elevations.

2. Conform to CAN3-A440-M90 performance standards Air Leakage to meet the Fixed rating, and Type A3, Water Leakage Type B5 and Wind Resistance Type C7.

3. Doors

   1. Exterior entrance / vestibule doors to be insulated Kawneer AA425 or Kawneer AA250 with insulated double glazing.
      (Coordinate with door schedules on drawings)

   2. Interior entrance / vestibule doors to be Kawneer 190 Narrow Stile" with single glazing.
      (Coordinate with door schedules on drawings)

   3. Interior screen doors to be coordinated with screen schedules and associated door type schedules.

   3. Coordinate with door schedules for heads and stiles sizing and base height. Adjacent screens / curtain wall bases to match door base height typical.

   4. Provide mid-rail at all doors that require panic devices, coordinate with door schedules for sizing.

   5. The core shall be foamed-in-place urethane foam at density of 5.0 lb./cu.ft. (64 kg.m³). Provide insulated aluminum panel where

indicated on drawings.

6. Stiles shall have a wall thickness of .125". (3.2 mm). Glazing mouldings shall be .050" thick (12.7 mm).

7. Use snap-in type square glazing stops with neoprene bulb type glazing. Do not use exposed screws to secure stops. Use lock-in, tamperproof type stops.

8. Equip door leaf with an adjustable mechanism in top rail near the lock stile, to provide for minor clearance adjustments after installation.

4. Door Hardware

1. Equip all aluminum doors with continuous weather stripping with adjustable weather stripping at the base; and aluminum thresholds, 6mm (1/4") maximum vertical height, over 6mm up to ½" (12.7mm) height to be sloped / bevel in a 1 in 2, 50%. Closer cover to match door finish colour.

2. Equip all aluminum doors with full height (continuous) heavy-duty stainless steel hinge.

3. All other hardware including concealed closers, exposed closers, locksets, exit device, push/pulls, overhead stops, handicap automatic door openers to be supplied under Section 08700 – Finishing Hardware and installed under Section 06200 – Finish Carpentry.

5. Finish

1. Prepare and fabricate components as required before finishing.

2. Finish to be finish to be PPG Duranar XL (UC70178XL) Champagne Metallic.

3. Metals other than aluminum shall match colour finishes.

6. Closures, Flashings and Miscellaneous Covers

1. Provide .125" (3 mm) thick aluminum closures and caps where required.

3. EXECUTION

1. INSTALLATION

1. Secure work adequately and accurately to the structure in required position and in manner not restricting thermal movement. Work shall be plumb, square and level, free of twist, warp or other superimposed

loads. Provide shims as required.

2. All metal to metal joints shall be sealed to provide a weathertight assembly in accordance with manufacturer's instructions.

3. Use concealed fixings where possible, where not possible use flat head screws in countersunk holes. Exposed bolt or nut heads not permitted. Match exposed fastenings with surfaces on which they occur.

4. Isolate all aluminum coming in contact with unlike materials with heavy shop coating of black alkali resistant bitumastic enamel to prevent electrolytic or chemical reaction.

5. Fill voids between aluminum extrusions and wall surfaces at exterior doors and entrance framing with foam spray applied insulation where required to prevent movement or infiltration of air. Supply and install spray-on insulation as per Section 07215 – Spray-On Insulation.

6. Supply and install all caps and closures where required to create a complete installation and as indicated on the drawings.

2. CAULKING

1. Caulking between aluminum and aluminum; aluminum and glass to conform to this section. Caulking to perimeter drywall masonry and concrete all by this section as per Section 07900 - Sealants.

2. Caulking by this Section shall be installed as per Section 07900.

3. GLAZING

1. Glaze windows in accordance with CAN3-A440-M90.

2. Set glazing tape against permanent stops, allow 1/8" for cap bead, set horizontal strips first using full width pieces of tape, then set vertical pieces. Butt tape at corners, do not lap tape or run continuous at corners.

3. Set glass on setting blocks, number as recommended by glass manufacturer. Set glass with draw lines horizontal.

4. Apply heal bead on interior, using sealant. Place spacer shims, set glazing tape against glass and install stops.

5. Apply cap bead to fill void on exterior. Tool sealant with a slight bevel, sloped away from the glass to create a water shed.

6. Mark each light with a large white cross to indicate the presence of glass.

7. Replace under this section defective, damaged or broken glass due to faulty setting, handling or storage.

8. Neoprene bulb type glazing in accordance with manufacturer's instructions.

4. ADJUST AND CLEAN

1. Adjust all hinges, closers and weather stripping for optimum condition. Lubricate operating equipment.

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

3. Advise the contractor of protective treatment and other 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.

4. Aluminum shall be isolated from concrete, mortar, plaster and dissimilar metal with bituminous paint. Windows shall be protected from other building materials during and after insulation until acceptance by the General Contractor. Thereafter, it shall be the responsibility of the General Contractor to maintain protection and provide final cleaning.

End of Section 08 41 13