

PART 1- GENERAL

1.1 RELATED REQUIREMENTS

- .1 Section 07 21 29.03 – Sprayed Insulation – Polyurethane Foam
- .2 Section 07 26 00 – Vapour Retarders
- .3 Section 07 27 00.01 – Air Barriers
- .4 Section 07 62 00 – Sheet Metal Flashing and Trim
- .5 Section 07 92 00 – Joint Sealants
- .6 Section 08 80 50 - Glazing

1.2 REFERENCE STANDARDS

- .1 ASTM International (ASTM)
 - .1 ASTM A 123/A 123M-15, Standard Specification for Zinc (Hot-Dip galvanized) Coatings on Iron and Steel Products.
- .2 CSA Group (CSA)
 - .1 CAN/CSA A440-001/A440.1-00(R2005), windows/special publication A440.1, under selection on guide to CSA standard A440, windows.
 - .2 CAN/CSA-A440.2-14/A440.3-14, Fenestration energy performance/User guide to CSA A440.2, Fenestration energy performance.
 - .3 CAN/CSA-A440.4-07(R2016), Window, Door, and Skylight Installation
 - .4 CAN/CSA-Z91-02(R2013), Health and Safety Code for Suspended Equipment Operations.
- .3 Screen Manufacturers Association (SMA)
 - .1 SMA 1201R-2012 Specification for Insect Screens for Windows, Sliding Doors and Swinging Doors.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for windows and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Submit 2 copies of WHMIS MSDS in accordance with Section 01 35 29 - Health and Safety Requirements.

- .3 Shop Drawings:
 - .1 Indicate materials and details in full size scale for head, jamb and sill, profiles of components, interior and exterior trim elevations of unit, anchorage details, description of related components fasteners, and caulking. Indicate location of manufacturer's nameplates.
 - .2 Indicate locations, dimensions, openings and requirements of related work.
- .4 Test and Evaluation Reports:
 - .1 Submit test reports from approved independent testing laboratories, certifying compliance with specifications.
 - .2 All test reports that reference the NAFS must include, on the first page, a summary of the results including, at minimum:
 - .1 The product manufacturer.
 - .2 The type of product.
 - .3 The model number/series number.
 - .4 The primary product designation.
 - .5 The secondary product designation.
 - .1 Positive design pressure.
 - .2 Negative design pressure.
 - .3 Water penetration resistance test pressure.
 - .4 Canadian air infiltration and exfiltration levels.
 - .6 The test completion date.
 - .3 The report will also contain the following information:
 - .1 Test dates.
 - .2 Report preparation dates.
 - .3 Test information retention period.
 - .4 Location of testing facilities.
 - .5 Full description of test samples, including:
 - .1 Finish, weathering characteristics.
 - .2 Condensation resistance.
 - .3 Safety drop - vertical sliding windows only.
 - .4 Block operation - sliding windows only.
 - .5 Forced entry resistance.
 - .6 Mullian deflection - combination and composite windows.
 - .6 Complete description of amendments, as applicable.
 - .7 Conclusion.
 - .8 Drawings signed by the testing laboratory, if provided.

1.4 CLOSEOUT SUBMITTALS

- .1 Submit in accordance with Section 01 78 00 - Closeout Submittals.
- .2 Operation and Maintenance Data: submit operation and maintenance data for windows for incorporation into manual.
- .3 Warranty Documentation: submit warranty documents specified.

1.5 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
 - .1 Store materials off ground and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
 - .2 Store and protect windows from nicks, scratches, and blemishes.
 - .3 Replace defective or damaged materials with new.

1.6 WARRANTY

- .1 Manufacturer's warranty: Submit, for Departmental Representative acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty in addition to and not limit other rights Owner may have under Contract Documents.

PART 2 - PRODUCTS

2.1 SUSTAINABLE REQUIREMENTS

- .1 Materials and products in accordance with Section 01 47 15 – Sustainable Requirements

2.2 MATERIALS

- .1 Materials: to CSA – A440/A440.1 supplemented as follows:
- .2 Windows by same manufacturer.
- .3 Main frame: vinyl thermally broken.
- .4 Glass: in accordance with Section 08 80 50 - Glazing.
- .5 Exterior metal sills brake formed aluminum sheet metal of type and size to suit job conditions; minimum 3 mm thick, complete with joint covers, jamb drip deflectors, chairs, anchors and anchoring devices.
- .6 Isolation coating: alkali resistant bituminous paint.
- .7 Sealants: See Section 07 92 00 – Joint Sealant

2.3 WINDOW TYPE AND CLASSIFICATION

- .1 Product type:
 - .1 Fixed window.
- .2 Classification rating: to CSA A440/A440.01
 - .1 A3, B6, C4, I40, F1 and S1
- .3 Energy ratings: windows to be Engery Star certified to Natrual Resoures Canada Climate Zones:
 - .1 Zone 3 (\geq 6000 HDDs).

2.4 FABRICATION

- .1 Fabricate in accordance with CSA-A440/A440.01 supplemented as follows:
- .2 Fabricate units square and true with maximum tolerance of plus or minus 1.5 mm for units with a diagonal measurement of 1800 mm or less, and plus or minus 3 mm for units with a diagonal measurement over 1800 mm.
- .3 Face dimensions detailed maximum permissible sizes.
- .4 Brace frames to maintain squareness and rigidity during shipment and installation.
- .5 Finish steel clips and reinforcement with 380 g/m² zinc coating to ASTM A 123/A 123M.

2.5 VINYL FINISHES

- .1 Vinyl finishes: in accordance with CSA-A440/A440.01, including appendices.

2.6 GLAZING

- .1 Glaze windows in accordance with CSA-A440/A440.01 an section 08 80 50 – Glazing.

2.7 AIR BARRIER AND VAPOUR RETARDER

- .1 Equip window frames with site installed air barrier and vapour retarder material for sealing to building air barrier and vapour retarder as follows:
 - .1 Material: identical to, or compatible with, building air barrier and vapour retarder materials to provide required air tightness and vapour diffusion control throughout exterior envelope assembly.
 - .2 Material width: adequate to provide required air tightness and vapour diffusion control to building air barrier and vapour retarder from interior.

PART 3 - EXECUTION

3.1 EXAMINATION

- .1 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts acceptable for product installation in accordance with manufacturer's written instructions.
 - .1 Visually inspect substrate in presence of Departmental Representative.
 - .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
 - .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.

3.2 INSTALLATION

- .1 Window installation:
 - .1 Install in accordance with CSA A440/A440.01.
 - .2 Arrange components to prevent abrupt variation in colour.
- .2 Sill installation:
 - .1 Install metal sills with uniform wash to exterior, level in length, straight in alignment with plumb upstands and faces. Use one piece lengths at each location.
 - .2 Cut sills to fit window opening.
 - .3 Secure sills in place with anchoring devices located at ends joints of continuous sills and evenly spaced 600 mm on centre in between.
 - .4 Fasten expansion joint cover plates and drip deflectors with self tapping stainless steel screws.
 - .5 Maintain 6 to 9 mm space between butt ends of continuous sills. For sills over 1200 mm in length, maintain 3 to 6 mm space at each end.
- .3 Caulking:
 - .1 Seal joints between windows and window sills with sealant. Bed sill expansion joint cover plates and drip deflectors in bedding compound. Caulk between sill upstand and window-frame. Caulk butt joints in continuous sills.
 - .2 Apply sealant in accordance with Section 07 92 00 - Joint Sealants. Conceal sealant within window units except where exposed use is permitted by Departmental Representative.

3.3 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
 - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.

3.4 PROTECTION

- .1 Protect installed products and components from damage during construction.
- .2 Repair damage to adjacent materials caused by window installation.

END OF SECTION