

PART 1 - GENERAL

1.1 REFERENCES

- .1 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-79.1 – M91, Insect Screens.
- .2 CSA International
 - .1 CAS-A440.1-00 (R2005), A440-11, Windows/Special Publication A440.1-R2005, User Selection Guide to CSA Standard A440-11, Windows. CAN/CSA-A440.2-14, Fenestration Energy Performance.

1.2 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 – Submittal Procedures.
- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed products literature and data sheets for windows and include product characteristics, performance criteria, physical size, finish and limitations.
- .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.
- .4 Test and Evaluation Reports:
 - .1 Submit test reports from approved independent testing laboratories, certifying compliance with specifications, for:
 - .1 Windows classifications.
 - .2 Insect screens.
 - .3 Air tightness.
 - .4 Water tightness.
 - .5 Wind load resistance.
 - .6 Condensation resistance.
 - .7 Safety drop – vertical sliding windows only.
 - .8 Block operation – sliding windows only.
 - .9 Sash strength and stiffness – operable casement.
 - .10 Ease of operation – windows with operable lights.
 - .11 Sash pull-off – vinyl windows.
 - .12 Forced entry resistance.
 - .13 Mullian deflection – combined and composite windows.

1.3 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 Collect and separate for disposal paper, plastic, polystyrene, corrugated cardboard and packaging material in appropriate on-site for recycling in accordance with Waste Management Plan.

1.4 QUALITY ASSURANCE

- .1 Certifications: product certifications signed by manufacturer certifying materials Comply with specified performance characteristics and criteria and physical requirements.

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, labeled with manufacturer’s name and address.
- .3 Storage and Handling Requirements:
 - .1 Store materials off ground in dry location 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 MEASUREMENT FOR PAYMENT

- .1 No separate measurement for payment shall be made for items under this section. Include costs incidental in the Lump Sum Amount of work on the Combined Price Form.

PART 2 - PRODUCTS

2.1 MATERIALS

- .1 Materials: to CSA-A440/A440.1 supplemented as follows:
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- .2 All windows by same manufacturer.
- .3 Sash: vinyl.
- .4 Main frame: vinyl thermally broken.
- .5 Insulating glass units: to CAN/CGSB-12.8, double unit, 19 mm minimum overall thickness (as per NBCC for window area and climatic conditions).
 - .1 Glass: to CAN/CGSB-12.3.
 - .2 Glass thickness: (as per NBCC calculations for window area and climatic conditions).
 - .3 Inter-cavity space thickness: manufacturer's standard.
 - .4 Glass coating: surface number 2 (inside surface of outer light), low "E".
 - .5 Inert gas: argon.
 - .6 Light transmittance: minimum 0.70.
- .6 Screens: to CAN/CGSB-79.1.
 - .1 Insect screening mesh: count 18 x 14.
 - .2 Fasteners: tamper proof.
 - .3 Screen frames: aluminum colour to match window frames.
 - .4 Mount screen frames for interior replacement.

2.2 WINDOW TYPE AND CLASSIFICATION

- .1 Type(s):
 - .1 Casement: with removable double glazing insulating glass.
 - .2 Fixed: with removable double glazing insulating glass.
 - .3 Screens: on ventilating portion of windows as indicated.
- .2 Classification rating: to CSA-A440/A440.1.
 - .1 Air tightness: A3.
 - .2 Water tightness: B4.
 - .3 Wind load resistance: C3.
 - .4 Condensation resistance: Temperature Index, I 40.
 - .5 Forced Entry: F1.
 - .6 Insect Screens: S1.

2.3 FABRICATION

- .1 Fabricate in accordance with CSA-A440/A440.1 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.
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- .3 Face dimensions detailed are maximum permissible sizes.
- .4 Brace frames to maintain squareness and rigidity during shipment and installation.

2.4 VINYL FINISHES

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

2.5 GLAZING

- .1 Glaze windows in accordance with CSA-A440/A440.1.

2.6 HARDWARE

- .1 Hardware: stainless steel or white bronze trimline camlocks to provide security and permit easy operation of units.
- .2 Where windows latching devices are located in excess of 1600 mm above floor level:
 - .1 Equip casement units with roto operators with locking handle.

PART 3 - EXECUTION

3.1 EXAMINATION

- .1 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are 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/A440.1.
 - .2 Arrange components to prevent abrupt variation in colour.
 - .3 Install shims between windows and building frame at each installation screw location. Shim and fasten windows in accordance with manufacturer's recommendations and CAN/CSA A440.4.
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- .2 Caulking:
 - .1 Seal joints between windows and window sills with sealant. 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: Leave Work area 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.