

PART 1 **GENERAL****1.1** **RELATED SECTIONS**

- .1 Appendix 6 – Low Expanding Foam Sealant.
- .2 Appendix 4 –Vapour Retarders.

1.2 **REFERENCES**

- .1 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-79.1, Insect Screens.
- .2 Canadian Standards Association (CSA)
 - .1 CSA-A440-00/A440.1, A440, Windows / Special Publication A440.1, User Selection Guide to CSA Standard A440, Windows.

1.3 **WARRANTY**

- .1 Provide a written warranty for work under this Section from Manufacturer for failure due to defective materials and from Contractor for failure due to defective installation, workmanship for five (5) years respectively from the date of Substantial Completion.

1.4 **QUALITY ASSURANCE**

- .1 Qualifications:
 - .1 Installer: must be licensed and certified by either:
 - .1 Window Wise or;
 - .2 CSA Fenestration Installation Technician - Level 1

PART 2 **PRODUCTS****2.1** **MATERIALS**

- .1 Materials: to CSA-A440/A440.1 supplemented as follows:
- .2 Main frame: thermally broken.
- .3 Glass: Insulating glass units: to CAN/CGSB-12.8
 - .1 Glass: to CAN/CGSB-12.3
- .4 Screens (if applicable): 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 exterior replacement.
- .5 Provide full insect screens to cover entire window

2.2 WINDOW TYPE AND CLASSIFICATION

- .1 Energy ratings: windows to be Energy Star certified to Natural Resources Canada Climate Zones for all of Ontario as follows:
 - .1 Zone 3 (≥ 6000 HDDs)
- .2 Window must be listed as Energy Star Most Efficient.
- .3 Window must meet minimum U-Factor of less than equal to $1.4 \text{ w/m}^2/\text{K}$ or $0.25 \text{ Btu/h/ft}^2/\text{F}$.

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 3.0 mm for units with a diagonal measurement over 1800 mm.
- .3 Face dimensions detailed are maximum permissible sizes.
- .4 Brace frames to maintain squareness and rigidity during shipment and installation.

2.4 FINISHES

- .1 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:
 - .1 stainless steel or white bronze trimline camlocks to provide security and permit easy operation of units.
 - .2 Counter balance: stainless steel coil balance hardware.
- .2 Where windows latching devices are located in excess of 1600 mm above finished floor level:
 - .1 Equip vertical sliding units with ring pull at top sash. Provide operating pole of length required, complete with appropriate tip to suit ring pull. Provide one (1) pole for each room where vent sash occurs.

2.7 AIR BARRIER AND VAPOUR RETARDER

- .1 Provide low expanding, single component polyurethane foam sealant installed at head, jamb and sill perimeter of window for sealing to building air barrier, vapour retarder and window frame. Foam sealant width to be adequate to provide required air tightness and vapour diffusion control to building air barrier and vapour retarder foam interior. Refer to Appendix – Low Expanding Foam Sealant.

PART 3 EXECUTION**3.1 WINDOW INSTALLATION**

- .1 Install in accordance with CSA-A440.
- .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.

3.2 CAULKING

- .1 Seal joints between windows and window sills with sealant. Caulk between sill upstand and window-frame. Caulk butt joints in continuous sills.

END OF SECTION