WINDOW & DOOR PRODUCTS WE OFFER

WINDOWS
- FIXED
- TILT & TURN
- CASEMENT
- AWNING
- BIFOLD SLIDING

DOORS
- SWING
- PASK
- BIFOLD SLIDING

11 ADVANTAGES OF OUR ALUMINUM WINDOWS AND DOORS

Strength | aluminum alloy is lightweight yet extremely durable
Plasticity | aluminum can be extruded into almost any shape
Accuracy | aluminum can be shaped into extremely tight tolerances
Weather Resistant | aluminum has excellent tolerance against solar radiation, ultraviolet radiation and can withstand extremely high and low temperature variances
Impact Resistant | aluminum alloys absorb impact into a small deformation zone
Versatile | aluminum alloys can be coated with a variety of textures and colour
Eco-Friendly | aluminum is recyclable leading to less waste in the recycling stream
Energy Efficient | aluminum alloy applied with PA66 material allows for multiple grades of energy saving window and door configurations
Cost-effective | aluminum windows and doors occupy 75% of the world market making the manufacturing costs lower than other window materials
Appearance | aluminum alloy windows and doors compliment virtually any exterior type on residential and commercial applications
Maintenance-Free | each exterior and interior finish use a durable, maintenance-free powder-coated colour or texture. This means there is no fading, peeling, or chipping, resulting in little to no maintenance.
FIXED WINDOW FEATURES

GLASS
5 mm triple pane tempered glass with available advanced security film
Low E / Argon-in-fill and dry glazing

SPACER
Warm edge spacer available in black or silver with molecular sieve drying agent

SEAL
5 mm x 10 mm Ext./Int. glazing cap seals
50-year longevity exposed to the elements

FRAME
Nylon thermal break
Powder coated colors as standard
Insulated

SIMULATED DIVIDED LITES (SDL)
Interior or exterior profile available

POWDER COATED COLOUR

5 standard palette colours: Brown, Black, Silver, White and Grey or choose from over 100 custom colour or wood texture combinations. See page 31 for details.

ENERGY CREATIONS OFFERS THE LARGEST SIZES AVAILABLE

INTERNAL GLAZING
Internally glazed windows provide good looks and a slim profile while providing excellent security.
TILT & TURN WINDOW

TILT & TURN WINDOW FEATURES

GLASS
5 mm triple pane tempered glass with available advanced security film
Low E / Argon-in-fill and dry glazing

SPACER
Warm edge spacer available in black or silver with molecular sieve drying agent

SEAL
34 mm x 22 mm primary EPDM* seal
2 - 6 mm x 5 mm secondary EPDM* seals
5 mm x 10 mm Ext/Int. glazing cap seals
50-year longevity exposed to the elements
*EPDM is a synthetic rubber compound with an operating temperature +150°C to -50°C and a 40+ year lifespan.

FRAME
Nylon thermal break
Powder coated colors as standard Insulated

HARDWARE
Tilt & Turn operation provides dual function of inward venting and door opening window

SIMULATED DIVIDED LITES (SDL)
Interior or exterior profile available

MULTI-POINT LOCKS
Heavy-duty hardware with multiple locking points provide security and sealing against the elements.

POWDER COATED COLOUR
- Brown
- Black
- Silver
- White
- Grey
- Oak

ADDITIONAL OPTIONS
Hidden Hinge
Friction Hinge
Built-in Blinds
Hidden Retractable Screens

INTERNAL OPENING
Window opens to the inside which allows for ease of cleaning.

5 standard palette colours: Brown, Black, Silver, White and Grey or choose from over 100 custom colour or wood texture combinations. See page 31 for details.

MULTI-POINT LOCKS
4 locking points provide excellent security and sealing against the elements.

MAGNETIC WINDOW SCREENS
Use magnets to firmly seal the screen to the window.

BEST OF BOTH WORLDS - CASEMENT AND AWNING IN ONE WINDOW
CASEMENT WINDOW FEATURES

GLASS
5 mm triple pane tempered glass with available advanced security film
Low E / Argon in-fill and dry glazing

SPACER
Warm edge spacer available in black or silver with molecular sieve drying agent

SEAL
34 mm x 22 mm primary EPDM* seal
2 - 6 mm x 5 mm secondary EPDM* seals
5 mm x 10 mm Ext/Int. glazing cap seals
50-year longevity exposed to the elements

*EPDM is a synthetic rubber compound with an operating temperature +150°C to -50°C and a 40+ year lifespan.

FRAME
Nylon thermal break
Powder coated colors as standard Insulated

HARDWARE
Outward casement opening, robust handle

SIMULATED DIVIDED LITES (SDL)
Interior or exterior profile available

MULTI-POINT LOCKS
Heavy-duty hardware with multiple locking points provide security and sealing against the elements

RESTRICTOR HINGE
Designed for security by only allowing the window to be partially open, while still providing adequate ventilation. Sash can only be opened from the interior.

POWDER COATED COLOUR

| Brown | Black | Silver | White | Grey |

5 standard palette colours: Brown, Black, Silver, White and Grey or choose from over 100 custom colour or wood texture combinations. See page 31 for details.

ADDITIONAL OPTIONS
Hidden Hinge
Internal Glazing
Hidden Retractable Screens

HIDDEN RETRACTABLE SCREENS
Easy to operate window screens maximize natural light and save room for screen storage when not in use.
INTERNAL GLAZING
Internally glazed windows provide good-looks and a slim profile while providing excellent security.

3.4 mm triple pane tempered glass with available advanced security film
Low E / Argon-in-fill and dry glazing

SPACER
Warm edge spacer available in black or silver with molecular sieve drying agent

SEAL
3.4 mm x 22 mm primary EPDM* seal
2.6 mm x 5 mm secondary EPDM* seals
5 mm x 10 mm Ext/Int. glazing cap seals
50-year longevity exposed to the elements

*EPDM is a synthetic rubber compound with an operating temperature +150°C to -50°C and a 40+ year lifespan.

FRAME
Nylon thermal break
Powder coated colors as standard
Insulated

SIMULATED DIVIDED LITES (SDL)
Interior or exterior profile available

MULTI-POINT LOCKS
Heavy-duty hardware with multiple locking points provide security and sealing against the elements

CHAIN-DRIVE CRANK HANDLE
Simple operation allows for ease of motion and less maintenance due to fewer moving parts.

HARDWARE
Robust hardware allows for large sizes.

POWDER COATED COLOUR
Brown, Black, Silver, White, Grey

ADDITIONAL OPTIONS
Magnetic Window Screens, Hidden Retractable Screens

5 standard palette colours: Brown, Black, Silver, White and Grey or choose from over 100 custom colour or wood texture combinations. See page 31 for details.

5 mm triple pane tempered glass with available advanced security film
Low E / Argon-in-fill and dry glazing

SPACER
Warm edge spacer available in black or silver with molecular sieve drying agent

SEAL
3.4 mm x 22 mm primary EPDM* seal
2.6 mm x 5 mm secondary EPDM* seals
5 mm x 10 mm Ext/Int. glazing cap seals
50-year longevity exposed to the elements

*EPDM is a synthetic rubber compound with an operating temperature +150°C to -50°C and a 40+ year lifespan.

FRAME
Nylon thermal break
Powder coated colors as standard
Insulated

SIMULATED DIVIDED LITES (SDL)
Interior or exterior profile available

MULTI-POINT LOCKS
Heavy-duty hardware with multiple locking points provide security and sealing against the elements

CHAIN-DRIVE CRANK HANDLE
Simple operation allows for ease of motion and less maintenance due to fewer moving parts.

HARDWARE
Robust hardware allows for large sizes.

POWDER COATED COLOUR
Brown, Black, Silver, White, Grey

ADDITIONAL OPTIONS
Magnetic Window Screens, Hidden Retractable Screens

5 standard palette colours: Brown, Black, Silver, White and Grey or choose from over 100 custom colour or wood texture combinations. See page 31 for details.
SLIDING WINDOW

GLASS
6 mm dual pane tempered glass with available advanced security film
Low E / Argon-in-fill and dry glazing

SPACER
Warm edge spacer available in black or silver with molecular sieve drying agent

SEAL
34 mm x 22 mm primary EPDM* seal
2 - 6 mm x 5 mm secondary EPDM* seals
5 mm x 10 mm Ext/Int. glazing cap seals
50-year longevity exposed to the elements
*EPDM is a synthetic rubber compound with an operating temperature +150°C to -50°C and a 40+ year lifespan.

FRAME
Nylon thermal break
Powder coated colors as standard
Insulated

SIMULATED DIVIDED LITES (SDL)
Interior or exterior profile available

INTERNAL GLAZING
Internally glazed windows provide good-looks and a slim profile while providing excellent security.

POWDER COATED COLOUR
5 standard palette colours: Brown, Black, Silver, White and Grey or choose from over 100 custom colour or wood texture combinations. See page 31 for details.

ADDITIONAL OPTIONS
Magnetic Window Screens
Hidden Retractable Screens

POWDER COATED COLOUR
Brown
Black
Silver
White
Grey
Oak

ADDITIONAL OPTIONS

SMOOTH OPERATION
Well engineered hardware makes heavy window sash easy to operate.
**BI FOLD SLIDING DOOR + WINDOW**

**GLASS**
5 mm triple pane tempered glass with available advanced security film.
Low E / Argon-in-fill and dry glazing

**SPACER**
Warm edge spacer available in black or silver with molecular sieve drying agent

**SEAL**
24 mm x 10 mm primary EPDM* seal
2 - 6 mm x 5 mm secondary EPDM* seals
5 mm x 10 mm Ext/Int. glazing cap seals
50-year longevity exposed to the elements

*EPDM is a synthetic rubber compound with an operating temperature +150°C to -50°C and a 40+ year lifespan.

**FRAME**
Nylon thermal break
Powder coated colors as standard
Insulated

**HARDWARE**
Standard Roto

**POWDER COATED COLOUR**
Brown, Black, Silver, White, Grey, Oak

5 standard palette colours: Brown, Black, Silver, White and Grey or choose from over 100 custom colour or wood texture combinations. See page 31 for details.

**ADDITIONAL OPTIONS**
Hidden Retractable Screens

**SIMULATED DIVIDED LITES (SDL)**
Interior or exterior profile available

**MULTI-POINT LOCKS**
Heavy-duty hardware with multiple locking points provide security and sealing against the elements

**BIFOLD OPERATION**
Bi-fold doors allow the expanse of the unit to be fully opened for an uninterrupted view of the outside.
BIFOLD WINDOW - AVAILABLE UP TO 8 FEET HIGH AND 30 FEET WIDE

SUPERIOR STRUCTURAL INTEGRITY AND WEATHER SEAL
SINGLE + DOUBLE SWING DOOR

**GLASS**
5 mm triple pane tempered glass with available advanced security film
Low E / Argon in-fill and dry glazing

**SPACER**
Warm edge spacer available in black or silver with molecular sieve drying agent

**SEAL**
34 mm x 22 mm primary EPDM* seal
2 - 6 mm x 5 mm secondary EPDM* seals
5 mm x 10 mm Ext/Int. glazing cap seals
50-year longevity exposed to the elements

*EPDM is a synthetic rubber compound with an operating temperature +150°C to -50°C and a 40+ year lifespan.

**FRAME**
Nylon thermal break
Powder coated colors as standard
Insulated

**HARDWARE**
Available Tilt & Turn operation provides dual function of inward venting and door opening window

**POWDER COATED COLOUR**
Brown, Black, Silver, White, Grey

**ADDITIONAL OPTIONS**
Magnetic Window Screens
SIMULATED DIVIDED LITES (SDL)
Interior or exterior profile available

**MULTI-POINT LOCKS**
Standard heavy-duty hardware with multiple locking points provide security and sealing against the elements

**SMOOTH OPERATION**
Well engineered hardware makes heavy window sash easy to operate

**SWING DOOR FEATURES**

**MULTI-POINT LOCKS**
4 locking points provide excellent security and sealing against the elements.

**POWDER COATED COLOUR**

**ADDITIONAL OPTIONS**

**MULTI-POINT LOCKS**

**SMOOTH OPERATION**
SLIDING DOOR FEATURES

GLASS
- 6 mm dual pane tempered glass with available advanced security film
- Low E / Argon-in-fill and dry glazing

SPACER
- Warm edge spacer available in black or silver with molecular sieve drying agent

SEAL
- 5 mm x 10 mm Ext/Int. glazing cap seals
- 50-year longevity exposed to the elements

FRAME
- Nylon thermal break
- Powder coated colors as standard
- Insulated

HARDWARE
- Lift-slide mechanical system

POWDER COATED COLOUR
- 5 standard palette colours: Brown, Black, Silver, White and Grey or choose from over 100 custom colour or wood texture combinations. See page 31 for details.

ADDITIONAL OPTIONS
- Magnetic Window Screens
- Hidden Retractable Screens

SIMULATED DIVIDED LITES (SDL)
- Interior or exterior profile available

SLIDING DOOR MULTI-OPEN OPTIONS
The sliding door features a lift-slide mechanical system which allows the door to easily open by lifting the door up from the track while rotating the handle.

LIFT & SLIDE - LARGE OPENINGS OF UP TO 15 FEET AVAILABLE
PASK DOOR FEATURES

GLASS
5 mm triple pane tempered glass with available advanced security film
Low E / Argon-in-fill and dry glazing

SPACER
Warm edge spacer available in black or silver with molecular sieve drying agent

SEAL
34 mm x 22 mm primary EPDM seal
6 mm x 5 mm secondary EPDM seals
5 mm x 10 mm Ext/Int. glazing cap seals
50-year longevity

SIMULATED DIVIDED LITES (SDL)
Interior or Exterior profile available

MULTI-POINT LOCKS
Heavy-duty hardware with 8 locking points provide security and sealing against the elements

POWDER COATED COLOUR
Brown, Black, Silver, White, Grey

ADDITIONAL OPTIONS
Sliding Screens
BUILT-IN BLINDS
Blinds are located in between the panes of glass so that they never need cleaning

MULTI-POINT LOCKS
8 locking points provide excellent security and sealing against the elements

HIDDEN RETRACTABLE SCREENS
Easy to operate window screens maximize natural light and save room for screen storage when not in use.

PASK DOOR
8 POINT LOCKING SYSTEM - SEALS THE DOOR BETTER THAN A TRADITIONAL SLIDING DOOR

5 mm triple pane tempered glass with available advanced security film.
Low E / Argon-in-fill and dry glazing.

Warm edge spacer available in black or silver with molecular sieve drying agent.

34 mm x 22 mm primary EPDM seal,
6 mm x 5 mm secondary EPDM seals,
5 mm x 10 mm Ext/Int. glazing cap seals
50-year longevity.

Interior or Exterior profile available.

Heavy-duty hardware with 8 locking points provide security and sealing against the elements.

Brown, Black, Silver, White, Grey

Sliding Screens

Blinds are located in between the panes of glass so that they never need cleaning.

8 locking points provide excellent security and sealing against the elements.

Easy to operate window screens maximize natural light and save room for screen storage when not in use.
### Window Technical Specifications

#### Tilt & Turn

<table>
<thead>
<tr>
<th>Test Description</th>
<th>Requirements</th>
<th>Result</th>
<th>Verdict</th>
</tr>
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<tbody>
<tr>
<td>Operating Test Force</td>
<td>Maximum force to initial movement 155 N</td>
<td>10 N</td>
<td>PASS</td>
</tr>
<tr>
<td>Canadian requirements</td>
<td>Maximum force to maintain movement 155 N</td>
<td>1 N</td>
<td>PASS</td>
</tr>
<tr>
<td>Air Leakage Resistance</td>
<td>Maximum air leakage at +75 Pa</td>
<td>0.10 L/s-m²</td>
<td>Air leakage at +75 Pa</td>
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<tr>
<td>Canadian Air Infiltration/Exfiltration Level: CW</td>
<td>Maximum air leakage at -75 Pa</td>
<td>0.09 L/s-m²</td>
<td>Air leakage at -75 Pa</td>
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<tr>
<td>Water Penetration Resistance</td>
<td>Minimum Water Pressure 220 Pa (4.59 psf)</td>
<td>Test Pressure 290 Pa (6.06 psf)</td>
<td>PASS</td>
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<tr>
<td>Uniform Load Deflection</td>
<td>Minimum Design Pressure (DP) 1440 Pa (30.08 psf)</td>
<td>Design Pressure 2160 Pa (45.11 psf)</td>
<td>Maximum deflection at toprail 0.2 mm</td>
</tr>
<tr>
<td>Uniform Load Structural</td>
<td>Minimum Structural Pressure (DP) 2160 Pa (45.11 psf)</td>
<td>Structural Pressure 3240 Pa (67.67 psf)</td>
<td>Maximum permanent deformation at toprail 0.2 mm</td>
</tr>
<tr>
<td>Sash/Leaf Concentrated Load</td>
<td>Perpendicular load: The deflection under 135 N (30.35 lbf) shall not exceed 1.5 mm</td>
<td>Average 0.45 mm</td>
<td>PASS</td>
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<tr>
<td>Stabilizing Arm Load</td>
<td>Apply load vertically to sash corner: 890 N (200.08 lbf)</td>
<td>After load removal, there was no damage to the window, the window was still operable.</td>
<td>PASS</td>
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<tr>
<td>Forced-entry Resistance</td>
<td>Minimum Grade 10</td>
<td>Test Class Grade 10</td>
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#### Casement

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<tbody>
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<td>Air Leakage Resistance</td>
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<td>0.05 L/s-m²</td>
<td>Air leakage at +75 Pa</td>
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<tr>
<td>Water Penetration Resistance</td>
<td>Minimum Water Pressure 220 Pa (4.59 psf)</td>
<td>Test Pressure 720 Pa (15.04 psf)</td>
<td>No water penetration at 720 Pa (15.04 psf)</td>
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<td>Uniform Load Deflection</td>
<td>Minimum Design Pressure (DP) 1440 Pa (30.08 psf)</td>
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<td>Maximum Deflection at frame 0.1 mm</td>
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<td>Uniform Load Structural</td>
<td>Minimum Structural Pressure (DP) 2160 Pa (45.11 psf)</td>
<td>Structural Pressure 2160 Pa (45.11 psf)</td>
<td>Maximum permanent deformation at frame +01 mm</td>
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<tr>
<td>Forced-entry Resistance</td>
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<td>Test Class Grade 10</td>
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#### Fixed

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#### Awning

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**ANSI/NFRC 100-2017, NFRC 500/2017**

<table>
<thead>
<tr>
<th>Whole Unit</th>
<th>Tilt &amp; Turn</th>
<th>Casement</th>
<th>Fixed</th>
<th>Awning</th>
</tr>
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<tbody>
<tr>
<td>U-Factor</td>
<td>0.22 imperial</td>
<td>0.26 imperial</td>
<td>0.19 imperial</td>
<td>0.26 imperial</td>
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<tr>
<td>SGHC</td>
<td>0.39 / 0.35 / 0.31</td>
<td>0.32 / 0.29 / 0.26</td>
<td>0.44 / 0.40 / 0.36</td>
<td>0.32 / 0.29 / 0.26</td>
</tr>
<tr>
<td>VT</td>
<td>0.49 / 0.44 / 0.38</td>
<td>0.40 / 0.36 / 0.32</td>
<td>0.40 / 0.36 / 0.32</td>
<td>0.40 / 0.36 / 0.32</td>
</tr>
<tr>
<td>CR</td>
<td>66</td>
<td>66</td>
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<thead>
<tr>
<th>(O-O-G) Center of Glazing (U-Factor)</th>
<th>(SGHC) Solar Heat Gain Coefficient</th>
<th>(VT) Visible Transmittance</th>
<th>(CR) Condensation Rate</th>
</tr>
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<tbody>
<tr>
<td>0.14 imperial</td>
<td>0.39 / 0.35 / 0.31</td>
<td>0.49 / 0.44 / 0.38</td>
<td>66</td>
</tr>
<tr>
<td>0.77 metric</td>
<td>0.32 / 0.29 / 0.26</td>
<td>0.40 / 0.36 / 0.32</td>
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<td>Maximum air leakage at -75 Pa</td>
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<td>Apply load vertically to sash corner: 890 N (200.08 lbf)</td>
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<td>Forced-entry Resistance</td>
<td>Minimum Grade 10</td>
<td>Test Class Grade 10</td>
<td>No damage, no permanent deformation, the window was still operable.</td>
</tr>
</tbody>
</table>
### AWNING

<table>
<thead>
<tr>
<th>Test Description</th>
<th>Requirements</th>
<th>Result</th>
<th>Verdict</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Test Force</td>
<td>Maximum force to initial movement 155 N</td>
<td>10 N</td>
<td>PASS</td>
</tr>
<tr>
<td>Canadian requirements</td>
<td>Maximum force to maintain movement 135 N</td>
<td>1 N</td>
<td>PASS</td>
</tr>
<tr>
<td>Air Leakage Resistance</td>
<td>Maximum air leakage at +75 Pa</td>
<td>0.04 L/s·m²</td>
<td>Air leakage at +75 Pa</td>
</tr>
<tr>
<td></td>
<td>O.5 L/s·m²</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Canadian Air Infiltration/Exfiltration Level: CW</td>
<td>Maximum air leakage at -75 Pa</td>
<td>0.12 L/s·m²</td>
<td>Air leakage at -75 Pa</td>
</tr>
<tr>
<td></td>
<td>O.5 L/s·m²</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Penetration Resistance</td>
<td>Minimum Water Pressure 220 Pa (4.59 psf)</td>
<td>Test Pressure 720 Pa (15.04 psf)</td>
<td>No water penetration at 720 Pa (15.04 psf)</td>
</tr>
<tr>
<td></td>
<td>Design Pressure 2160 Pa (45.11 psf)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uniform Load Deflection</td>
<td>Minimum Design Pressure (DP) 1440 Pa (30.08 psf)</td>
<td>Design Pressure 2160 Pa (45.11 psf)</td>
<td>Maximum deflection at stile 0.2 mm</td>
</tr>
<tr>
<td></td>
<td>(DP) 2160 Pa (45.11 psf)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uniform Load Structural</td>
<td>Minimum Structural Pressure (DP) 2160 Pa (45.11 psf)</td>
<td>Structural Pressure 3240 Pa (6767 psf)</td>
<td>Maximum permanent deformation at stile 0.1 mm</td>
</tr>
<tr>
<td></td>
<td>(DP) 2160 Pa (45.11 psf)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Awning, Hopper, Projected Hardware Load</td>
<td>The deflection under 140 N (31.43 lbf) shall not exceed 40.60 mm</td>
<td>Deflection under 140 N (15 mm) the window can properly close and operate</td>
<td>PASS</td>
</tr>
<tr>
<td>Forced-entry Resistance</td>
<td>Minimum Grade 10</td>
<td>Test Class Grade 20</td>
<td>No damage, no permanent deformation, the window was still operable</td>
</tr>
</tbody>
</table>

#### WINDOW TECHNICAL SPECIFICATIONS

### Door Technical Specifications

**ANSI/NFRC 100-2017, NFRC 500/2017**

#### Exterior Sliding Sidelight

<table>
<thead>
<tr>
<th></th>
<th>Exterior</th>
<th>Sliding</th>
<th>Sidelight</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Whole Unit</strong></td>
<td><strong>U-Factor</strong></td>
<td><strong>SGHC</strong></td>
<td><strong>VT</strong></td>
</tr>
<tr>
<td><strong>U-Factor</strong></td>
<td>0.25 imperial 1.42 metric</td>
<td>0.39 imperial 2.2 metric</td>
<td>0.21 imperial 1.19 metric</td>
</tr>
<tr>
<td><strong>SGHC</strong></td>
<td>0.32 / 0.28 / 0.24</td>
<td>0.42 / 0.37 / 0.32</td>
<td>0.40 / 0.37 / 0.33</td>
</tr>
<tr>
<td><strong>VT</strong></td>
<td>0.40 / 0.34 / 0.29</td>
<td>0.52 / 0.46 / 0.39</td>
<td>0.51 / 0.46 / 0.41</td>
</tr>
<tr>
<td><strong>CR</strong> (C-O-G) Center of Glazing</td>
<td>63</td>
<td>46</td>
<td>66</td>
</tr>
</tbody>
</table>

(SGHC) Solar Heat Gain Coefficient  
(VT) Visible Transmittance  
(CR) Condensation Rate

---

#### Sliding

<table>
<thead>
<tr>
<th>Test Description</th>
<th>Requirements</th>
<th>Result</th>
<th>Verdict</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operating Force</strong></td>
<td>Maximum force to initial movement</td>
<td>135 N</td>
<td>19 N</td>
</tr>
<tr>
<td><strong>Canadian requirements</strong></td>
<td>Maximum force to maintain movement</td>
<td>90 N</td>
<td>8 N</td>
</tr>
<tr>
<td><strong>Air Leakage Resistance</strong></td>
<td>Maximum air leakage at +75 Pa 1.5 L/s-m²</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Canadian Air Infiltration/Exfiltration Level R (operable) A2</strong></td>
<td>Air leakage at -75 Pa 1.5 L/s-m²</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Water Penetration Resistance</strong></td>
<td>Minimum Water Pressure 140 Pa (2.92 psf)</td>
<td>Test Pressure 150 Pa (3.13 psf)</td>
<td>PASS</td>
</tr>
<tr>
<td><strong>Uniform Load Deflection</strong></td>
<td>Minimum Design Pressure (DP) 720 Pa (15.04 psi)</td>
<td>Design Pressure 1680 Pa (35.09 psi)</td>
<td>Maximum deflection at stile 3.0 mm Reported</td>
</tr>
<tr>
<td><strong>Uniform Load Structural</strong></td>
<td>Minimum Structural Pressure (STP) 1080 Pa (22.56 psi)</td>
<td>Structural Pressure 3240 Pa (67.67 psi)</td>
<td>Maximum permanent deformation at stile 0.1 mm PASS</td>
</tr>
<tr>
<td><strong>Deglazing</strong></td>
<td>The load for deglazing 320 N (714.4 lbf)</td>
<td></td>
<td>PASS</td>
</tr>
<tr>
<td><strong>Forced-entry Resistance</strong></td>
<td>Minimum Grade 10</td>
<td>Test Class Grade 20</td>
<td>No damage, no permanent deformation, the door was still operable</td>
</tr>
</tbody>
</table>
### CASEMENT

<table>
<thead>
<tr>
<th>Test Description</th>
<th>Requirements</th>
<th>Result</th>
<th>Verdict</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Force</td>
<td>Force to latch</td>
<td>20 N</td>
<td>Reported</td>
</tr>
<tr>
<td></td>
<td>Force to engage</td>
<td>28 N</td>
<td>Reported</td>
</tr>
<tr>
<td>Air Leakage Resistance</td>
<td>Maximum air leakage at +75 Pa 1.5 L/s-m²</td>
<td>Air leakage at +75 Pa 0.56 L/s-m²</td>
<td>PASS</td>
</tr>
<tr>
<td></td>
<td>Maximum air leakage at -75 Pa 1.5 L/s-m²</td>
<td>Air leakage at -75 Pa 0.57 L/s-m²</td>
<td>PASS</td>
</tr>
<tr>
<td>Water Penetration Resistance</td>
<td>Minimum Water Pressure 180 Pa (3.76 psf)</td>
<td>Test Pressure 680 Pa (14.41 psf)</td>
<td>PASS</td>
</tr>
<tr>
<td>Uniform Load Deflection</td>
<td>Minimum Design Pressure (DP) 1220 Pa (26.06 psf)</td>
<td>Design Pressure 1680 Pa (35.09 psf)</td>
<td>Maximum deflection at lockstile 0.8 mm</td>
</tr>
<tr>
<td>Uniform Load Structural</td>
<td>Minimum Structural Pressure (STP) 1800 Pa (37.69 psf)</td>
<td>Structural Pressure 2520 Pa (55.65 psf)</td>
<td>Maximum permanent deformation at lockstile 0.1 mm</td>
</tr>
<tr>
<td>Operation Cycling Performance</td>
<td>Number of cycles: 100,000</td>
<td>No evidence of failure to the door slab construction</td>
<td>PASS</td>
</tr>
<tr>
<td>Forced-entry Resistance</td>
<td>Load of 135 kg (300 lbs) to each location</td>
<td>No damage, no permanent deformation, the door was still operable</td>
<td>PASS</td>
</tr>
<tr>
<td>Vertical Loading</td>
<td>Applied load: 675 N (150 lbf)</td>
<td>No damage</td>
<td>PASS</td>
</tr>
</tbody>
</table>

**CROSS SECTION**

Aluminum frames are a high quality structurally stable material. The multiple EPDM rubber seals remain in excellent condition during extremely cold or hot weather. Energy Creation windows and doors use PA66 material which acts as a thermal break between the outside and inside temperatures, further enhancing the R-value of the window or door. Low-E coated tempered glass and argon infill is a standard feature, along with a Warm Edge Spacer with drying agent that eliminates the glass from getting foggy during temperature differences. The Dry Glazing technology makes replacing sealed units easy.

**COLOUR OPTIONS**

There are 5 standard powder coated colour finishes and our oak wood texture. We have over 100 customized colours and paint textures available. Standard colours can be mixed and matched, at no additional cost. Wood textures and other colours available at extra cost. Powder coating and anodizing last much longer than regular paint.

- Brown
- Black
- Silver
- White
- Grey
- Wood
HIGH PERFORMANCE
ALUMINUM WINDOWS & DOORS

THE BETTER SOLUTION.

ENERGY CREATION
WINDOWS & DOORS
EnergyCreation.ca