

**SERIES 9502**  
**THERMALLY BROKEN ALUMINIUM**  
**BALCONY OUT SWING DOOR**



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**SPECIFICATION**

**I. GENERAL.**

Aluminum out swing door shall be Starline 9502 door Series  
Manufactured by: Starline Architectural Windows Ltd.  
Head office: 9380 – 198<sup>th</sup> Street, Langley, B.C. V1M 3C8

**APPLICATION**

A high-quality completely thermally broken aluminum balcony out swing door designed for residential high rise construction. This series is available in equal leg frame or seismic jambs with exterior extruded aluminum glazing stops.

**DESCRIPTION**

Work included: Furnish labor, material and other services to complete the fabrication and installation of the doors, including all materials and fittings required for the operation of the units in the manner, direction and performance shown on the shop drawings and specified herein.

Work not included: Structural support of door framing, interior trims. (Specifier list others).  
Related work specified elsewhere: (Specifier list).

**QUALITY ASSURANCE**

Drawings and specifications for work of this section are based upon 9502 doors as manufactured by Starline Architectural Windows Limited. Whenever alternative products are offered, submit supporting technical literature, samples, drawings and performance data for comparison 10 days prior to closing date. Test reports must be made available on request.  
Doors shall be tested and conform to the AAMA/ WDMA/ CSA 101 I.S.2/ A440-05 requirements.

**TESTING AND PERFORMANCE**

(Specifier to select the performance requirements from the following options)

1. Limit mullion deflection to L/175.
2. Allow for deflection of building structure. Aluminum door frames with head deflection channel and seismic compensation jamb channel shall be designed, fabricated and installed to withstand slab edge vertical differential deflections of maximum 3/4" and seismic inter-story lateral drift movements of Delta S +/- 3/4" without significant damage to the fenestration system or Delta M +/- 2 1/2" with significant damage expected but framing to be designed to remain anchored to the structure.  
Or  
Allow for deflection of building structure. Aluminum window frames with head deflection channel and seismic compensation jamb channel shall be designed, fabricated and installed to withstand slab edge vertical differential deflections of maximum 3/4" and seismic inter-story lateral drift movements of +/- 3/4" without significant damage to the fenestration system or +/- 2 1/2" with significant damage expected but framing to be designed to remain anchored to the structure.

Door with ADA threshold shall meet performance class SHD-C45 when tested to AAMA/ WDMA/ CSA 101 I.S.2/ A440-05:

1. Door air infiltration shall not exceed 0.01 cfm/ft<sup>2</sup> (0.10 L/s\*m<sup>2</sup>) when tested in accordance with ASTM E 283-04 with a pressure difference of 6.24 PSF (300 Pa)
2. There shall be no water infiltration for doors when tested in accordance with ASTM E547-00 and ASTM E331-00 with a pressure difference of 6.00 PSF/ 287 Pa (Laboratory Test) and 2.09 PSF/ 100 Pa (Field test).
3. Structural performance shall be based on CSA Standard CAN3-S 157 "Strength Design in Aluminum" and a maximum deflection of L/175 of the span.  
  
The deflection of door shall not exceed L/175 and there shall be no permanent set when tested in accordance with ASTM E330-02 with a design pressure of 45 PSF.
4. Door shall comply with AAMA 1304-02, Forced Entry Resistance Test.
5. Door shall be tested and labeled to N.F.R.C. standard 100 & 200 2004.

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Door with standard threshold shall meet performance class HGD-HC55 when tested to AAMA/ WDMA/ CSA 101 I.S.2/ A440-05:

1. Door air infiltration shall not exceed 0.06 cfm/ft<sup>2</sup> (0.01 L/s\*m<sup>2</sup>) when tested in accordance with ASTM E 283-04 with a pressure difference of 6.24 PSF (300 Pa)
2. There shall be no water infiltration for doors when tested in accordance with ASTM E547-00 and ASTM E331-00 with a pressure difference of 20.00 PSF/ 960 Pa (Laboratory Test) and 6.27 PSF/ 300 Pa (Field test).
3. Structural performance shall be based on CSA Standard CAN3-S 157 "Strength Design in Aluminum" and a maximum deflection of L/175 of the span.  
  
The deflection of door shall not exceed L/175 and there shall be no permanent set when tested in accordance with ASTM E330-02 with a design pressure of 55 PSF.
4. Door shall be tested and labeled to N.F.R.C. standard 100 & 200 2004.

**MAINTENANCE AND GUARANTEE**

Provide data for maintenance and cleaning in accordance with instruction under general conditions.

Provide a written guarantee for the complete installation provided under this section against defective material and workmanship which appears within a period of two years from the date of substantial completion.

## **II. PRODUCTS**

**MATERIAL**

Frame member and intermediate bars are extruded from aluminum sections of 6063 alloy, T5 temper with a minimum thickness of 0.064".

Fastener shall be stainless steel of sufficient size and quantity to perform their intended function.

Weathering and glazing gaskets shall be extruded santoprene.

Glass Setting Blocks & Edge Blocks shall be FPVC, Neoprene, EPDM, Santoprene or silicone with an 80 to 90 ± Shore A durometer hardness. Block material shall be compatible with sealed unit edge sealant. Setting blocks for sealed units with silicone edge seals must be silicone.

Glazing bead shall be extruded aluminum and glazed from the outside.

Thermal break shall be Polyamide.

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**FINISH (POWDER COATING)**

All exposed surfaces of aluminum window and framing members shall be free of scratches and other serious surface blemishes.

Standard

1. Interpon© D1010 thermosetting coating specifically designed for Architectural Systems that meets the AAMA 2603-02 specification that covers pigmented organic coatings on aluminum extrusions. Standard color is Standard White (GA104Q).

Option

1. Interpon© D3000 thermosetting fluorocarbon coating specifically designed for Architectural Systems that meets the AAMA 2605-02 specification that covers pigmented organic coatings on aluminum extrusions. The AAMA 2605-02 specification demands advanced levels of weather resistance, combined with excellent chemical, mechanical and anti-corrosion performance along with the maximum gloss and color retention.
2. The following semi standard colors are available:
  - Beige
  - Black Charcoal
  - Bronze
  - Graphite Grey
  - Gray Velvet
  - Grey Charcoal
  - Hartford Green
  - Iron Mountain Gray
  - Light Bronze
  - Metal Shavings Grey
  - Sea Wolf Gray
  - Standard Black
  - Standard Brown
  - Standard Silver
  - Terra Cotta

**FABRICATION**

Fabricate framing from extrusions of size and shape shown on shop drawings. Interior and exterior extruded aluminum framing sections shall be integrated with a Polyamide thermal break to form a rigid composite assembly without the use of fasteners or other thermal bridging elements. Dry shrinkage of polyamide thermal break shall not exceed 0.10% of the framing member length.

Main framing and door leaf shall be designed for butt corner construction. All framing joints shall be accurately machined, assembled and sealed to provide neat water- and airtight connection. Coupling mullions shall be designed to provide a functional split to permit modular construction and allow for thermal expansion.

Door stiles and rails shall be 3 7/8" x 2 1/2" deep and shall have a minimum wall thickness of .095" (2.40mm) with tubular sections and be thermally broken.

The tubular frames shall be 1 3/8" x 4-1/2" in depth with a minimum wall thickness of .063" (1.60mm) solid sections and be thermally broken.

All frame corners are mechanically joined by stainless steel screws. All interior joints and interior screw heads shall be sealed with a non-hardening sealant. Frame and leaf shall be single weather stripped with black santoprene bulb seal weather-stripping for head and jamb. The sill at the frame shall be single weather stripped with a santoprene foam gasket.

Glass bead shall be snap-in screwless type.

**GLAZING**

The 9502 series aluminium doors shall be double glazed, double seal insulated safety glass unit with an overall thickness of 1 7/16" (37mm).

Glass thickness and quality shall conform to the requirements of the U.S.A. and Canadian Code for commercial construction, current edition. Minimum glass thickness is 4mm. Standard igu comes with 6mm glass on the exterior, 1" aluminum spacer and 4mm glass on the interior.

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**HARDWARE**

Hardware for the aluminum doors and door frames shall be furnished by the door manufacturer. Where practical, all hardware fittings shall be installed at the factory before shipping.

Hardware shall be as follows:

1. Deadbolt/Cylinder with interior thumb-turn, single point lock (Note: keyed locks are not available)
2. Two 1/2" x 4" lever handles - satin chrome finish only
3. Hinges - 2 or 3 surface mounted pivot hinges - hinge comes in door leaf finish only
4. Overhead holders in stainless steel (Stay arm)

**OPTIONAL ITEMS**

(Specifier to select from the following options)

1. Glazing – Tinted & reflective, LowE performance coating, laminated glass, obscure,
2. Coupling mullions – wide range of couplers are available (all thermally broken) to suite a variety of configurations i.e.: 180, 90
3. Deflection channel,
4. ADA (low profile) threshold, ADA 2" threshold
5. 10" Kick plate
6. Side Lights & Transoms
7. Separate colours on the inside & outside

**III. EXECUTION**

**INSTALLATION**

Doors shall be installed, glazed and adjusted by experienced personnel in accordance with the manufacturer instructions and approved shop drawings. All items in this section shall be set in their correct location and shall be set level, square, plumb and at proper elevations and in alignment with other work.

**PROTECTION AND CLEANING**

Aluminum shall be isolated from concrete, mortar, plaster and dissimilar metals with bituminous paint or other isolation coatings. It shall be the responsibility of the general contractor to maintain protection and provide final cleaning.

**Laws, building and safety codes governing the design and use of this product vary widely.  
Starline Architectural Windows Ltd. does not control the selection  
and use of this product and assumes no responsibility therefore.**