



#### TECHNICAL FEATURES

- ✓ Meet requirements of the 2020 NECB
- ✓ Accommodates glazing thicknesses from 25mm to 56mm, based on project requirements
- ✓ Adapter for the use of single glazing up to 6 mm
- ✓ High-performance extruded polyamide thermal break
- ✓ Integration of operable vents tailored to your project

#### PRODUCT DESCRIPTION

The 65 mm mullion curtain wall system, with variable depths ranging from 89 mm to 245 mm, has been specifically designed for medium and large spans. The high performance STE-7000 series combines resistance to air and water infiltration, thermal efficiency, and aesthetic quality while offering four configuration options.

This system meets all current industry norms and standards and also complies with enhanced energy-efficiency requirements for vision areas.

Module assembly is carried out in the factory whenever possible, under optimal conditions, ensuring a rigid unit with complete resistance to air and water infiltration.

The STE-7000 curtain wall system meets the most stringent performance requirements and is suitable for commercial buildings ranging from single-storey to multi-storey applications.

The development of custom extrusions is always possible based on project requirements - please contact the Stekar team.

#### WARRANTY

This product is covered under Stekar Systems standard warranty, certifying that the work will be free from manufacturing and installation defects under normal use conditions.

#### MAINTENANCE

The curtain wall system must be cleaned once installation is complete using products and methods that will not compromise the surface treatment or performance of the system. Regular maintenance must also be performed annually using the same procedures.



#### PERFORMANCES – TEST REPORTS – DOUBLE GLAZING

|                                            |                                                                                                                                                                                                                 |                                                            |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|
| STRUCTURAL RESISTANCE<br>(DEFLECTION)      | Maximum deflection of L/600 at<br>3,8 kPa                                                                                                                                                                       | ASTM E330                                                  |
| STRUCTURAL RESISTANCE<br>(PRESSURE)        | Design pressure of 3 830 Pa or<br>DP80                                                                                                                                                                          | ASTM E330                                                  |
| WATER PENETRATION<br>RESISTANCE            | No water penetration at 1,0 kPa<br>pressure                                                                                                                                                                     | ASTM E331<br>ASTM E547                                     |
| AIR INFILTRATION AND<br>EXFILTRATION       | $Q_{mean} \leq 0,10 \text{ L/sm}^2 @ 75 \text{ Pa}$<br>$Q_{mean} \leq 0,13 \text{ L/sm}^2 @ 300 \text{ Pa}$                                                                                                     | ASTM E283                                                  |
| THERMAL TRANSMITTANCE<br>(OVERALL U-VALUE) | $U \leq 1,71 \text{ W/m}^2\text{K}$ ; double glazing 25,4 mm with single<br>low-e<br>$U \leq 1,48 \text{ W/m}^2\text{K}$ ; double glazing 25,4 mm with a low-e<br>coating and a pyrolytic coating on surface #4 | NFRC 100 for Glazed<br>Wall Curtain Wall<br>(GWCW) Systems |
| CONDENSATION RESISTANCE                    | CI = 75                                                                                                                                                                                                         | NFRC 500                                                   |

#### PERFORMANCES – TEST REPORTS – TRIPLE GLAZING

|                                            |                                                                                                                    |                                                            |
|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|
| STRUCTURAL RESISTANCE<br>(DEFLECTION)      | Maximum deflection of L/585 at<br>3,8 kPa                                                                          | ASTM E330                                                  |
| STRUCTURAL RESISTANCE<br>(PRESSURE)        | Design pressure of 3 830 Pa or<br>DP80                                                                             | ASTM E330                                                  |
| WATER PENETRATION<br>RESISTANCE            | No water penetration at 1,0 kPa<br>pressure                                                                        | ASTM E331<br>ASTM E547                                     |
| AIR INFILTRATION AND<br>EXFILTRATION       | $Q_{mean} \leq 0,1 \text{ L/sm}^2 @ 75 \text{ Pa}$<br>$Q_{mean} \leq 0,2 \text{ L/sm}^2 @ 300 \text{ Pa}$          | ASTM E283                                                  |
| THERMAL TRANSMITTANCE<br>(OVERALL U-VALUE) | $U \leq 0,97 \text{ W/m}^2\text{K}$ ; thermos triple 44,8 mm with low-e<br>coating in face #2 and #4 or equivalent | NFRC 100 for Glazed<br>Wall Curtain Wall<br>(GWCW) Systems |
| CONDENSATION RESISTANCE                    | CI= 82                                                                                                             | NFRC 500                                                   |



#### Components and Raw Materials

- Aluminum profiles are alloy AA6063, temper T5 or T6, and must comply with ASTM B221.
- Silicone must be a high-performance, multi-component structural silicone (e.g., Dow Corning Dowsil 795 or Tremco Proglaze II).
- The system is available in Class I or Class II anodized finishes, as well as painted finishes according to project requirements (e.g., DURANAR, DURANAR XL, D2000, and others).
- Aluminum must always be separated from dissimilar metals or masonry using an inert material or a conforming dielectric coating.
- All structural anchoring devices must be protected and separated from the aluminum using a dielectric coating.
- Glazing setting blocks are made of flexible PVC with a Shore A hardness of 83–85, and are compatible with the silicone specified for the project. Dimensions may vary depending on project requirements.
- The thermal break consists of rigid PVC (Shore A hardness 90  $\pm$ 5) or semi-rigid PVC (Shore A hardness 80  $\pm$ 5), or a combination of both.
- Weather-seal gaskets are made of Santoprene (TPV) with a Shore A hardness of 60  $\pm$ 5.
- Steel profiles for anchors and reinforcement components are fabricated according to certified and sealed shop drawings from a qualified engineer, meeting the required performance criteria and complying with CAN/CSA-G40.20/G40.21.
- All rigid insulation consists of high-density extruded polystyrene boards.
- Aluminum curtain walls manufactured in Quebec. Compliant with CAN/CSA-ISO 14025 and ISO 21930 standards. EPD available.

#### Design Criteria

- The following maximum tolerances must be respected during panel fabrication:
  - Length:  $\pm$ 1 mm up to 1,219 mm
  - Length:  $\pm$ 2 mm up to 3,538 mm
  - Height:  $\pm$ 1 mm up to 1,219 mm
  - Height:  $\pm$ 2 mm up to 3,538 mm
  - Diagonal: maximum 3 mm
  - Bow: 0.2% of the length, maximum 5 mm
- For load-calculation charts, refer to the wind load calculation document provided by Stekar.

#### Installation Conditions

- Once welding is completed, all welded surfaces must be cleaned, and a protective primer must be applied evenly to each surface.
- When the gap is 25 mm or greater, a galvanized steel flashing is required to allow proper installation of a waterproofing membrane. For gaps less than 25 mm, an Ethafoam backer rod may be used as a support for membrane application.
- High-density extruded polystyrene insulation panels must be installed to ensure continuity of the building's insulation, aligned with the curtain-wall glazing plane.
- Thermal insulation must be provided and installed wherever components penetrate or interrupt the building's insulation layer.
- The air/vapour barrier system must be installed in a manner that ensures a continuous barrier throughout the assembly.
- All joints between the curtain-wall framing assemblies and adjacent building elements must be sealed to ensure system watertightness and airtightness.

#### Limitations

| Product                                                | Limitations                |
|--------------------------------------------------------|----------------------------|
| Curtain wall serie 7000<br>Covers with pressure plates | Please contact Stekar team |

- In general, very large openings can be achieved within the curtain-wall system.
- A change in glass thickness may be required depending on the structural needs of the project and the glass span. Larger openings may require thicker insulating glass units (IGUs).
- For larger openings, laminated glass, or for any additional information, please contact the Stekar team, who can assess your project requirements and assist you throughout the design and execution process.