



Building Envelope Council Ottawa Region

Stantec Consulting Ltd

- **George Turok, C.E.T., BSS - Senior Building Science Specialist**
- **Elyse Rogers, B. Eng., Building Science Consultant**



George Torok has over 38 years of experience in building envelope design, construction, performance assessment, failure investigation and rehabilitation for public and private sector buildings of all types across North America. His passion is fenestration technology, including low-rise residential windows, doors and skylights, high-rise residential window wall, commercial curtain wall and sloped glazing assemblies.

George is a voting member of the CSA-A119 Technical Committee on the Performance of Windows which is responsible for the Canadian fenestration product and installation standards, and a voting member of the CGSB Committee on Glass which is responsible for the Canadian standards for insulating glass units, safety glazing, and structural design of glass. He is a past president of the Ontario Building Envelope Council (OBEC, now the Building Science Association of Ontario, BSAO) and a past president of the Building Envelope Council Ottawa Region (BECOR).



Elyse Rogers is a Building Science Consultant at Stantec Consulting Ltd. She is a graduate of the Architectural Conservation and Sustainability Engineering program at Carleton University. Elyse initially joined Stantec (formerly Morrison Hershfield) as a co-op student in 2023 and transitioned to a full-time role in 2024. Since then, she has provided building envelope and structural services to clients for various projects, including high-rise new construction field reviews, fenestration testing, building condition assessments, and rehabilitation design and tender services.

Elyse is currently a director at large on the Building Envelope Council Ottawa Region (BECOR) board.

What is high performance glazing?

The AAMA/WDMA/CSA 101/I.S.2/A440 standard – aka NAFS to most of us – in combination with CSA-A440S1 describes performance requirements for many of the fenestration products we use. Air leakage, wind-driven rain resistance, and wind load resistance requirements are given based on the climatic design data for a building location. But what about thermal performance?

The CSA-A440.2 *Fenestration Energy Performance* standard and the accompanying user guide, CSA-A440.3 describe how to select condensation resistance based on the January 2½% design temperature and indoor relative humidity. But CSA-A440.2 and .3 do not include selection procedures for the other thermal performance characteristics required to be determined: U-factor, SHGC, and ER. The building science practitioner must look elsewhere for guidance.

To set the stage for the other presentations on high-performance glazing in this seminar, we'll look at some commonly used thermal performance selection guidance tools, including a brief foray into choosing climate data to account for the effects of climate change.