

# ONTARIO ASSOCIATION OF ARCHITECTS HEADQUARTERS RETROFIT

## Inline Fiberglass elevates envelope performance



Dubbed “Wings Over Don Mills” when it opened in 1992 for its Toronto neighbourhood location and for its uplifted winged roof framing, the three-storey, 21,400-square-foot Ontario Association of Architects (OAA) Headquarters was deemed in need of a retrofit.

The goal was to refresh the interior and improve energy performance – in fact, to meet the 2030 Challenge which is intended to reduce greenhouse gas emissions in new buildings, developments and major renovations. As a result of the retrofit, the OAA Headquarters has moved to electrical power and is targetting a remarkable 85% energy use reduction to an impressive 55 kwh/m<sup>2</sup>/year.

The envelope upgrade included additional insulation, curtainwall retrofits, and new fiberglass frame, triple-glazed windows by **Inline Fiberglass**. Fiberglass frames combine strength with very low levels of conductivity, and have the lowest embodied energy when compared to other common window frame materials. They also resist corrosion for long life expectancy. Our Series 3000 windows are **Passive House International** certified.

### WINDOW SPECS

Inline Fiberglass Series 400 Fixed and Series 325 Awning insert with 4" jamb depth and custom white interior and pale grey exterior

#### Triple glazing consists of:

- **Exterior:** 6mm clear Tempered with View Dynamic Glass GLASS GLZ-2 Electrochromic View Triple IG coating on surface (2)
  - **Middle:** 6mm clear Tempered
  - **Interior:** 6mm Tempered Low-E SN78-65 on Surface (5)
- Argon Filled, Warm Edge Spacer (super seal) 42mm OT

**The broken black line represents the wire inside the frame of the operable awning window. The wire conducts electric current to the electrochromic coating inside the insulating glass unit to activate tinting.**



Variation in automatic tint function of the View Dynamic Glass.

Inline’s products can be treated with specialized resins that have been tested and are in compliance with CAN/ULC S134 test protocol allowing them to be used in non-combustible applications when approved by building inspectors, as in the case of the OAA project.

According to David Fujiwara, the architect of the retrofit, “Fiberglass frames were considered for the OAA office windows because of their thermal effectiveness, ability to carry a triple-glazed unit, slim profile and strength. They met all the requirements of the building code and of the project.

The replacement windows needed to fit within the existing frame opening available, so removal of old thermally unbroken aluminum frame windows, site measuring and installation of the new frames for an airtight fit was an essential part of the work. Coordination was also needed with the electrochromic glazing supplier View Smart Glass. The final touch was the addition of 3M light redirecting film to the upper transom strip of window.”



Architect David Fujiwara Architect.

