

The four symptoms in order of appearance

1 Foggy or hazy glass that does not wipe away.

Starts at one corner, spreads across the unit over months to years. The primary seal has failed and inert gas is leaking out.

2 Water droplets visible between the panes.

Small beads on the inside of the outer pane. Means the gas fill is mostly gone and outdoor moisture is now inside the sealed unit.

3 Permanent white mineral haze.

Repeated condensation cycles deposit calcium and other minerals onto the inner glass surface, etching it. Cosmetic damage that no cleaning removes.

4 Noticeably colder zone within 3 feet of the window.

Lost insulating gas drops the R-value from R-4 to R-2.5. Interior glass surface runs 5 to 10 degrees Fahrenheit colder than a working unit.

Repair vs replace decision

Glass-only IGU replacement	\$250 to \$500 per opening (most cases)
Full window replacement	\$800 to \$2,500 per opening
When IGU swap is right	Frame intact, sash operates smoothly, unit under 20 years old, only glass has failed
When full replacement is right	Frame warped or rotted, hardware broken, unit over 25 years, multiple issues

Diagnostic tests you can run

Candle flame test: hold a candle 6 inches from the seam where sash meets frame. Flickering means air leak from weatherstripping. Steady flame plus cold radiating off the glass means IGU failure. Infrared thermometer: aim at centre of glass on a cold day. Working triple-pane reads 60 to 65 F interior surface when 0 F outside. Failed unit reads 45 to 55 F.

Warranty check

Most quality Canadian manufacturers warranty IGU seals for 20 years. Pull your original installation paperwork. Many warranties survive ownership changes and replace failed glass at no cost.