

08 87 00 Glazing Surface Films

Submittals Required

- .1 Elevation and detail drawings. Any required to communicate the design intent. All to include title, dimensions, scale and date.
- .2 Material samples
- .3 Product Technical Data Sheets
- .4 Mock Up is mandatory and will be reviewed and formally approved prior to proceeding.

Design Requirements

- .1 Bird collision reduction materials shall be installed on all windows for new and renovated buildings. See Bird Control Films in this division for specific details.
 - a. Ceramic frits or etching shall be the first option of choice, unless otherwise approved by the owner.
 - b. Application shall be done at the manufacturer level, and/or before installation of the window(s), when possible.
- .2 Solar Films shall be applied at the discretion of the architect and is required to meet energy performance requirements.
- .3 Safety and Security Films and Decorative Films shall be applied at the discretion of the architect and approval of the owner.

08 87 13 Solar Films:

- .1 Product:
 - To be selected from manufacturers full line
 - Clear and non – low – reflective
 - >90% UV Block
 - High heat rejection
 - Scratch resistant
 - 10 – year commercial warranty
- .2 Approved Manufacturers include but not limited to:
 - 3M
 - Avery
 - Reserved
- .3 Installation:
 - Certified installer
 - Clean and dry surface prior to installation
 - Installation to be smooth and free of impurities and air blisters

08 87 23 Safety and Security Films:

.1 Product:

- To be selected from manufacturers full line
- Clear and non / low – reflective
- >90% UV Block
- High heat rejection
- Scratch resistant
- 5 – year exterior and 10 – year interior commercial warranty

.2 Approved Manufacturers include but not limited to:

- 3M
- Avery
- Reserved

.3 Installation:

- Certified installer
- Clean and dry surface prior to installation
- Installation to be smooth and free of impurities and air blisters

08 87 26 Bird Collision Reduction Films:

.1 Product:

- a. Ceramic frit and/or etching are the two methods by which the bird collision reduction pattern shall be applied, as this is completed at the manufacturing level of the glass, and follow the Flap standards (below). Any other methods shall be at the approval of Queen's Facilities.
- b. Application of film for prevention of bird strike is considered a retrofit solution following the Flap Standards (below).
- c. Acceptable manufacturers to be determined in consultation with the owner.
- d. To be selected from manufacturers full line.
- e. 10 – year commercial warranty.
- f. Refer to the following Flap Canada Standard for Visual Markers:
 - i. Marker Density – separate visual markers by spaces no more than 5 X 5 cm (2 X 2 inches).
 - ii. Marker Surface – apply visual markers to exterior surface (first surface) of glass to disrupt the illusion of a safe, natural environment reflected in the glass.
 - iii. Marker Contrast – make markers stand out in contrast to transparent or reflective exterior surfaces under varying daylight conditions.
 - iv. Marker Size – the dimension of a marker to be no less than .64 cm (1/4 inch).

- v. Marker Coverage – markers are to cover entire exterior glass surfaces up to 20 metres above grade or to the top of the mature tree canopy, whichever is greater.
- .2 Approved Manufacturers include but not limited to:
 - 3M
 - Avery
 - Walker Textures
- .3 Installation:
 - Certified installer
 - Clean and dry surface prior to installation
 - Installation to be smooth and free of impurities and air blisters

08 87 33 Decorative Films:

- .1 Product:
 - To be selected from manufacturers full line
 - Etch mark is not acceptable for frosted film
 - Use 3M Dusted Crystal or equal for frosted film
 - Scratch resistant
 - 10 – year interior commercial warranty
- .2 Approved Manufacturers include but not limited to:
 - 3M
 - Avery
 - Reserved
- .3 Installation:
 - Certified installer
 - Clean and dry surface prior to installation
 - Installation to be smooth and free of impurities and air blisters