



BIRD FRIENDLY GLAZING

Urban environment subjects birds to a number of risks. Glass, especially because of its transparency, prevents birds to perceive it as an obstacle, whereas its reflexivity leads to confuse the reflection of the sky, the vegetation or their own reflection with reality. Birds will try to fly to the reflected habitat and hit the glass.

The City of Toronto was the first city in the world to publish a "Bird-friendly Development Guidelines" in 2007. This guide identifies the various risk factors and makes recommendations to mitigate death of birds. For more information see the guide at: <https://web.toronto.ca/wp-content/uploads/2017/08/8d1c-Bird-Friendly-Best-Practices-Glass.pdf>

With regards to glazing, one of the recommendations is to integrate visual markers on the glass (lines, dots or other patterns). Studies have shown that visual markers must at a maximum of 10cm apart to prevent bird collisions with glass. Applying these visual markers to the entire building is ideal, but at least for a minimum 12 meters above ground (4 floors), maybe more in rough terrain.



On clear glass, it is recommended to apply the visual markers as close to the surface as possible as they are not obscured by reflections. When an energy efficient glass is used on face 2, the patterns must be applied on face 3. It is then recommended to use a very contrasting color to enhance efficiency.

LAURIER offers Birds friendly CERAFRIT or digitally printed CERAPRINT glass solutions. We can also assist you to create a personalized design that will meet the city of Toronto guidelines.

LAURIER STANDARD PATTERNS

Standard application

Patterns below follow the spirit of the City of Toronto recommendations

Check local regulations

CERAPRINT – CP0171

1% COVERAGE

5mm (3/16") diameter dots
spaced 100mm (4")
Center to center



CERAPRINT - CP --0569

1 COVERAGE

5mm (3/16") diameter dots
Spaced 100mm (4")
Center to center



CERAPRINT – CP-0709

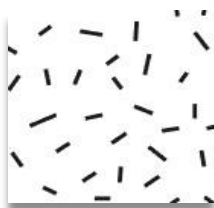
2% COVERAGE

5mm (3/16") diameter dots
Spaced 25mm (1")
Center to center



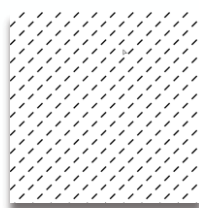
CERAPRINT – CP-0548

4% COVERAGE



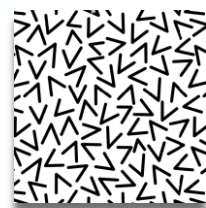
CERAPRINT – CP-0552

5% COVERAGE



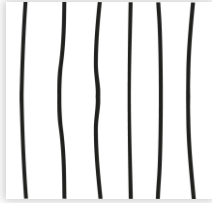
CERAPRINT – CP-0553

17% COVERAGE



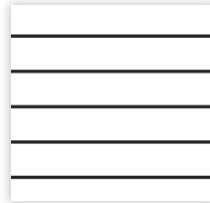
CERAPRINT- CP-0540

*6% COVERAGE
6mm (1/4") Lines
Spaced 60mm (2 3/8")
Center to center*



CERAPRINT -CP-0542

*9% COVERAGE
5mm (3/16") Lines
Spaced 50mm (2")
Center to center*



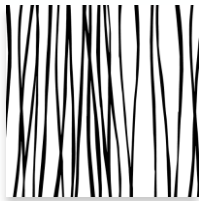
CERAPRINT -CP0554

*38% COVERAGE
Various size Lines*



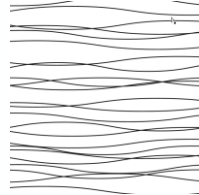
CERAPRINT-CP0551

*20 % COVERAGE
5mm (3/16") Lines*



CERAPRINT-CP0549

*16% COVERAGE
5mm (3/16") Lines*

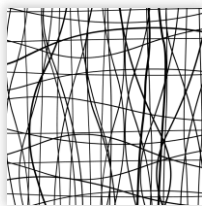


Other CERAPRINT Standard patterns

Check local regulations

CERAPRINT-CP0555

15% COVERAGE



CERAPRINT-CP0550

15% COVERAGE



Screen-printed CERAFRIT Standard patterns

Standard application– no changes

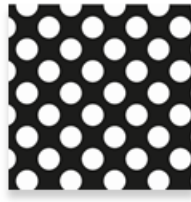
Patterns below follow the spirit of the City of Toronto recommendations

Check local regulations

CERAFRIT
50% COVERAGE
6mm (1/4") diameter dots
Spaced 11mm (7/16")
Center to center



CERAFRIT
60% COVERAGE
3mm (1/8") diameter dots
Spaced 6mm (1/4")
Center to center



CERAFRIT
50% COVERAGE
6mm (1/4") Lines
Spaced 12mm (1/2")



CERAFRIT
40% COVERAGE
3mm(1/8") Diameter dots
Spaced 6mm (1/4")
Center to center



CERAFRIT
30% COVERAGE
3mm (1/8") Diameter dots
Spaced 7mm (9/32")
Center to center

