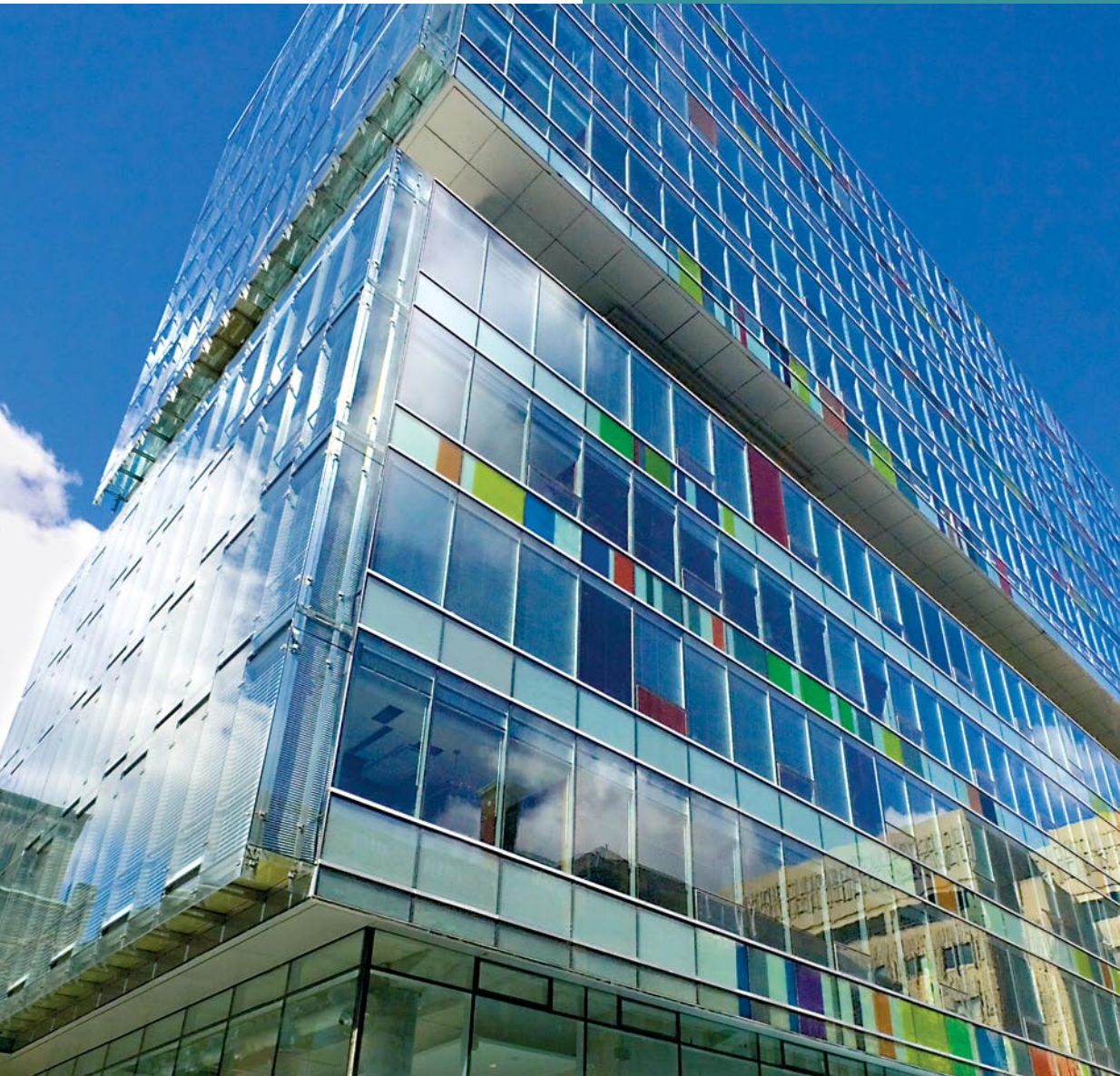


DuPont™ Expressions™ custom interlayers

CASE STUDY— FACADE AT THE TORONTO UNIVERSITY



Project: Centre for Cellular and Biomolecular Research, Toronto, Canada



- Project— Facade at Toronto University
- Architect— Benisch, Benisch & Partners
- The use of DuPont™ Expressions™ meant we could create a design that was distinct and visually arresting.
- The modulation of the vision glass using DuPont™ Expressions™ technology serves to animate the sunlight entering the building by illuminating the floor and desk surfaces with ever-changing, colored light patterns that respond to the orientation of the sun.

DuPont™ Expressions™ custom interlayers facade at Toronto University is “vibrant, colorful and dynamic”

The University of Toronto's new Centre for Cellular and Biomolecular Research (completed October 2005). A vibrant and colorful facade thanks to the use of laminated glass with DuPont™ Expressions™ custom interlayers.



The miracles of science™

DuPont™ Expressions™ custom interlayers

CASE STUDY—FACADE AT THE TORONTO UNIVERSITY



“The use of DuPont™ Expressions™ decorative laminated glass meant that we could create a design for the CCBR facade that was distinct and visually arresting. The researchers are really excited about working inside such a vibrant, dynamic and colorful research center.” Walter Bettio, architectsAlliance, Toronto, Canada.

The University of Toronto’s new Centre for Cellular and Biomolecular Research (CCBR), designed by architects Benisch, Benisch & Partners of Stuttgart (Germany) in partnership with architectsAlliance of Toronto (Canada), will provide the sophisticated laboratory tools to enable the university to build on its strengths in bio-molecular research.

According to Benisch and Benisch: “Architecturally, the building is conceived as a 12-story-high transparent box (56 m high x 57 m long), elevated above a public concourse. The relatively shallow floor plan enables maximum use of daylight. The main, east-facing facade of 2,434 m² incorporates seemingly arbitrary blocks of brightly colored panes of laminated glass incorporating DuPont™ Expressions™ technology to provide a distinct visual expression to the research center.”

“The colored decorative glass is located on the east facade of the building, adjacent to the laboratory area where the researchers will conduct their experiments. The modulation of the vision glass using

DuPont™ Expressions™ technology serves to animate the sunlight entering the building by illuminating the floor and desk surfaces with ever-changing, colored light patterns that respond to the orientation of the sun.

“Technically, we believe that this is the first time that four or five different color tones could be incorporated in a single interlayer. Use of DuPont™ Expressions™ enabled us to create colored glass with depths of tone that we had not been able to achieve until now, with some sections of the same laminated glass panels staying completely clear when our design called for this.

“Alternative technologies would have obliged us to splice several PVB interlayers together, which would have made the overall laminated glass construction very thick, cumbersome, risky (because air could get trapped between the layers of film) — and expensive.”

“Functionally, the use of different gradients of a color in one pane of glass allowed us to precisely engineer the shading effect inside the building. Researchers get maximum light falling onto their desks and onto the floors but higher up, at eye level, the color is darker, meaning that the scientists are protected from glare.” Laminated safety glass is used for both the smaller, lower, and larger, upper panes of the floor-to-ceiling glazing in the research rooms of the east facade. The laminator for this project was Prelco of Montreal, Canada.

“This is the first external façade using the technology in Canada. We were concerned initially about the effects of weather, UV and aging on the colors of the DuPont™ Expressions™ decorative interlayer, considering the country’s harsh climate. It greatly encouraged us that DuPont’s confidence in the stability of the inks used, the fact that the laminated glass using a special grade of Butacite® PVB interlayer is UV-stable and advanced weathering tests means that the company is backing up its technology with a five-year warranty against fading.”

Copyright © 2006 DuPont. All rights reserved. The DuPont Oval Logo, DuPont®, The miracles of science™, and Expressions™ are registered trademarks or trademarks of E. I. du Pont de Nemours and Company or its affiliates.

K-11024 (10/06) Printed in the U.S.A.



The miracles of science™

DuPont Glass Laminating Solutions

www.dupont.com/safetyglass

1.800.438.7225