SentryGlas®

IONOPLAST INTERLAYER

Case Study:

SentryGlas® ionoplast interlayer helps set the scene in stunning natural surroundings

The initial design concept called upon a structure that drew inspiration from the surrounding environment and then extending and integrating it in a way that did not detract from the beauty of the site.

TO LEARN MORE ABOUT PUSHING THE LIMITS OF GLASS, VISIT

WWW.SENTRYGLAS.COM

kuraray

SentryGlas®
IONOPLAST INTERLAYER

SentryGlas® ionoplast interlayer helps set the scene in stunning natural surroundings

The SentryGlas® used in the glass-floored platform enhances the viewing experience for the visitor, enriching their connection with the surrounding environment.

The Glacier Skywalk, a 35 m (115 ft) cantilevered glass-floored observation platform some 280 m (918 ft) above the Sunwapta Valley in the Canadian Rockies, gives its visitors a unique bird's eye view of the awe-inspiring power and beauty of Mother Nature at her absolute finest.

Minutes from the Columbia Icefield Glacier Discovery Centre on the Icefields Parkway, this breathtaking structure, jutting out from the cliff face, is a superb example of SentryGlas® ionoplast interlayers in action; combining sympathetic aesthetics with vital strength, environmental ruggedness and longevity.

The initial design concept called upon a structure that drew inspiration from the surrounding environment and then extending and integrating it in a way that did not detract from the beauty of the site. Brewster Travel Canada worked with Sturgess Architecture and structural engineers Read Jones Christofferson Engineering to conceptualise the design. The construction team, led by PCL Construction used German specialist glazing subcontractor Josef Gartner GmbH to supply and install the glass, who in turn used BGT Bischoff Glastechnik AG, also from Germany, to actually laminate the panels.

According to John Kooymans, Principal at Read Jones Christoffersen Ltd.: "Laminated glazing panels were specified for this project because of redundancy and the code requirements for floor glass. SentryGlas® offers better post-breakage behaviour and performs better in exterior climate conditions, it is also stronger and stiffer than other laminates on the market. We try to use it for all critical post-breakage conditions and overhead glass. It allows for less or thinner lites, which can be more complementary to the surrounding structures."

"We design the glass make up to ensure structural and post breakage behaviours meet or exceed the needs for the codes and project specifics, " Kooymans adds. "We allow the glazing company who wins the bid to tweak the design if they wish, based on supply and fabrication preferences, but the original design protects the details and the costs."

Stefan Zimmermann, Senior Manager Operations at Josef Gartner GmbH, the specialist glazing subcontractor, who also designed, fabricated and installed the steel structure and the glazing for the Skywalk, elaborates: "We are doing a lot of specialised glazing work in North America, where we work very closely with general contractors. As well as manufacturing and installation we also undertake a lot of design work. For this project, we did the structural calculations for the glass and the glazing details. We took the generic drawings and then fine tuned them to suit the

SentryGlas® ionoplast interlayer helps set the scene in stunning natural surroundings

install, taking into account the capabilities of the glass panels. With our capabilities we can examine projects in a much broader fashion, not just from an installation perspective. We are certainly seeing more and more projects involving SentryGlas®, many of which use it in a way that really exploit its capabilities."

Klaus Wittmann, from BGT Bischoff Glastechnik AG, the laminator expands on the make up of the glass panels: "We constructed a three-ply laminate for the floor of the Skywalk, which comprised three 10 mm (0.39 in) glass panels sandwiching two 1.52 mm (60 mil) SentryGlas® ionoplast interlayers. A 6 mm (0.23 in) cover sheet was also applied for easy maintenance, which exhibits small acid-etched dots for grip without hindering the view through the panels. This removable top sheet is attached to the main laminated panels by means of a clear foil. The 200 m^2 (2,152 ft2) balustrade also deployed a 1.52 mm (60 mil) SentryGlas® ionoplast interlayer between two 10 mm (0.39 in) glass panels.

"The advantage of SentryGlas®," Wittmann elaborates, "is that you can use thinner glass with comparable results and same aesthetic. From an installer's point of view, this is incredibly advantageous, as the lower weight helps with handling and construction. The thinner laminates are also far better for colour, which in this instance and setting is very important. We have a good ongoing relationship with DuPont, working on numerous projects together using SentryGlas®."

Lighter façade panels enable more subtle supporting structures

For decades, interlayers made of polyvinyl butyral (PVB) have been the industry standard when producing laminated safety glass. Architects are well aware of the possibilities and limitations of such glass when used extensively in façade engineering, for roofing and window panels. In contrast, SentryGlas® enables an entirely new approach because the interlayer is over 100 times stiffer and five times stronger than PVB. As a consequence, there is an almost perfect transmission of load between two laminated sheets of glass, even at high temperatures, leading to the excellent flexural behavior of the glass when under load – also under direct sunlight in high summer. Accordingly, laminates with SentryGlas® show less than half the rate of deflection when compared to laminates with PVB, when under the same load, and thus almost the same behavior as monolithic glass of the same thickness.

According to David McKenna, Interim President at Brewster Travel Canada: "The vision behind the Glacier Skywalk was to create a world-class, fully accessible experience that engages visitors to learn about the glaciology, geology and unique ecosystem of the Columbia Icefield region. The materials used in the project were specially selected to mirror, rather than distract from, the natural environment. The SentryGlas® used in the glass-floored platform enhances the viewing experience for the visitor, enriching their connection with the surrounding environment."

The breathtaking Glacier Skywalk, jutting out from the cliff face, is a superb example of SentryGlas® ionoplast interlayers in action.

SentryGlas®
IONOPLAST INTERLAYER

SentryGlas® ionoplast interlayer helps set the scene in stunning natural surroundings

As well as improved strength and stiffness, other benefits of SentryGlas® include:

- **Safety:** In the event of breakage, glass fragments remain firmly bonded to the interlayer, reducing the chance for injury
- **Security:** SentryGlas® can be used in glazing that withstands bullets, hurricane-force winds and even bomb blasts
- **Durability:** SentryGlas® is extremely durable and resistant to clouding, even after years of exposure
- **Design Versatility:** SentryGlas® can be used in glass manufactured flat or curved, including annealed, toughened, heat-strengthened, spandrel, wired, patterned and color tinted glass
- **UV control:** SentryGlas® is available with or without UV transmittance

REGIONAL CONTACT CENTERS

Kuraray Co., LTD
Ote Center Bldg.
1-1-3, Otemachi
Chiyoda-ku, Tokyo, 100-8115, Japan
Phone: +81 3 6701 1508

Kuraray Europe GmbH
Glass Laminating Solutions
Philipp-Reis-Str. 4
65795 Hattersheim, Germany
Phone: +49 (0) 69 30585300

Kuraray Americas, Inc.
2625 Bay Area Blvd. #600
Houston TX 77058, USA
Phone: +1.800.423.9762

Kuraray Mexico S.de R.L. de C.V.
Homero 206, Polanco V seccion,
cp 11570,
Mexico City, Mexico
Phone: +52 55 5722 1043

For further information about SentryGlas®, please visit

www.sentryglas.com

kuraray