

Case Study:

Barueri Arena - São Paulo - Brazil: Guard rails provide an attractive and safe view of the games

Aesthetics and safety were the basic premises for the specification of SentryGlas® ionoplast interlayer in the guard rails of Barueri Arena, considered one of the most modern sports facilities in Brazil today.

TO LEARN MORE ABOUT PUSHING THE LIMITS OF GLASS, VISIT
WWW.SENTRYGLAS.COM

kuraray



Barueri Arena - São Paulo - Brazil: Guard rails provide an attractive and safe view of the games



Aesthetics and safety were the basic premises for the specification of SentryGlas® ionoplast interlayer in the guard rails of Barueri Arena, considered one of the most modern sports facilities in Brazil today.

More than a municipal soccer stadium, it is a multi-purpose arena used for various entertainment and sport events. Satio Tomita, architect of the Barueri Arena project sought to replace the original metal guard rail with a glass solution that would provide maximum visibility and safety.

SentryGlas® enabled the use of a thinner, lighter laminated glass solution, one with better impact resistance, higher transparency, and less sensitivity to moisture and other weathering effects. The laminated glass also complies with ASTM E 2353 and ASTM E 2358 standards for glass in railing systems.

SentryGlas® also enabled the use of larger glass panels, meeting the required pressure loads and creating a transparent barrier around the football field.



Barueri Arena - São Paulo - Brazil: Guard rails provide an attractive and safe view of the games

Specifications:

- Laminated Glass:
 - 12 mm (½") tempered glass
 - 1.52 mm (60 mil) SentryGlas®
- Panel Dimension:
 - 1.52 m x 1.95 m (5 x 6.4 ft)

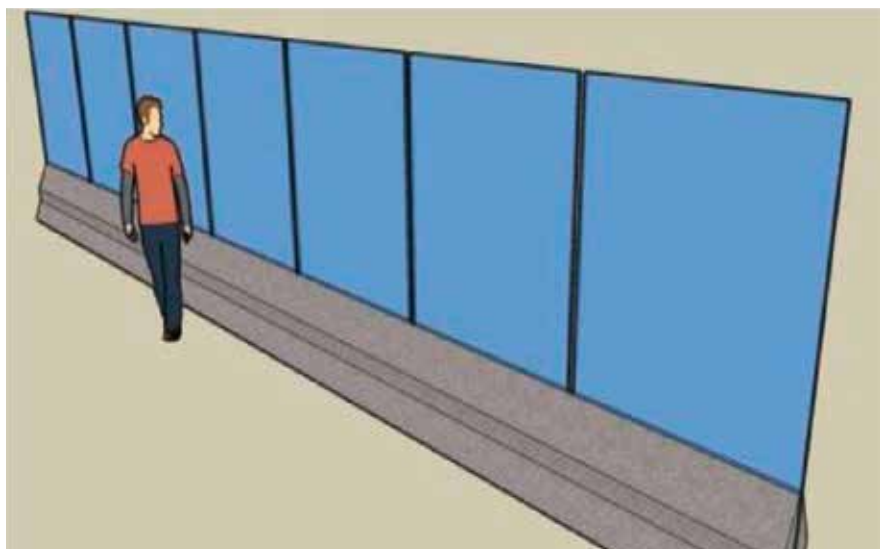
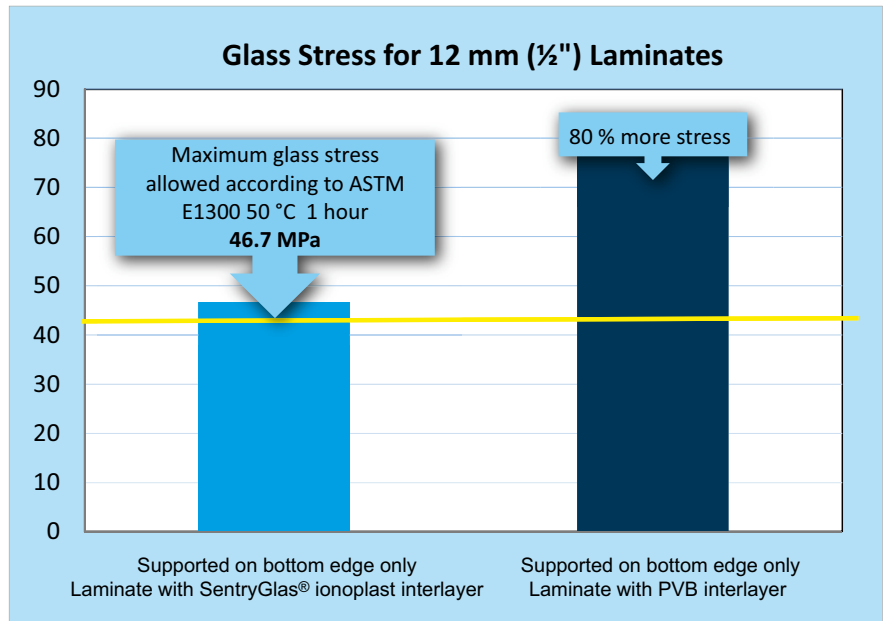
Using finite element analysis, it was possible to prove that self-supporting PVB solutions would require thicker and heavier glass. In addition, SentryGlas® weathering data supported an exposed edge design, thus, enabling a total obstacle-free view.

The post-breakage performance of SentryGlas® laminated glass increases safety and protects people below the glass from the danger of falling glass.

The higher the tension, the greater the risk of glass breakage. The ASTM standard allows a maximum tension in the glass according to a specified time duration and exposure temperature.

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.



Barueri Arena - São Paulo - Brazil: Guard rails provide an attractive and safe view of the games



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

Copyright ©2014 Kuraray. All rights reserved. Photos: on top of Page 2/Fernando Stankuns; all others/Kuraray. SentryGlas® is a registered trademark of E. I. du Pont de Nemours and Company or its affiliates for its brand of interlayers. It is used under license by Kuraray.

The information provided herein corresponds to our knowledge on the subject at the date of its publication. This information may be subject to revision as new knowledge and experience becomes available. The data provided fall within the normal range of product properties and relate only to the specific material designated; these data may not be valid for such material used in combination with any other materials or additives or in any process, unless expressly indicated otherwise. The data provided should not be used to establish specification limits or used alone as the basis of design; they are not intended to substitute for any testing you may need to conduct to determine for yourself the suitability of a specific material for your particular purposes. Since Kuraray cannot anticipate all variations in actual end-use conditions, Kuraray make no warranties and assume no liability in connection with any use of this information. Nothing in this publication is to be considered as a license to operate under a recommendation to infringe any patent rights. Document Ref. GLS-LGN-2012-13