

TECHNICAL BULLETIN STRENGTH CHARACTERISTICS AND POST-GLASS BREAKAGE PERFORMANCE

DuPont™ SentryGlas®
INTERLAYER



Superior strength characteristics for glass laminates made with SentryGlas® interlayer

Glass laminates made with the SentryGlas® interlayer provide superior strength compared to monolithic and some other laminated glass products that can be used in a multitude of ways. Increased strength can open up the possibilities for many structural design features, such as greater load bearing, thinner constructions, and less deflection. Another added bonus is reflected in the excellent post-glass breakage performance.

Laminated architectural glass is the only optical quality, safety glazing material available that remains intact when broken. Upon impact, the glass may break, but dangerous fragments will adhere to the SentryGlas® interlayer, reducing the risk of injury and fallout. Because of the post-glass breakage performance, it provides continuing protection and resistance to entry or fallout after the glazing is broken.

Load Bearing

In some applications, laminates prepared with SentryGlas® show the ability to withstand larger loads than other laminated glass products.

Thinner Constructions

Glass constructions can often be designed with thinner glass when using the SentryGlas® interlayer. In some cases a specified effective thickness is achieved by a thinner SentryGlas® laminate (Figure 1).

Post-Glass Breakage Performance

SentryGlas® laminates show excellent post-glass breakage performance, due to the strength of the unique properties of the SentryGlas® interlayer.

Figure 2 shows the results of creep-load tests done on SentryGlas® and PVB laminates. Each laminate was loaded with 727 pounds (330 kg) of sand bags and then the glass was fractured. The measured deflection was recorded over time. Deflection of the PVB laminate was much greater compared to the SentryGlas® laminate. The PVB laminate tore after approximately 7 minutes whereas the SentryGlas® laminate remained intact



SentryGlas®

Decreased Deflection

Curvature in panes of glass can be detrimental in many constructions. SentryGlas® laminates show less deflection for many different types of supported glass configurations. Figure 3 shows less deflection of a SentryGlas® laminate relative to PVB with many different nominal laminate thicknesses. This specific case is for a bending dominated case, but similar calculations for other cases show a decreased deflection.

Figure 1: Thickness

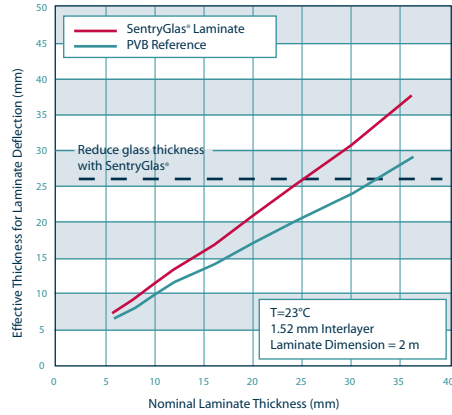


Figure 2: Creep Load

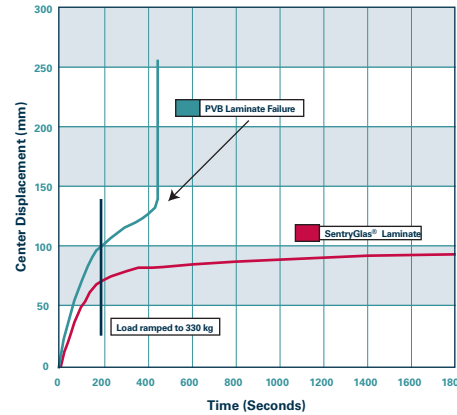
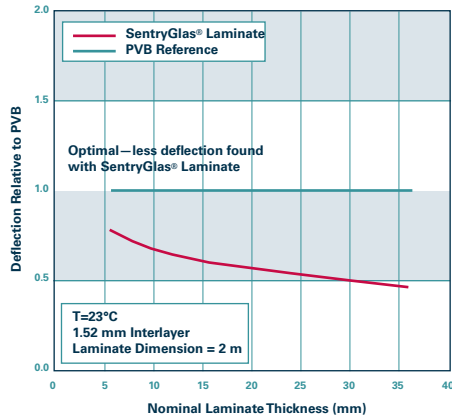


Figure 3: Deflection



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Americas

DuPont Company
 BMP 26-2363
 4417 Lancaster Pike
 Wilmington, DE 19805 U.S.A.
 Telephone +1 302 774 1161
 Toll-free (USA) 800 438 7225
 Fax +1 302 892 7390

DuPont do Brasil, S.A.
 Alameda Itapecuru, 506
 06454-080 Barueri, SP Brasil
 Telephone +55 11 4166 8542
 Fax +55 11 4166 8720

Asia Pacific

DuPont China Holding Co., Ltd.
 Shanghai Branch
 399 Keyuan Road, Bldg. 11
 Zhangjiang Hi-Tech Park
 Pudong New District, Shanghai
 P.R. China (Postcode: 201203)
 Telephone +86 21 3862 2888
 Fax +86 21 3862 2889

Europe / Middle East / Africa

DuPont de Nemours Int'l. S.A.
 2, Chemin du Pavillon Box 50
 CH-1218 Le Grand Saconnex
 Geneva, Switzerland
 Telephone +41 22 717 51 11
 Fax +41 22 717 55 00

sentryglas.com

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K-xxxxx (09/08) Printed in the U.S.A.



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