

# DuPont™ SentryGlas® Plus

EDGE STABILITY RESULTS—SEVEN YEAR TEST

## DuPont Glass Laminating Solutions

### DuPont™ SentryGlas® Plus Structural Interlayer Product Information



At the BellSouth building in Fort Lauderdale, silicone-sealed, butt-joined safety glass made with SentryGlas® Plus helped architects deliver panoramic corner office views, while meeting tough wind and storm protection codes. Extensive outdoor testing and real life experience show that laminates made with SentryGlas® Plus resist damage from long-term sealant contact.

### Proven edge stability opens new design possibilities

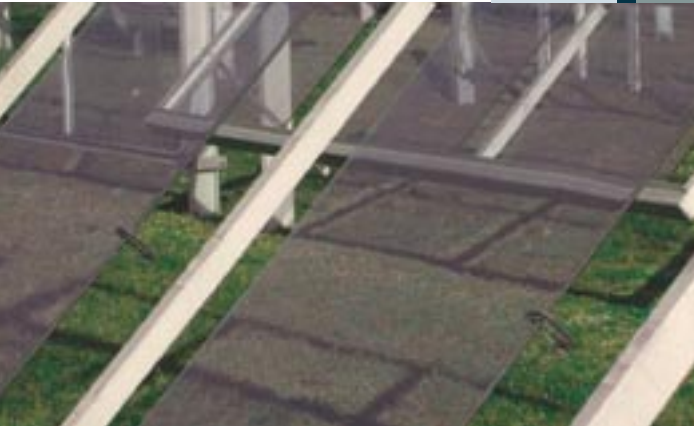
From tropical heat and storm zones to northern climate extremes, DuPont™ SentryGlas® Plus interlayers enable designers to create stronger, larger expanses of safety glazing including open-edged, structural, and butt-glazed installations.

Frigid winters, shadeless summer heat and occasional Mississippi River floodwaters were among the design challenges for a bandshell built on an island in St. Paul, Minnesota. Open-edged and butt-sealed glazing panels made with SentryGlas® Plus remain free of visual defects after years of exposure. The extra strength of the interlayer helped create a uniquely shaped overhead structure.



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## DuPont™ SentryGlas® Plus Architectural Safety Glass Interlayer



Laminated glass test lites made with DuPont™ SentryGlas® Plus structural interlayers were placed on exposure in Florida on 18 September 1997 and have been inspected annually for weathering effects.



SentryGlas® Plus structural interlayers enable innovative designs and support systems.

### Zero defects for SentryGlas® Plus after 84-month Florida weathering

After 84-month exposure, SentryGlas® Plus laminate was assigned an Edge Stability Number (see Table 1). This weighted system assigns higher importance to progressively deeper defects. A laminate with no defects would have an ESN of 0, while the maximum would be 2,500 (equivalent to continuous defects measuring  $>1/4$  in. [6.4 mm] around the entire perimeter).

The Edge Stability Number (ESN) calculation is as follows:

- $ESN = 1 \cdot (PCT1) + 4 \cdot (PCT2) + 9 \cdot (PCT3) + 16 \cdot (PCT4) + 25 \cdot (PCT5)$

#### Where

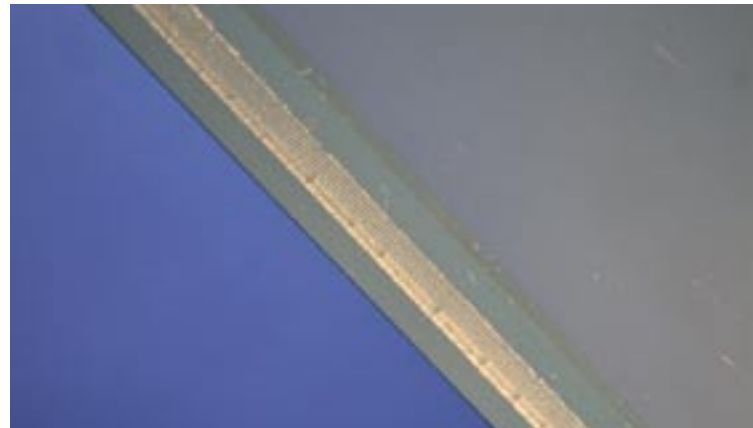
PCT1 = % defect length with depth  $<1/16$  in. ( $<1.6$  mm)

PCT2 = % defect length with depth  $1/16$  in. –  $<1/8$  in. (1.6 –  $<3.2$  mm)

PCT3 = % defect length with depth  $1/8$  in. –  $<3/16$  in. (3.2 –  $<4.7$  mm)

PCT4 = % defect length with depth  $1/16$  in. –  $<1/4$  in. (4.7 –  $<6.4$  mm)

PCT5 = % defect length with depth  $>1/4$  in. ( $>6.4$  mm)

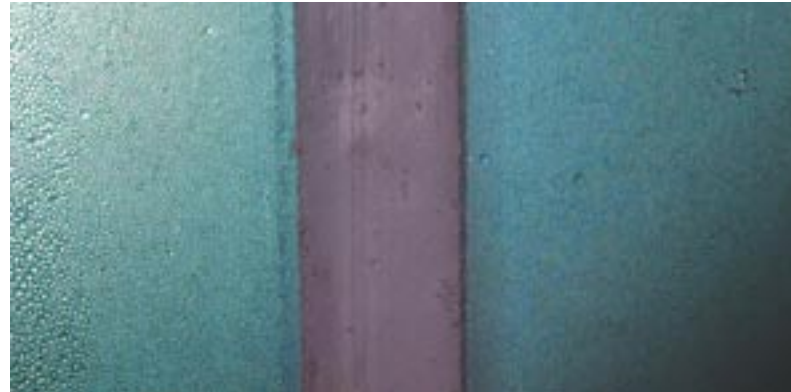


After years of open-edge weather exposure, the interlayer of SentryGlas® Plus still has its fresh from the manufacturer edge detail.

Photographs of observed SentryGlas® Plus edge conditions are presented below:



Edges of laminated glass test samples after weather exposure show no measurable moisture intrusion or delamination effects in open-edge application.



Edges of laminated glass after weather exposure show no measurable moisture intrusion or delamination effects in silicone butt-joined installations.

### Zero defects for open edges and silicone contact

ESN data in Table 1 includes samples with open-edge exposure, as well as samples butt-joined using silicone. ESN numbers recorded are zero (0) for samples laminated using SentryGlas® Plus.

**Table 1: SentryGlas® Plus Edge Stability Number (ESN) Test Data after Seven Year Exposure**

Sample ID	Laminate Perimeter (mm)	Defect Length (mm)					ESN
		<1.6	1.6–3.1	3.2–4.6	4.7–6.3	>6.4	
824-63-1	3912	0	0	0	0	0	0
824-64-2	3912	0	0	0	0	0	0
824-48-3	3912	0	0	0	0	0	0
824-46-4	3912	0	0	0	0	0	0
824-47-5	3912	0	0	0	0	0	0
824-44-6	3912	0	0	0	0	0	0
824-34-7	3912	0	0	0	0	0	0
824-27-8	3912	0	0	0	0	0	0
824-16-9	3912	0	0	0	0	0	0
824-71-10	3912	0	0	0	0	0	0
824-56-11	3912	0	0	0	0	0	0
824-75-12	3912	0	0	0	0	0	0
824-74-13	3912	0	0	0	0	0	0



## DuPont™ SentryGlas® Plus Architectural Safety Glass Interlayer

### Worldwide DuPont Sales and Support

DuPont Glass Laminating Solutions supplies and supports customers from research, manufacturing and sales locations worldwide.

#### Europe

DuPont de Nemours (Belgium)  
Glass Laminating Solutions  
Antoon Spinoystraat, 6  
B-2800 Mechelen  
Belgium  
Telephone ++32 15 44 13 04  
Fax ++32 15 44 13 10

#### North America

DuPont Glass Laminating Solutions  
Lancaster Pike & Route 141  
P.O. Box 80026  
Wilmington, DE 19880-0026  
Telephone (302) 774-1161  
Toll-free (USA) 800-438-7225  
Fax (302) 892-7390

#### Asia Pacific

DuPont (Korea) PTE Ltd.  
3-5th Floor, Asia Tower #726  
Yeoksam-dong, Kangnam-ku  
Seoul 135-082, Korea  
Telephone +82-2-2222-5424  
Fax +82-2-2222-5482

[www.dupont.com/safetyglass](http://www.dupont.com/safetyglass) email: [glass@dupont.com](mailto:glass@dupont.com)

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