

# SunGuard Laminated Glass

## SAFETY AND HURRICANE PROTECTION.

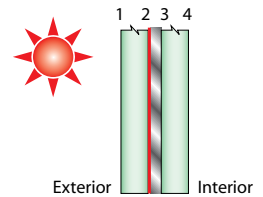
Many SunGuard coatings can be used in laminated glass applications to meet a variety of project requirements. When two or more panes of glass are bonded together by a durable plastic interlayer, it enables the glass to resist penetration by impacting objects - you can't see it, but the benefits are clear. If it should break, the glass will tend to remain in its frame, minimizing the risk of injury from sharp edges and flying or falling glass particles.

In coastal areas prone to tropical storms and hurricanes, including the entire gulf and east coast, SunGuard coatings used in laminated configurations can play a crucial role in meeting building regulatory codes. Depending on the thickness of the glass and PVB, SunGuard laminated glass can achieve either of the two windborne debris impact category ratings as required by the Miami-Dade County building code and protect the interior of buildings from the potential destruction of stormy weather.

- Excellent solar control
- Can provide sound attenuation, security, safety and hurricane protection
- Passes hurricane small and large missile tests
- A variety of glass makeups to suit virtually any project
- Many performance and appearance options
- Faster delivery than most competitors
- Available through independent Guardian Select Fabricators



SUNGUARD GIVES YOU  
SOLAR CONTROL  
AND HURRICANE-RATED  
PERFORMANCE IN ONE  
EYE-PLEASING PACKAGE

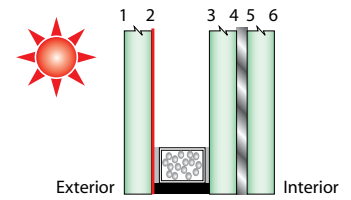


## LAMINATED GLASS DATA

| Product                    | Outboard - Inboard Substrate | Appearance | Transmission              |                |                | Reflectance         |                    |                    | U-Value                   |            | Relative Heat Gain | Shading Co-efficient | Solar Heat Gain Co-efficient | Light to Solar Gain (LSG) |
|----------------------------|------------------------------|------------|---------------------------|----------------|----------------|---------------------|--------------------|--------------------|---------------------------|------------|--------------------|----------------------|------------------------------|---------------------------|
|                            |                              |            | Visible Light %           | Ultra-violet % | Solar Energy % | Visible Light Out % | Visible Light In % | Solar Energy Out % | Winter Night              | Summer Day |                    |                      |                              |                           |
| <b>SuperNeutral Series</b> |                              |            | <b>Coating #2 Surface</b> |                |                |                     |                    |                    | <b>6 mm/.090 PVB/6 mm</b> |            |                    |                      |                              |                           |
| SN 68                      | Clear/Clear                  | Clear      | <b>67</b>                 | 0              | 29             | 11                  | 11                 | 33                 | 0.94                      | 0.85       | 104                | 0.46                 | <b>0.40</b>                  | 1.68                      |
|                            | Green/Clear                  | Green      | <b>57</b>                 | 0              | 21             | 9                   | 10                 | 10                 | 0.94                      | 0.85       | 105                | 0.47                 | <b>0.41</b>                  | 1.39                      |
|                            | TwilightGreen/Clear          | Dark Green | <b>50</b>                 | 0              | 18             | 8                   | 10                 | 7                  | 0.94                      | 0.85       | 101                | 0.45                 | <b>0.39</b>                  | 1.29                      |
|                            | CrystalGray/Clear            | Light Gray | <b>48</b>                 | 0              | 21             | 8                   | 9                  | 16                 | 0.94                      | 0.85       | 100                | 0.44                 | <b>0.38</b>                  | 1.26                      |
|                            | Gray/Clear                   | Gray       | <b>34</b>                 | 0              | 16             | 6                   | 9                  | 16                 | 0.94                      | 0.85       | 92                 | 0.40                 | <b>0.35</b>                  | 0.97                      |
| <b>Solar Control</b>       |                              |            |                           |                |                |                     |                    |                    |                           |            |                    |                      |                              |                           |
| Silver 20                  | Clear/Clear                  | Silver     | <b>19</b>                 | 0              | 13             | 32                  | 21                 | 28                 | 0.94                      | 0.85       | 80                 | 0.34                 | <b>0.29</b>                  | 0.65                      |
|                            | Green/Clear                  | Green      | <b>16</b>                 | 0              | 8              | 24                  | 21                 | 13                 | 0.94                      | 0.85       | 81                 | 0.35                 | <b>0.30</b>                  | 0.54                      |

- Other combinations of float glass and coatings may be available. Please contact Guardian for assistance.
- When SunGuard coatings are laminated facing the PVB, there will be a noticeable color change when compared to standard insulated applications. Guardian recommends a full size mock-up be approved.

To learn more, call us at  
**1-866-GuardSG (482-7374)** or visit us  
online [www.SunGuardGlass.com](http://www.SunGuardGlass.com)



# INSULATING GLASS W/LAMI INBOARD DATA

| Product                              | Outboard - Inboard Substrate | Appearance     | Transmission    |                |                | Reflectance         |                    |                    | U-Value Winter Nighttime |       | Relative Heat Gain | Shading Co-efficient | Solar Heat Gain Co-efficient | Light to Solar Gain (LSG) |
|--------------------------------------|------------------------------|----------------|-----------------|----------------|----------------|---------------------|--------------------|--------------------|--------------------------|-------|--------------------|----------------------|------------------------------|---------------------------|
|                                      |                              |                | Visible Light % | Ultra-violet % | Solar Energy % | Visible Light Out % | Visible Light In % | Solar Energy Out % | Air                      | Argon |                    |                      |                              |                           |
| <b>SuperNeutral Series</b>           |                              |                |                 |                |                |                     |                    |                    |                          |       |                    |                      |                              |                           |
| <b>Coating #2 Surface</b>            |                              |                |                 |                |                |                     |                    |                    |                          |       |                    |                      |                              |                           |
| 6 mm/12.7 mm a.s./6 mm/.090 PVB/6 mm |                              |                |                 |                |                |                     |                    |                    |                          |       |                    |                      |                              |                           |
| SNX 62/27                            | UltraWhite - UW/UW           | Ultra Clear    | 61              | 0              | 23             | 11                  | 11                 | 48                 | 0.28                     | 0.23  | 64                 | 0.30                 | <b>0.26</b>                  | 2.31                      |
|                                      | Clear - Clr/Clr              | Clear          | 59              | 0              | 21             | 11                  | 11                 | 39                 | 0.28                     | 0.23  | 64                 | 0.30                 | <b>0.26</b>                  | 2.24                      |
|                                      | Green - Clr/Clr              | Green          | 50              | 0              | 17             | 9                   | 11                 | 11                 | 0.28                     | 0.23  | 58                 | 0.27                 | <b>0.24</b>                  | 2.08                      |
|                                      | TwilightGreen - Clr/Clr      | Dark Green     | 45              | 0              | 15             | 8                   | 10                 | 8                  | 0.28                     | 0.23  | 53                 | 0.25                 | <b>0.22</b>                  | 2.03                      |
|                                      | CrystalGray - Clr/Clr        | Light Gray     | 43              | 0              | 15             | 8                   | 10                 | 19                 | 0.28                     | 0.23  | 54                 | 0.25                 | <b>0.22</b>                  | 1.94                      |
|                                      | Gray - Clr/Clr               | Gray           | 30              | 0              | 11             | 6                   | 10                 | 19                 | 0.28                     | 0.23  | 44                 | 0.20                 | <b>0.18</b>                  | 1.67                      |
| SNX 51/23                            | UltraWhite - UW/UW           | Light Blue     | 50              | 0              | 18             | 14                  | 13                 | 42                 | 0.28                     | 0.23  | 56                 | 0.26                 | <b>0.23</b>                  | 2.19                      |
|                                      | Clear - Clr/Clr              | Light Blue     | 49              | 0              | 17             | 14                  | 13                 | 34                 | 0.28                     | 0.23  | 56                 | 0.26                 | <b>0.23</b>                  | 2.12                      |
|                                      | Green - Clr/Clr              | Blue-Green     | 42              | 0              | 14             | 11                  | 12                 | 11                 | 0.28                     | 0.23  | 52                 | 0.24                 | <b>0.21</b>                  | 1.95                      |
|                                      | TwilightGreen - Clr/Clr      | Dark Green     | 37              | 0              | 12             | 10                  | 12                 | 8                  | 0.28                     | 0.23  | 48                 | 0.22                 | <b>0.20</b>                  | 1.88                      |
|                                      | CrystalGray - Clr/Clr        | Light Gray     | 35              | 0              | 13             | 9                   | 12                 | 17                 | 0.28                     | 0.23  | 48                 | 0.22                 | <b>0.20</b>                  | 1.81                      |
|                                      | Gray - Clr/Clr               | Gray           | 25              | 0              | 9              | 7                   | 12                 | 17                 | 0.28                     | 0.23  | 40                 | 0.18                 | <b>0.16</b>                  | 1.54                      |
| SN 68                                | UltraWhite - UW/UW           | Ultra Clear    | 67              | 0              | 32             | 10                  | 12                 | 39                 | 0.28                     | 0.24  | 91                 | 0.44                 | <b>0.38</b>                  | 1.76                      |
|                                      | Clear - Clr/Clr              | Clear          | 65              | 0              | 29             | 11                  | 12                 | 32                 | 0.28                     | 0.24  | 88                 | 0.42                 | <b>0.37</b>                  | 1.76                      |
|                                      | Green - Clr/Clr              | Green          | 55              | 0              | 21             | 9                   | 11                 | 9                  | 0.28                     | 0.24  | 71                 | 0.34                 | <b>0.30</b>                  | 1.86                      |
|                                      | TwilightGreen - Clr/Clr      | Dark Green     | 49              | 0              | 18             | 8                   | 11                 | 7                  | 0.28                     | 0.24  | 63                 | 0.30                 | <b>0.26</b>                  | 1.88                      |
|                                      | CrystalGray - Clr/Clr        | Light Gray     | 47              | 0              | 21             | 8                   | 11                 | 16                 | 0.28                     | 0.24  | 70                 | 0.33                 | <b>0.29</b>                  | 1.61                      |
|                                      | Gray - Clr/Clr               | Gray           | 33              | 0              | 16             | 6                   | 10                 | 16                 | 0.28                     | 0.24  | 60                 | 0.28                 | <b>0.25</b>                  | 1.35                      |
| SN 54                                | UltraWhite - UW/UW           | Ultra Clear    | 53              | 0              | 23             | 13                  | 17                 | 40                 | 0.28                     | 0.24  | 68                 | 0.32                 | <b>0.28</b>                  | 1.90                      |
|                                      | Clear - Clr/Clr              | Clear          | 52              | 0              | 21             | 13                  | 17                 | 33                 | 0.28                     | 0.24  | 67                 | 0.32                 | <b>0.28</b>                  | 1.87                      |
|                                      | Green - Clr/Clr              | Green          | 44              | 0              | 16             | 10                  | 17                 | 10                 | 0.28                     | 0.24  | 58                 | 0.27                 | <b>0.24</b>                  | 1.84                      |
|                                      | TwilightGreen - Clr/Clr      | Dark Green     | 39              | 0              | 14             | 9                   | 16                 | 8                  | 0.28                     | 0.24  | 52                 | 0.24                 | <b>0.21</b>                  | 1.82                      |
|                                      | CrystalGray - Clr/Clr        | Light Gray     | 37              | 0              | 15             | 9                   | 16                 | 17                 | 0.28                     | 0.24  | 55                 | 0.26                 | <b>0.23</b>                  | 1.64                      |
|                                      | Gray - Clr/Clr               | Gray           | 26              | 0              | 11             | 7                   | 16                 | 17                 | 0.28                     | 0.24  | 47                 | 0.22                 | <b>0.19</b>                  | 1.37                      |
| SNR 43                               | UltraWhite - UW/UW           | Light Silver   | 42              | 0              | 18             | 28                  | 13                 | 50                 | 0.28                     | 0.23  | 55                 | 0.26                 | <b>0.22</b>                  | 1.89                      |
|                                      | Clear - Clr/Clr              | Light Silver   | 41              | 0              | 17             | 27                  | 13                 | 42                 | 0.28                     | 0.23  | 55                 | 0.26                 | <b>0.22</b>                  | 1.85                      |
|                                      | Green - Clr/Clr              | Green          | 35              | 0              | 13             | 21                  | 13                 | 14                 | 0.28                     | 0.23  | 49                 | 0.23                 | <b>0.20</b>                  | 1.74                      |
|                                      | TwilightGreen - Clr/Clr      | Dark Green     | 31              | 0              | 11             | 18                  | 13                 | 11                 | 0.28                     | 0.23  | 45                 | 0.21                 | <b>0.18</b>                  | 1.69                      |
|                                      | CrystalGray - Clr/Clr        | Silver Gray    | 30              | 0              | 12             | 16                  | 13                 | 21                 | 0.28                     | 0.23  | 47                 | 0.22                 | <b>0.19</b>                  | 1.56                      |
|                                      | Gray - Clr/Clr               | Silver Gray    | 21              | 0              | 9              | 11                  | 12                 | 19                 | 0.28                     | 0.23  | 40                 | 0.18                 | <b>0.16</b>                  | 1.28                      |
| <b>High Performance Series</b>       |                              |                |                 |                |                |                     |                    |                    |                          |       |                    |                      |                              |                           |
| Neutral 78/65                        | UltraWhite - UW/UW           | Ultra Clear    | 77              | 0              | 55             | 12                  | 12                 | 20                 | 0.30                     | 0.26  | 153                | 0.74                 | <b>0.65</b>                  | 1.19                      |
|                                      | Clear - Clr/Clr              | Clear          | 75              | 0              | 46             | 12                  | 12                 | 17                 | 0.30                     | 0.26  | 141                | 0.69                 | <b>0.60</b>                  | 1.25                      |
| Neutral 61                           | Clear - Clr/Clr              | Neutral Pewter | 58              | 0              | 30             | 20                  | 14                 | 31                 | 0.29                     | 0.25  | 93                 | 0.44                 | <b>0.39</b>                  | 1.50                      |
|                                      | Green - Clr/Clr              | Green          | 49              | 0              | 20             | 15                  | 14                 | 11                 | 0.29                     | 0.25  | 70                 | 0.33                 | <b>0.29</b>                  | 1.71                      |
| Neutral 50                           | Clear - Clr/Clr              | Neutral Blue   | 48              | 0              | 27             | 16                  | 10                 | 19                 | 0.32                     | 0.28  | 91                 | 0.43                 | <b>0.38</b>                  | 1.26                      |
|                                      | Green - Clr/Clr              | Green          | 41              | 0              | 17             | 13                  | 10                 | 9                  | 0.32                     | 0.28  | 67                 | 0.31                 | <b>0.27</b>                  | 1.48                      |
| Neutral 40                           | Clear - Clr/Clr              | Neutral Gray   | 38              | 0              | 21             | 20                  | 11                 | 22                 | 0.32                     | 0.28  | 75                 | 0.35                 | <b>0.31</b>                  | 1.24                      |
|                                      | Green - Clr/Clr              | Green          | 33              | 0              | 14             | 16                  | 11                 | 10                 | 0.32                     | 0.28  | 58                 | 0.27                 | <b>0.24</b>                  | 1.38                      |
| AG 50                                | UltraWhite - UW/UW           | Light Silver   | 50              | 0              | 28             | 28                  | 18                 | 42                 | 0.29                     | 0.25  | 82                 | 0.39                 | <b>0.34</b>                  | 1.47                      |
|                                      | Clear - Clr/Clr              | Light Silver   | 48              | 0              | 24             | 28                  | 17                 | 36                 | 0.29                     | 0.25  | 78                 | 0.37                 | <b>0.32</b>                  | 1.49                      |
|                                      | Green - Clr/Clr              | Green          | 41              | 0              | 17             | 21                  | 17                 | 14                 | 0.29                     | 0.25  | 60                 | 0.28                 | <b>0.25</b>                  | 1.64                      |
|                                      | CrystalGray - Clr/Clr        | Silver Gray    | 35              | 0              | 17             | 17                  | 17                 | 19                 | 0.29                     | 0.25  | 62                 | 0.29                 | <b>0.26</b>                  | 1.36                      |
|                                      | Gray - Clr/Clr               | Silver Gray    | 24              | 0              | 14             | 11                  | 16                 | 17                 | 0.29                     | 0.25  | 55                 | 0.26                 | <b>0.22</b>                  | 1.08                      |
| AG 43                                | UltraWhite - UW/UW           | Light Silver   | 40              | 0              | 24             | 30                  | 14                 | 39                 | 0.30                     | 0.26  | 72                 | 0.34                 | <b>0.30</b>                  | 1.35                      |
|                                      | Clear - Clr/Clr              | Light Silver   | 39              | 0              | 20             | 30                  | 14                 | 34                 | 0.30                     | 0.26  | 69                 | 0.33                 | <b>0.28</b>                  | 1.37                      |
|                                      | Green - Clr/Clr              | Green          | 33              | 0              | 14             | 23                  | 14                 | 14                 | 0.30                     | 0.26  | 54                 | 0.25                 | <b>0.22</b>                  | 1.50                      |
|                                      | CrystalGray - Clr/Clr        | Silver Gray    | 28              | 0              | 14             | 18                  | 13                 | 18                 | 0.30                     | 0.26  | 56                 | 0.26                 | <b>0.23</b>                  | 1.23                      |
|                                      | Gray - Clr/Clr               | Silver Gray    | 20              | 0              | 11             | 11                  | 13                 | 16                 | 0.30                     | 0.26  | 50                 | 0.23                 | <b>0.20</b>                  | 0.96                      |
| <b>Solar Control</b>                 |                              |                |                 |                |                |                     |                    |                    |                          |       |                    |                      |                              |                           |
| Silver 20                            | Clear - Clr/Clr              | Silver         | 17              | 0              | 10             | 31                  | 25                 | 27                 | 0.38                     | 0.35  | 52                 | 0.23                 | <b>0.20</b>                  | 0.85                      |
|                                      | Green - Clr/Clr              | Green          | 15              | 0              | 7              | 24                  | 25                 | 13                 | 0.38                     | 0.35  | 46                 | 0.20                 | <b>0.18</b>                  | 0.82                      |

- The performance values shown are nominal and subject to variations due to manufacturing tolerances.
- Guardian performance data are calculated for center-of-glass only (no spacer or framing) in accordance with LBNL Window 6 program.
- Glass may require heat strengthening or tempering to resist potential thermal stresses. SNR 43 must be heat-treated.
- Guardian recommends edge deletion for all commercial low-E coatings.
- Relative Heat Gain, Shading Coefficient, Solar Heat Gain Coefficient and/or LSG may change slightly when using argon gas fill.
- Guardian reserves the right to change product performance characteristics without notice or obligation.
- Other tinted inboard lite options are available, please contact your guardian representative for more information.
- Changes in PVB thickness have little effect on performance figures shown above.