

### Aesthetic Description

**Solarban<sup>®</sup> 70XL** glass is a revolutionary new Solar Control Low-E glass that brilliantly combines the clear appearance of transparent, color-neutral glass with an unprecedented combination of solar control and visible light transmittance.

With the introduction of **Solarban 70XL** Magnetic Sputter Vacuum Deposition (MSVD) coated glass, PPG has expanded the universe of design possibilities in two important ways. First, this product allows architects to incorporate vast areas of vision glass into a building's design without a requisite expansion of its cooling capabilities. Second, architects can now specify a clear aesthetic while achieving solar control performance that was previously attainable only through the use of tinted glass and a Solar Control Low-E coating in an insulating glass unit.

### Performance Options

When coupled with conventional clear glass in a one-inch insulating glass unit, **Solarban 70XL** surpasses, by far, the performance of any other Solar Control Low-E glass on the market today.

- Solar Heat Gain Coefficient (SHGC): 0.27
- Visible Light Transmittance (VLT): 64%
- Light to Solar Gain (LSG) ratio: 2.37

For architects who desire a tinted glass aesthetic and enhanced solar control, **Solarban 70XL** glass can be combined in an insulating glass unit with any tinted glass from PPG, including the four tints from the **Oceans of Color<sup>®</sup>** collection of ocean inspired tinted glasses, as well as any PPG performance or high-performance earth-toned tint.

### Lower Upfront Equipment Costs. Long-Term Energy Savings.

While architects will appreciate **Solarban 70XL** sputter coated glass for its aesthetic qualities, their clients and building owners will truly value the energy-related cost savings it provides. According to a recent study by an independent energy and environmental research firm, **Solarban 70XL** glass has the potential to reduce annual energy costs by 5 percent or more in comparison with leading Solar Control Low-E coated glasses.

The greatest benefit of specifying this glass may be realized before the building is even occupied. Thanks to the unequalled solar control characteristics of **Solarban 70XL** glass, architects can specify smaller HVAC systems for buildings glazed with this product, potentially reducing the associated upfront capital investment by as much as \$124,000.

As a result, architects and building owners who specify **Solarban 70XL** glass instead of other Solar Control Low-E coated glass products may have their investment repaid in a matter of months.



*The College of Business Administration at California State University's San Marcos campus features **Solarban 70XL** glass, a revolutionary Solar Control Low-E coated glass that offers an unprecedented combination of visible light transmittance and solar control characteristics in a clear, color-neutral glass.*  
*Architect: A.C. Martin Partners, Los Angeles*  
*Glass Fabricator: Oldcastle BuildingEnvelope<sup>™</sup>*  
*Glazing Contractor: Division 8, Inc.*  
*CSUSM photo by George Cagala*

### Eight-Story Office Building, Window Wall

| City         | Annual Operating Expenses |           | Annual Savings | Total HVAC Equipment Cost |             | Immediate Equipment Savings | 1st Year Savings |
|--------------|---------------------------|-----------|----------------|---------------------------|-------------|-----------------------------|------------------|
|              | SB60                      | SB70XL    |                | SB60                      | SB70XL      |                             |                  |
| Atlanta      | \$622,492                 | \$586,400 | \$36,092       | \$1,267,770               | \$1,146,495 | \$121,275                   | \$157,367        |
| Boston       | \$764,793                 | \$729,696 | \$35,097       | \$1,251,705               | \$1,136,450 | \$115,255                   | \$150,352        |
| Chicago      | \$370,681                 | \$352,779 | \$17,902       | \$1,252,297               | \$1,137,731 | \$114,566                   | \$132,468        |
| Denver       | \$397,799                 | \$375,521 | \$22,278       | \$1,292,788               | \$1,168,451 | \$124,337                   | \$146,615        |
| Houston      | \$761,534                 | \$718,618 | \$42,916       | \$1,253,879               | \$1,140,825 | \$113,054                   | \$155,970        |
| Los Angeles  | \$623,649                 | \$582,454 | \$41,195       | \$1,263,556               | \$1,144,014 | \$119,542                   | \$160,737        |
| Mexico City  | \$707,060                 | \$668,434 | \$38,626       | \$1,278,536               | \$1,154,115 | \$124,421                   | \$163,047        |
| Ottawa       | \$431,308                 | \$412,595 | \$18,713       | \$1,247,862               | \$1,133,965 | \$113,897                   | \$132,610        |
| Philadelphia | \$378,447                 | \$365,425 | \$13,022       | \$1,249,329               | \$1,132,635 | \$116,694                   | \$129,716        |
| Phoenix      | \$394,492                 | \$374,898 | \$19,594       | \$1,256,077               | \$1,140,972 | \$115,105                   | \$134,699        |
| St. Louis    | \$310,660                 | \$294,417 | \$16,243       | \$1,274,889               | \$1,156,292 | \$118,597                   | \$134,840        |
| Seattle      | \$299,472                 | \$284,629 | \$14,843       | \$1,237,408               | \$1,125,334 | \$112,074                   | \$126,917        |

Total Glass Area: 56,640 ft<sup>2</sup>

*The chart above is taken from a study conducted by an independent energy and environmental research firm. It shows that **Solarban 70XL** glass can dramatically reduce costs for cooling equipment while generating significant savings on annual cooling costs when compared with other industry-leading high-performance glasses such as **Solarban 60** Solar Control Low-E Glass.*



### Fabrication and Availability

**Solarban** 70XL glass is available through more than 60 locations of the PPG Certified Fabricator Network. PPG Certified Fabricators can meet tight construction deadlines and accelerate the delivery of replacement glass before, during and after construction. **Solarban** 70XL glass, manufactured utilizing the MSVD sputter-coating process, is available for annealed, heat strengthened and tempered applications.



### More Information

PPG has published a paper detailing the results of a comprehensive energy simulation study of **Solarban** 70XL coated glass in 12 major North American cities. To order

a copy of *Immediate and Long-Term Economic Advantages of Specifying Solarban® 70XL Solar Control Low E-Glass*, call 1-888-PPG-IDEA (774-4332), call your local PPG Architectural Glass representative or visit [www.ppgideascales.com](http://www.ppgideascales.com).

### Additional Resources

**Solarban** 70XL glass is just one of the **ecological Building Solutions™** from PPG. For more information, or to obtain samples of this product, call 1-888-PPG-IDEA, or visit [www.ppgideascales.com](http://www.ppgideascales.com). All PPG architectural glass is Cradle to Cradle Certified.™



**PPG IdeaScapes.™** Integrated products, people and services to inspire your design and color vision.

### Solarban® 70XL Glass Performance — Commercial Insulating Glass Unit

| Insulating Vision Unit Performance Comparisons 1-inch (25mm) units with 1/2-inch (13mm) airspace and two 1/4-inch (6mm) lites; interior lite clear unless otherwise noted |                |           |                      |                 |                      |                    |                 |                  |                     |                             |                           |  |
|---|----------------|-----------|----------------------|-----------------|----------------------|--------------------|-----------------|------------------|---------------------|-----------------------------|---------------------------|--|
| Glass Type  | Transmittance  |           |                      | Reflectance     |                      | U-Value (Imperial) |                 | European U-Value | Shading Coefficient | Solar Heat Gain Coefficient | Light to Solar Gain (LSG) |  |
|   | Ultra-violet % | Visible % | Total Solar Energy % | Visible Light % | Total Solar Energy % | Winter Night-time  | Summer Day-time |                  |                     |                             |                           |  |
| <b>Coated</b>   |                |           |                      |                 |                      |                    |                 |                  |                     |                             |                           |  |
| <b>SOLARBAN® 70XL Solar Control Low-E Glass</b>   |                |           |                      |                 |                      |                    |                 |                  |                     |                             |                           |  |
| SOLARBAN 70XL (2)* + Clear  | 6              | 64        | 25                   | 12              | 52                   | 0.28               | 0.26            | 1.50             | 0.32                | 0.27                        | 2.37                      |  |
| SOLEXIA + SOLARBAN 70XL (3)*  | 3              | 56        | 20                   | 11              | 13                   | 0.28               | 0.26            | 1.50             | 0.37                | 0.32                        | 1.74                      |  |
| ATLANTICA + SOLARBAN 70XL (3)*  | 2              | 49        | 17                   | 10              | 8                    | 0.28               | 0.26            | 1.50             | 0.32                | 0.28                        | 1.74                      |  |
| CARIBIA + SOLARBAN 70XL (3)*  | 2              | 49        | 17                   | 9               | 8                    | 0.28               | 0.26            | 1.50             | 0.32                | 0.28                        | 1.75                      |  |
| AZURIA + SOLARBAN 70XL (3)*   | 4              | 49        | 17                   | 10              | 8                    | 0.28               | 0.26            | 1.50             | 0.33                | 0.29                        | 1.70                      |  |
| PACIFICA + SOLARBAN 70XL (3)*   | 2              | 31        | 12                   | 6               | 7                    | 0.28               | 0.26            | 1.50             | 0.26                | 0.22                        | 1.38                      |  |
| SOLARBLUE + SOLARBAN 70XL (3)*  | 3              | 41        | 16                   | 8               | 16                   | 0.28               | 0.26            | 1.50             | 0.32                | 0.27                        | 1.48                      |  |
| SOLARBRONZE + SOLARBAN 70XL (3)*  | 3              | 38        | 15                   | 8               | 20                   | 0.28               | 0.26            | 1.50             | 0.30                | 0.26                        | 1.48                      |  |
| SOLARGRAY + SOLARBAN 70XL (3)*  | 2              | 32        | 13                   | 7               | 15                   | 0.28               | 0.26            | 1.50             | 0.27                | 0.24                        | 1.34                      |  |
| OPTIGRAY23 + SOLARBAN 70XL (3)*   | 1              | 17        | 7                    | 5               | 7                    | 0.28               | 0.26            | 1.50             | 0.19                | 0.16                        | 1.04                      |  |
| GRAYLITE + SOLARBAN 70XL (3)*   | 1              | 10        | 5                    | 5               | 11                   | 0.28               | 0.26            | 1.50             | 0.16                | 0.14                        | 0.71                      |  |
| <b>VISTACOO™ and SOLARCOOL® with SOLARBAN® 70XL Solar Control Low-E (3)*</b>  |                |           |                      |                 |                      |                    |                 |                  |                     |                             |                           |  |
| VISTACOO (2) AZURIA + Low-E   | 4              | 38        | 14                   | 21              | 12                   | 0.28               | 0.26            | 1.50             | 0.27                | 0.24                        | 1.59                      |  |
| VISTACOO (2) PACIFICA + Low-E   | 1              | 24        | 9                    | 11              | 9                    | 0.28               | 0.26            | 1.50             | 0.22                | 0.19                        | 1.24                      |  |
| VISTACOO (2) CARIBIA + Low-E  | 2              | 38        | 13                   | 20              | 11                   | 0.28               | 0.26            | 1.50             | 0.27                | 0.23                        | 1.65                      |  |
| VISTACOO (2) SOLARGRAY + Low-E  | 2              | 25        | 10                   | 11              | 17                   | 0.28               | 0.26            | 1.50             | 0.23                | 0.20                        | 1.24                      |  |
| SOLARCOOL (2) SOLEXIA + Low-E   | 1              | 22        | 8                    | 24              | 16                   | 0.28               | 0.26            | 1.50             | 0.20                | 0.17                        | 1.28                      |  |
| SOLARCOOL (2) CARIBIA + Low-E   | 1              | 19        | 6                    | 19              | 10                   | 0.28               | 0.26            | 1.50             | 0.18                | 0.15                        | 1.27                      |  |
| SOLARCOOL (2) AZURIA + Low-E  | 1              | 19        | 7                    | 19              | 10                   | 0.28               | 0.26            | 1.50             | 0.18                | 0.15                        | 1.27                      |  |
| SOLARCOOL (2) PACIFICA + Low-E  | 1              | 12        | 4                    | 10              | 8                    | 0.28               | 0.26            | 1.50             | 0.15                | 0.13                        | 0.89                      |  |
| SOLARCOOL (2) SOLARBLUE + Low-E   | 1              | 16        | 6                    | 14              | 16                   | 0.28               | 0.26            | 1.50             | 0.18                | 0.15                        | 1.03                      |  |
| SOLARCOOL (2) SOLARBRONZE + Low-E   | 1              | 15        | 6                    | 14              | 19                   | 0.28               | 0.26            | 1.50             | 0.17                | 0.15                        | 1.01                      |  |
| SOLARCOOL (2) SOLARGRAY + Low-E   | 1              | 13        | 5                    | 11              | 15                   | 0.28               | 0.26            | 1.50             | 0.16                | 0.14                        | 0.89                      |  |
| SOLARCOOL (2) GRAYLITE + Low-E  | <1             | 3         | 1                    | 5               | 5                    | 0.28               | 0.26            | 1.50             | 0.11                | 0.09                        | 0.27                      |  |

\*Solarban 70XL for annealed applications is applied to **Starphire** glass, heat treated applications will require either clear or **Starphire** glass depending on manufacturing process.

All performance data calculated using LBNL Window 5.2 software, except European U-Value, which is calculated using WinDat version 3.0.1 software. For detailed information on the methodologies used to calculate the aesthetic and performance values in this table, please visit [www.ppgideascales.com](http://www.ppgideascales.com) or request our Architectural Glass Catalog.

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