



Blue and Green Tinted Glasses



**Omni Dallas Convention Center Hotel**

*Location: Dallas, TX  
Products: Pacifica®, Solarban® z50, Solarban® 70XL Glasses  
Architect: BOKA Powell Architects; 5GStudio  
Glazing Contractor: Goldfinch Brothers, Inc.  
Glass Fabricator: JE Berkowitz, LP  
Owner/Developer: City of Dallas/Matthews Southwest*

**Aesthetic Description**

Architects have relied on blue and green tinted glasses for decades to give buildings a distinctive look and to reduce heat gain and glare. PPG offers a collection of blue and green tints that can be paired with its exceptional range of advanced low-e and reflective coatings to offer architects more performance and aesthetic options than ever.

In addition to light-green **Solexia®** glass, which has been an industry mainstay since the 1930s, PPG’s nature-inspired color palette includes aqua-blue **Azuria®** glass, emerald-green **Atlantica®** glass, sky-blue **Solarblue®** glass and rich-blue **Pacifica®** glass. Using these tints with reflective **Solarcool®** and subtly-reflective **Vistacool®** glass coatings further multiplies the color selection.

**Performance Characteristics**

Blue and green tinted glasses are available with **Solarban®** solar control, low-e glasses or combined in an insulating glass unit (IGU) with **Sungate®** passive low-e glasses to fulfill a wide range of performance demands, whether the goal is to maximize light transmittance, increase privacy or improve solar control performance.

**Fabrication and Availability**

Blue and green tinted glasses, as well as **Sungate®** and **Solarban®** low-e glasses, provide maximum processing flexibility and can be laminated, tempered or heat-strengthened to satisfy increased strength or safety glazing requirements. PPG tinted glass and **Sungate®** glasses are available from hundreds of PPG-qualified glass fabricators in the U.S., Canada and throughout the world. Tinted glasses with **Solarban®** glasses are available through the **PPG Certified Fabricator® Network**.



**Additional Resources**

**Ecological Solutions from PPG™** encompass a number of environmentally sustainable architectural glass products, including uncoated blue and green tinted glasses, as well as those with **Solarcool®**, **Vistacool®**, **Solarban®** and **Sungate®** glass coatings. For more information, or to obtain samples of any PPG glass product, call 888-PPG-IDEA (774-4332) or visit [www.ppgideascapes.com](http://www.ppgideascapes.com).



PPG is the first U.S. float glass manufacturer to have its products recognized by the **Cradle to Cradle Certified™** program, and offers more C2C-certified architectural glasses than any other float glass manufacturer.

Glass Type (Coating if Any (Surface) Glass) Outdoor Lite: + Indoor Lite:	Transmittance <sup>2</sup>			Reflectance <sup>2</sup>		U-Value <sup>3</sup> NFRC (BTU/hr•ft <sup>2</sup> F)		European U-Value <sup>4</sup> EN 673 (W/m <sup>2</sup> °C)	Shading Coefficient <sup>5</sup>	Solar Heat Gain Coefficient <sup>6</sup>	Light to Solar Gain (LSG) <sup>7</sup>
	Ultra- violet %	Visible %	Total Solar Energy %	Exterior Light %	Interior Light %	Winter Night- time	Summer Day- time				
<b>Monolithic (6mm)</b>											
PACIFICA	15	42	27	5	5	1.02	0.93	5.8	0.56	0.49	0.86
SOLARBLUE	31	56	47	6	6	1.02	0.93	5.8	0.71	0.61	0.92
AZURIA	42	68	32	7	7	1.02	0.93	5.8	0.59	0.52	1.31
SOLEXIA	31	77	47	8	8	1.02	0.93	5.8	0.71	0.62	1.24
ATLANTICA	16	67	34	7	7	1.02	0.93	5.8	0.61	0.53	1.26
<b>Insulating Vision Unit Performance Comparisons 1-inch (25mm) units with 1/2-inch (13mm) airspace and two 1/4-inch (6mm) lites</b>											
<b>PACIFICA GLASS</b>											
SOLARBAN 70XL (2) PACIFICA + Clear	2	32	12	6	12	0.28	0.26	1.5	0.22	0.19	1.68
SOLARBAN 67 (2) PACIFICA + Clear	3	26	11	8	15	0.29	0.27	1.6	0.21	0.19	1.37
SOLARBAN 60 (2) PACIFICA + Clear	5	34	15	6	10	0.29	0.27	1.6	0.26	0.22	1.55
SOLARBAN R100 (2) PACIFICA + Clear	3	20	9	11	13	0.29	0.27	1.6	0.19	0.16	1.25
PACIFICA + SOLARBAN 70XL (3)	2	31	12	6	10	0.28	0.26	1.5	0.26	0.22	1.41
PACIFICA + SOLARBAN 67 (3) Clear	3	26	11	7	18	0.29	0.27	1.6	0.27	0.23	1.13
PACIFICA + SOLARBAN 60 (3) Clear	5	34	15	6	9	0.29	0.27	1.6	0.29	0.25	1.36
<b>SOLARBLUE GLASS</b>											
SOLARBAN 70XL (2) SOLARBLUE + Clear	4	42	17	8	12	0.28	0.26	1.5	0.26	0.23	1.83
SOLARBAN 67 (2) SOLARBLUE + Clear	6	34	16	10	15	0.29	0.27	1.6	0.26	0.22	1.55
SOLARBAN 60 (2) SOLARBLUE + Clear	10	45	21	7	11	0.29	0.27	1.6	0.33	0.28	1.61
SOLARBAN R100 (2) SOLARBLUE + Clear	6	26	12	15	13	0.29	0.27	1.6	0.22	0.19	1.37
SOLARBLUE + SOLARBAN 70XL (3)	3	40	16	8	11	0.28	0.26	1.5	0.32	0.27	1.48
SOLARBLUE + SOLARBAN 67 (3) Clear	6	34	16	9	18	0.29	0.27	1.6	0.34	0.30	1.13
SOLARBLUE + SOLARBAN 60 (3) Clear	10	45	21	7	9	0.29	0.27	1.6	0.38	0.33	1.36
<b>AZURIA GLASS</b>											
SOLARBAN 70XL (2) AZURIA + Clear	5	52	18	9	12	0.28	0.26	1.5	0.29	0.25	2.08
SOLARBAN 67 (2) AZURIA + Clear	8	42	16	13	16	0.29	0.27	1.6	0.26	0.23	1.83
SOLARBAN 60 (2) AZURIA + Clear	13	54	21	8	11	0.29	0.27	1.6	0.32	0.28	1.93
SOLARBAN R100 (2) AZURIA + Clear	8	32	12	21	13	0.29	0.27	1.6	0.22	0.19	1.68
AZURIA + SOLARBAN 70XL (3)	4	49	17	9	11	0.28	0.26	1.5	0.33	0.29	1.69
AZURIA + SOLARBAN 67 (3) Clear	8	42	16	11	18	0.29	0.27	1.6	0.33	0.29	1.45
AZURIA + SOLARBAN 60 (3) Clear	13	54	21	9	10	0.29	0.27	1.6	0.36	0.31	1.74
<b>SOLEXIA GLASS</b>											
SOLARBAN 70XL (2) SOLEXIA + Clear	4	58	21	10	13	0.28	0.26	1.5	0.31	0.27	2.15
SOLARBAN 67 (2) SOLEXIA + Clear	6	47	19	16	16	0.29	0.27	1.6	0.29	0.25	1.88
SOLARBAN 60 (2) SOLEXIA + Clear	10	61	25	9	12	0.29	0.27	1.6	0.37	0.32	1.91
SOLARBAN R100 (2) SOLEXIA + Clear	6	36	15	25	13	0.29	0.27	1.6	0.24	0.21	1.71
SOLEXIA + SOLARBAN 70XL (3)	3	56	20	11	12	0.28	0.26	1.5	0.37	0.32	1.75
SOLEXIA + SOLARBAN 60 (3) Clear	10	61	25	10	10	0.29	0.27	1.6	0.42	0.37	1.65
<b>ATLANTICA GLASS</b>											
SOLARBAN 70XL (2) ATLANTICA + Clear	2	51	17	9	12	0.28	0.26	1.5	0.28	0.24	2.13
SOLARBAN 67 (2) ATLANTICA + Clear	3	41	15	13	16	0.29	0.27	1.6	0.26	0.22	1.86
SOLARBAN 60 (2) ATLANTICA + Clear	5	53	20	8	11	0.29	0.27	1.6	0.32	0.27	1.96
SOLARBAN R100 (2) ATLANTICA + Clear	3	32	12	20	13	0.29	0.27	1.6	0.22	0.19	1.68
ATLANTICA + SOLARBAN 70XL (3)	2	49	17	10	11	0.28	0.26	1.5	0.32	0.28	1.75
ATLANTICA + SOLARBAN 67 (3) Clear	3	41	15	11	18	0.29	0.27	1.6	0.33	0.29	1.41
ATLANTICA + SOLARBAN 60 (3) Clear	5	53	20	9	10	0.29	0.27	1.6	0.36	0.31	1.71

All performance data calculated using LBNL Window 6.3 software and represents center of glass performance data. European U-values are 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.ppgideasces.com](http://www.ppgideasces.com) or request our Architectural Glass Catalog.

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### Solar Control Low-E Glass on Tinted Substrates

Architects seeking heightened levels of solar control can specify **Solarban® 70XL** and **Solarban® 60** solar control, low-e coatings as second-surface coatings for glasses from the **Oceans of Color®** collection of nautically inspired, tinted glasses and Earth & Sky collection performance tinted glasses from PPG.

When **Solarban 70XL** glass is used as a second-surface coating in a standard one-inch insulating glass unit, glasses from the **Oceans of Color** collection – which encompasses **Azuria®**, **Atlantica®**, **Pacifica®** and **Solexia®** glasses – produce excellent Solar Heat Gain Coefficients (SHGC) ranging from 0.18 to 0.25. With **Solarban 60** glass as the second-surface coating, Solar Heat Gain Coefficients are between 0.22 and 0.32.

While **Oceans of Color** glasses are popular for their attractive colors, they also deliver excellent Visible Light Transmittance (VLT). With **Solarban 70XL** glass as the second-surface coating, Visible Light Transmittance is from 34% to 54%. With **Solarban 60** glass, it is slightly higher, from 54% with **Azuria**, **Atlantica** and **Pacifica** glasses, to 61% with **Solexia** glass.

The resulting Light to Solar Gain (LSG) ratios of 1.92 to 2.18 are among the highest in the industry, and well beyond the minimum 1.25 LSG standard for spectrally selective glass established by the U.S. Department of Energy. These LSG ratios make each of these glasses ideal for achieving an optimal balance of aesthetics, sunlight transmission and solar heat control.

### Earth & Sky Performance Tinted Glasses

Architects who want a classic blue, bronze or gray aesthetic, as well as improved solar control performance, can specify **Solarban 70XL** and **Solarban 60** as second-surface coatings for **Solarblue®**, **Solargray®** and **Solarbronze®** glasses. In a one-inch insulating glass unit, **Solarban 70XL** glass generates Solar Heat Gain Coefficients of 0.21, 0.19 and 0.20 with **Solarblue**, **Solargray** and **Solarbronze**, respectively.

Visible Light Transmittance (VLT) is 40% with **Solarban 70XL Solarblue**, 31% with **Solarban 70XL Solargray** and 37% with **Solarban 70XL Solarbronze**. The corresponding LSG ratios of 1.84, 1.65 and 1.87 are also spectrally selective according to the U.S. Department of Energy standard.



*Solexia® glass features a light-green tint that can now be coated on the second surface with Solarban® 70XL or Solarban® 60 solar control, low-e coatings. The marriage of Solarban 60 glass and Solexia glass produces a Light to Solar Gain (LSG) ratio of 1.92.*

With **Solarban 60** glass as a second-surface coating, the SHGC is 0.28, 0.24 and 0.27, VLT is 45%, 35% and 42%, and the LSG ratios are 1.60, 1.47 and 1.56 for **Solarblue**, **Solargray** and **Solarbronze** glasses.

### Sustainable Design and Architectural Glass

Sustainable design, green building, safeguarding the environment and the long-term management of energy costs are vital considerations for contemporary building designers. High-performance architectural glasses from PPG, such as **Solarban 70XL** glass and **Solarban 60** glass, give architects and building owners a tool to reach their design objectives.

In addition to making products that support sustainable design, PPG is also a pioneer in developing innovative technologies that reduce energy consumption during the glass-making process. PPG promotes environmentally responsible manufacturing by recovering and reusing virtually all of our glass manufacturing by-products and by shipping its materials on reusable steel racks.

PPG also promotes regional sourcing through its nationwide network of certified glass fabricators and laminators.

With **Solarban 70XL** and **Solarban 60** coatings and the tinted substrates specified above, sustainable design and LEED® credit opportunities are provided according to the following criteria:

LEED / Green Design Category	Feature	Benefit
Optimizing Energy Performance Daylight & Views Innovation in Design	Excellent SHGC, U-value and Tvis performance Tvis comments Cradle to Cradle Certification <sup>CM</sup>	Enhance energy performance of building design Connectivity to natural lighting and the outdoors Selection of environmentally-focused product evaluation







### Fabrication and Availability

Using **Solarban 70XL** or **Solarban 60** glass as second-surface coatings on a tinted substrate requires that the glass be heat-treated. These products, which are made to order, are sold exclusively 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.



Pictured here from left to right are Solarban 60 and Solarban 70XL glasses on Atlantica glass, and Solarban 60 and Solarban 70XL glasses on Solargray glass.

### Additional Resources

**Solarban 70XL** glass and **Solarban 60** glass are part of the **Ecological Solutions from PPG™**. For more information, or to obtain samples of **Solarban 70XL** or **Solarban 60** glasses as second-surface coatings on tinted substrates, call 1-888-PPG-IDEA (774-4332), or visit [www.ppgideasces.com](http://www.ppgideasces.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 & Solarban® 60 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			Exterior Reflectance		(BTU/hr•ft²°F) NFRC U-Value		U-Value EN 673 (W/m²•K)	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	1.5	0.32	0.27	2.37
SOLARBAN 70XL (2) SOLEXIA + Clear	4	58	21	10	13	0.28	0.26	1.5	0.31	0.27	2.15
SOLARBAN 70XL (2) ATLANTICA + Clear	2	51	17	9	8	0.28	0.26	1.5	0.28	0.24	2.13
SOLARBAN 70XL (2) AZURIA + Clear	5	52	18	9	7	0.28	0.26	1.5	0.29	0.25	2.08
SOLARBAN 70XL (2) PACIFICA + Clear	2	32	12	6	7	0.28	0.26	1.5	0.22	0.19	1.68
SOLARBAN 70XL (2) SOLARBLUE + Clear	4	42	17	8	15	0.28	0.26	1.5	0.26	0.23	1.83
SOLARBAN 70XL (2) SOLARBRONZE + Clear	3	40	15	7	19	0.28	0.26	1.5	0.25	0.21	1.90
SOLARBAN 70XL (2) SOLARGRAY + Clear	3	34	13	6	15	0.28	0.26	1.5	0.23	0.20	1.70
<b>SOLARBAN® 60 Solar Control Low-E Glass</b>											
SOLARBAN 60 (2) SOLEXIA + Clear	10	61	25	10	10	0.29	0.27	1.6	0.37	0.32	1.91
SOLARBAN 60 (2) ATLANTICA + Clear	5	54	20	8	7	0.29	0.27	1.6	0.32	0.27	1.96
SOLARBAN 60 (2) AZURIA + Clear	13	54	21	8	6	0.29	0.27	1.6	0.32	0.28	1.93
SOLARBAN 60 (2) PACIFICA + Clear	5	34	15	6	6	0.29	0.27	1.6	0.26	0.22	1.55
SOLARBAN 60 (2) SOLARBLUE + Clear	10	45	21	7	12	0.29	0.27	1.6	0.33	0.28	1.61
SOLARBAN 60 (2) SOLARBRONZE + Clear	8	42	21	7	15	0.29	0.27	1.6	0.32	0.28	1.50
SOLARBAN 60 (2) SOLARGRAY + Clear	8	35	18	6	12	0.29	0.27	1.6	0.29	0.25	1.40

\*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 6.3 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.ppgideasces.com](http://www.ppgideasces.com) or request our Architectural Glass Catalog.

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