

Case Study



Palomar Medical Center, which has been named one of the “greenest” hospitals in the nation, was constructed with *Solarban*® 60 and *Solarban*® 70XL solar control, low-e glasses by Vitro Architectural Glass (formerly PPG glass).

PROJECT CREDITS

Owner

Palomar Health

Architect/Designers

CO Architects
Los Angeles, CA

Vitre Products

Solarban® 70XL glass
Solarban® 60 glass

Glazing Fabricators

Northwestern Industries, Inc.
Seattle, WA
Yuma, AZ

Glazing Contractor

Shengxing Glass
Cladding Systems, Inc.
Corona, CA

Palomar Medical Center

ESCONDIDO, CA

PROJECT BACKGROUND

The award-winning Palomar Medical Center in Escondido, Calif., has been recognized as a “hospital of the future” and one of the “greenest” hospitals in the nation. Designed by CO Architects, Los Angeles, as a pilot project using the Green Guide for Health Care (GGHC), the 740,000 square-foot facility incorporates a 1.5-acre “green roof,” garden spaces at the center and both ends of each level of its 11-story patient tower, and extensive natural light transmitted through windows and ground-to-ceiling glass panels fabricated with *Solarban*® 60 and *Solarban*® 70XL solar control low-e glasses by Vitro Architectural Glass (formerly PPG glass).

Greenery and daylighting are a major part of the architect’s and hospital’s strategy to incorporate nature’s healing qualities into the design. *Solarban*® 60 and *Solarban*® 70XL glasses, which are fabricated by Northwestern Industries, are supported in a steel structural reinforcement system. The highly transparent glass and minimal framing enhance access to natural light and outdoor views for patients and hospital workers, which research suggests reduces stress, increases focus and promotes patient recovery.



Palomar Medical Center

In a standard one-inch insulating glass unit, *Solarban*® 60 glass offers an exterior appearance similar to clear, uncoated glass. With a solar heat gain coefficient (SHGC) of 0.39 and visible light transmittance (VLT) of 70 percent, *Solarban*® 60 glass yields an exceptional light-to-solar gain (LSG) ratio of 1.79.

Solarban® 70XL glass combines the clear appearance of transparent, color-neutral glass with an unprecedented combination of solar control and VLT. One of the industry's highest-performing glasses, *Solarban*® 70XL glass achieves VLT of 64 percent, a SHGC of 0.27 and an LSG ratio of 2.37.

Because of their ability to transmit high levels of light and block solar heat gain, *Solarban*® 60 and *Solarban*® 70XL glasses also are instrumental in fulfilling the hospital's energy management goals, particularly the reduced use of artificial light and air-conditioning, which are two of the facility's largest sources of energy consumption.

To complement the energy-efficient glazing, Palomar Medical Center cultivates a "green roof" that incorporates more than a dozen plant species that are native to Escondido's rolling landscape. The hospital also features high-efficiency HVAC systems that consume less energy, low-flow plumbing fixtures that conserve water, a system for recycled wastewater from air-conditioning cooling towers and recycled or renewable building materials.

Thanks to these and other sustainable building strategies, Palomar Medical Center is expected to perform 10 percent better than California's Title 24 energy code, from which hospitals are exempt.

The center also has won numerous awards and recognitions for design and construction, including:

- 2013 One of the 50 Greenest Hospitals—*Becker's Hospital Review*
- 2013 Design Award for Built Projects Over \$25 Million—*American Institute of Architects (AIA)/Academy of Architecture for Health*

For more information about *Solarban*® 60 and *Solarban*® 70XL glass and other *Cradle to Cradle Certified*™ architectural glasses by Vitro Glass, visit vitroglazings.com, or call 1-855-VTRO-GLS (887-6457).



Photography by David Cox, DPR Construction

Palomar Medical Center's 11-story patient tower features highly transparent glass panels fabricated with *Solarban*® 60 and *Solarban*® 70XL glasses by Vitro Architectural Glass (formerly PPG glass) that transmit natural light to patient rooms, lobbies, nurses' stations and waiting rooms.



Daylighting, garden spaces, courtyards and a 1.5-acre "green roof" are used to incorporate nature's healing qualities.

- 2013 National Recognition Award—*American Council of Engineering Companies (ACEC)*
- 2012 Best Health Care Project (National)—*Engineering News Record (ENR)*
- 2012 Best Overall Project—*ENR*
- 2012 Best Health Care Project (California)—*ENR*