

Case Study



Koi Sky Residences

MONTERREY CITY, MEXICO

Owner

Internacional de Inversiones

Glass Fabricator

Lindes & Crisvisa

Architect/Designers

VFO Arquitectos

Vitro Glass Products

Solarban® R100 on Optiblu® Glass

Glazing Contractor

Aluvisa

PROJECT BACKGROUND

Known as “The City of the Mountains,” Monterrey, Mexico, boasts eye-catching topography, from the Sierra Madre range to the Cerro de la Silla and Cerro de las Mitras mountains.

These majestic vistas also provided architectural firm VFO Arquitectos with the inspiration for the design of Koi Sky Residences, a striking 69-story mixed-use tower in the center of the city, featuring Solarban® R100 solar control low-e glass on Optiblu® tinted glass by Vitro Glass. At 917 feet tall, Koi Sky Residences is the tallest building in Mexico.

From the outset, the team at VFO focused on creating a distinct design, incorporating elements that would not only make the tower a recognizable symbol of its vibrant urban setting but also an architectural homage to the natural wonder of the nearby mountains.



Rising majestically in the shadows of the Sierra Madre range, Koi Sky Residences, glazed with Solarban® R100 glass on tinted Optiblu® glass, cuts a dramatic figure in “The City of the Mountains.”

Koi Sky Residences | Monterrey City, Mexico

To accommodate a reduction in the building's floor plate dictated by local building ordinances and the proposed height of the building, VFO cut smooth facets of glass and metal into its façade, from the mullions at the curtain wall to the vertical lines at the bottom and top of the building. These elements not only enabled the architects to meet design mandates but also helped the structure emulate the sculpted peaks and valleys of the surrounding hills and mountains.

Specifying the correct glass color and coating was critical to achieving the unified appearance between the tower and its setting that VFO was seeking to create. To begin that process, the firm established specific color and performance value criteria to determine which glass samples to order from various manufacturers for testing.

"For color, we were looking for something tinted blue that had a U-value below 0.34 and visible light transmittance of at least 30 percent," said Luis Fernández de Ortega, director of design for VFO. "It was also important to incorporate a glass with enough reflectivity to make the tower change its look during the day and throughout the year, with different colors of light."

Another key factor was ensuring the glass transmitted enough interior daylighting to meet LEED® (Leadership in Energy and Environmental Design) certification requirements.

To meet these various objectives, the architect and his team evaluated a number of potential glazing options before choosing insulating glass units (IGUs) fabricated with *Solarban*® R100 glass on tinted *Optiblue*® glass. By specifying this high-performance low-e coating on a light-bodied, blue-gray substrate, VFO was able to achieve the balance of solar control and appearance the



firm desired for the building, while providing the reflectivity needed to showcase its interaction with the changing sunlight and seasons.

Formulated with the industry's most advanced triple-silver coating, *Solarban*® R100 glass has a solar heat gain coefficient (SHGC) of 0.23 and visible light transmittance (VLT) of 42 percent in a standard 1-inch IGU with clear glass. When paired with high-performance *Optiblue*® glass, as on the Koi Sky Residences, *Solarban*® R100 glass generates VLT of 30 percent and an SHGC of .20 – which is below the mandated target for

LEED certification in Monterrey's climate zone – along with a low interior reflectance reading of just 13 percent.

Luis said his company's history of specifying *Solarban*® R100 glass for other buildings paid dividends on the Koi Sky Residences. "We've used *Solarban*® R100 glass for past projects because it met our requirements, first, for performance, and second, for the look. We are very pleased with the appearance. Framed by panoramic views of the mountains, Koi Sky Residences looks very close to what we imagined, and the performance is exactly what we expected."

To learn more about *Solarban*® R100 glass, *Optiblue*® tinted glass and other high-performance glass products by Vitro Glass, visit vitroglazings.com or call 1-855-VTRO-GLS (887-6457).