

The Design of BLACK PEARL

PROJECT FACTS
PROJECT
Black Pearl

LOCATION
Taipei, Taiwan

BUILDING OWNER
Metropolitan Construction Company

ARCHITECTURAL FIRM
Shin Takamatsu

COMPLETION DATE
December, 2002

UNIQUE USE OF GLASS REFLECTS BEAUTY WHILE ENHANCING SAFETY, NOISE MITIGATION, ENERGY EFFICIENCY

On a motorway to Taiwan from the Taipei airport gleams a magnificent and sparkling jewel-like building, located in the center of a bustling new business park designed for information technology and biotechnology companies. Metropolitan Construction Company, who named the building "Black Pearl," commissioned this project to be built not only as prime real estate but also as a landmark. Cross-

shaped LED lights mounted at the intersection of each window sash create the effect of constellations of shining stars on the buildings exterior - set against a pristine black, subtly-curved glass façade that corresponds to the "flowing" shape of the Keeloung River which winds in front of the building.

Black Pearl is surrounded by buildings with light colored panels and glazing, further highlighting the arresting black appearance of the building. Solutia's black Saflex™ interlayers for glass were chosen to create the intrigue and mystique surrounding the building, which has been called a sparkling wonder in the night.

"We chose to explore 'heaviness' as the primary design theme. The heaviness is similar to what small jewelry possesses. It intrigues people, encouraging the creation of a bond between them," says Shin Takamatsu, architect for the Black Pearl project.



The glazing of Black Pearl was also designed to help withstand Taiwan's occasional earthquakes and typhoons. While laminated glass may crack, it tends to stay within the frame, providing added safety during an earthquake or typhoon. The Saflex protective interlayer in laminated glass helps glass fragments stay in place,

project profile (cont.)

protecting people from injuries resulting from wind-borne debris.

Windows can also be the weak link in the transmission of unwanted sound into a building. Just as a window lets in light, it can also transmit noise from sources such as airplanes, traffic, and heavy machinery. The Black Pearl architects also selected Saflex because it dampens the vibration of the glass, thus reducing transmitted sound.

Technically, a three-dimensional smooth façade was realized by dividing the building's surface into 1598 areas and covering them with 799 patterned flat glass panels. To combat the sunny climate in Taiwan, Shin Takamatsu employed a special gray-film laminated glass (visible light transmittance rate: 0.44%, UV cut rate: 99%, reflectance value: 0.67), to reduce glare and improve office working conditions. By controlling direct sunlight, the glass reduces energy requirements for air-conditioning.



The building's façade, which evolves from a straight-line at ground level to a partial circle at the building's top floors, consists of a unit curtain-wall. At the upper floors, the

curved façade was designed to provide a beautiful panoramic view. Thus, the whole façade three-dimensionally changes its surface, with each floor providing different views according to its height. It also provides value to the upper floors which are typically lower rent in Taiwan's commercial spaces.

The interior houses a rental office area featuring glass with Saflex black interlayers, a shared lobby space with black granite, and a breathtaking, clear glass atrium that soars from ground level to the top of the building. In contrast to the exterior, the "skylighted" atrium is a white space flooded with an abundance of light. "This space can help rejuvenate businesspeople, and help inspire new ideas for the future," says the architect.

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