



# Marina Bay Sands Pool in the Sky

## Project Spotlight



**LOCATION:**  
Marina Bay Sands Singapore®  
Infinity Edge Pool at the  
Sands® SkyPark, Singapore

**LATICRETE SUPPLIER:**  
LATICRETE Southeast Asia Pte Ltd

**ARCHITECT:**  
Moshe Safdie

**LATICRETE INSTALLER:**  
Sangyong Engineering  
Construction Co Ltd

**LOCAL ARCHITECT:**  
Aedas, Pte Ltd, Singapore

**POOL TILES:**  
Tiles of Spain

**LATICRETE DISTRIBUTOR:**  
LATICRETE®  
**LATICRETE MANUFACTURING  
PLANT:**  
Bethany, CT



## LATICRETE Southeast Asia has the solution for Marina Bay Sands Pool in the Sky

By Eric Carson

LATICRETE has earned a global reputation for the ability to provide the specification details, technical support and complete product system for the installation of tile and stone with continued success on an increasing number of super high-profile swimming pool projects. Headlining the most recent list for LATICRETE both in scope and visibility begins with the Water Cube pools in Beijing for the Michael Phelps – dominated 2008 Summer Games, and now includes what might literally be the most highly-visible swimming pool in the world today.

In a global effort between U.S.-based technical services and through local supply and on-site support provided by LATICRETE Southeast Asia, LATICRETE materials were selected for Boston architect Moshe Safdie's ambitious infinity-edge pool design that spans across three 55-story hotel skyscrapers on top of the exclusive new Marina Bay Sands Singapore®. Measuring over three times that of an Olympic-sized swimming pool on a cantilevered rooftop observation deck, the Sands® SkyPark signature design element was no ordinary pool tile application.

In concert with the need for a lightweight roof deck material, the LATICRETE specification for the 254,000 stone and mosaic glass tiles took a slightly different path to achieve the same high-performance results. Safdie's elaborate, already famous pool that connects all three towers ultimately would rely on the pioneering epoxy adhesive technology developed by LATICRETE.

The elevated swimming pool construction project on the cantilevered boat-shaped, 360-degree view observation deck faced the additional challenges that being suspended 200 meters (656') above ground, across three separate structures will provide. For most typical pools, the LATICRETE specification would have included one of two innovative anti-fracture and waterproofing membranes with either 9235 Waterproofing Membrane or the most advanced membrane on the market today,

HYDRO BAN™. Due to the unique structural design, weight and stresses placed on the three buildings by the Sands SkyPark, it was necessary to bond the tile directly to the stainless steel pool shell. To accomplish this task, LATAPOXY® 300 Adhesive, a high-strength 100% solids epoxy adhesive was chosen based on its ability to tenaciously bond to stainless steel.

Concerned largely with deflection between the towers and weight, the pool system itself was fabricated as three separate stainless steel vessels connected by three, four-ton stainless steel terraces. Stainless steel was the ideal choice for the pool because it provided the structural integrity necessary for this high profile project without adding the additional weight of concrete. After consulting with LATICRETE technical services based at world headquarters in Bethany, CT, LATICRETE Southeast Asia supplied LATAPOXY 300 Adhesive to install natural stone and glass mosaic tiles direct on stainless steel. The Sands SkyPark pool was complicated further by the monsoon-influenced weather of Singapore and would commence each evening at 6 p.m. to accommodate for the heat and high humidity present during the day.

With LATAPOXY 300 Adhesive providing a tenacious and durable bond for mostly 300mm x 300mm (12" x 12") stone tiles interspersed throughout the design with glass mosaics, the revolutionary SPECTRALOCK® PRO Grout was specified for dense, flush tile grout joints in the submerged application high above the Singapore's Marina Bay.

"Based on our experience with swimming pool installations we were contacted by the U.S. manufacturer of the stainless steel enclosures," said Art Mintie, Director, LATICRETE Technical Services. "It was unique because of several different factors. With the observation deck stretching across the towers at that height the concern was the weight of the structure and threat of deflection from the swaying towers to the finished tile assembly.

“Cement and other commonly used materials for building most pool structures simply wouldn’t be the right fit. It was a global effort that we worked on with our team in Southeast Asia. Using the LATAPOXY® 300 Adhesive gave us the bond strength and flexibility required in a product that’s proven to be very successful for installing tiles over stainless steel.”

In the case of what is now one of the largest and most expensive integrated mixed-use developments ever built, the versatility of the LATICRETE product range allowed for the intended design program to be realized with materials that offer superior performance enhanced by the finished aesthetic of a revolutionary tile grout. SPECTRALOCK® PRO Grout offers unmatched stain-resistance and color consistency in a strong, durable epoxy-based tile grout that’s extraordinarily easy to use. The application of LATICRETE SPECTRALOCK PRO Grout also was important to withstand the constant presence of pool chemicals added to maintain a healthy balance of water for the pool users.

When the tile grouting was completed, the entire high-stress, continuous submersion application used 9118 Primer to create a more tenacious bond with LATASIL™ at all pipe penetrations, changes in plane and expansion joints. LATICRETE Latasil, a 100% silicone sealant, offers exceptional flexibility and helps further protect the rooftop infinity-edge pool system at the luxurious new Marina Bay Sands Singapore.

Despite the challenges of installing the world’s largest elevated outdoor pool at the most expensive mixed-use hotel casino destination ever built, the selection of LATICRETE materials and methods for the Sands SkyPark vanishing-edge pool system came as little to no surprise. LATICRETE first began to make inroads in Singapore design and construction back in the late 1970s, and this commitment to the island city-state has continued ever since. With the launch of the LATICRETE Innovation Centre to provide a resource, development and manufacturing hub for Singapore and Peninsular Malaysia, the leading global manufacturer has contributed to some of the most influential and avant-garde construction projects in recent memory.

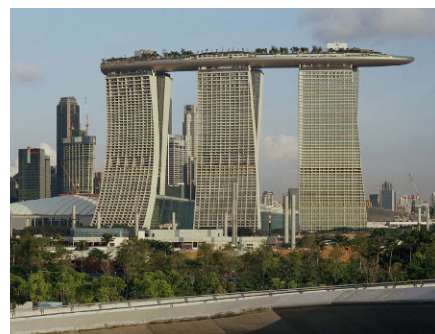
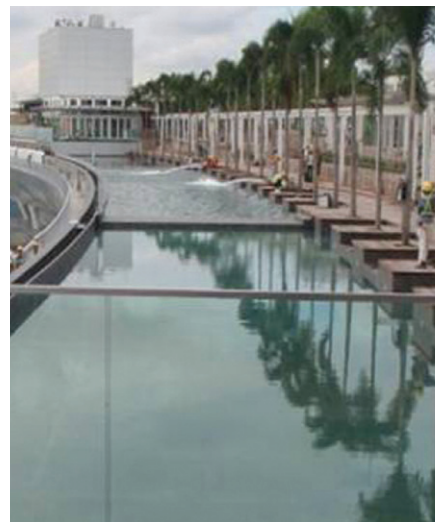
“This is by far the most interesting and important swimming pool project in the world for the last two years,” said LATICRETE President, International, Erno de Bruijn. “It’s an architectural wonder. For building projects like this one they select only the best products. It’s really a confirmation for us that the industry has recognized the quality of products from LATICRETE and our expertise in swimming pool applications.”

Contemporary architecture in Singapore has proven to be quite unique, with the continued rise in the concept of developing integrated lifestyle destinations working in perfect harmony with LATICRETE materials and methods. Reliant on flexible exterior spaces and featuring full-scale designs that typically use many different surface types for each different interior or exterior tile and stone application, the advantage of LATICRETE single-source responsibility with locally supplied products and technical support has been embraced by the Southeast Asia building community.

With the addition of the infinity-edge pool at the Sands SkyPark on top of the US\$5.7 billion (SG\$7 billion) Marina Bay Sands Singapore, LATICRETE has once again shown how the research and development of innovative materials and methods for the installation of tile and stone has brought improvements to the design and execution of high-profile building projects around the world.

\* See Data Sheets 663.0 and 663.5 for complete product information.

\*\* HYDRO BAN™ can be flood tested in 2 hours when cured at 70°F (21°C) or above 50 percent relative humidity. It can be flood tested in 24 hours when cured at 50 - 69°F (10 - 20.6°C) and up to 70 percent relative humidity. The time to flood test starts when the second coat has cured from a light sage green to a darker olive green color.





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