

SIKANEWS

SIKA ENABLES GREAT ARCHITECTURE – THE HARBIN OPERA HOUSE IN CHINA

Sika's high-performance sealing and bonding solutions enable outstanding architecture to become reality. One example of this is the Harbin Opera House in Northeast China, which had very special requirements in terms of its construction and the performance of its construction materials. Recently the cultural landmark project was recognized as one of the world's best buildings for its outstanding architecture.



Harbin Opera House, a landmark building in a harsh climate with temperatures ranging from -40°C in winter up to 40°C in summer, posed great challenges with respect to building materials.

The Harbin Opera House is built to withstand hardships. Harbin, also known as “Ice City” or “Moscow in the East”, is the capital city of Heilongjiang Province in China and has approximately 5 million inhabitants. Temperatures range from as low as -40°C in winter up to 40°C in summer. The opera house is located on the north bank of the Songhua River where the river bed forms various curves due to constant changes in the water level.

OUTSTANDING ARCHITECTURE

The fluid formed Harbin Opera House, wrapped with smooth white aluminum panels resembles a snowcapped mountain with shining ice and snow on the top - inspired by the snow and ice landscape of the city in winter. The building, housing two theatres for 1,600 and 400 visitors respectively, opened in 2015 after five years of construction. At the beginning of this year the building received an award as one of the World’s Best Buildings by ArchDaily, the most visited architecture website worldwide.

SIKA SOLUTIONS TO COPE WITH THE HARSH CLIMATE

The extreme climate poses great challenges with respect to the building materials, including the sealants for bonding the aluminum cladding and glass facades. The sealants have to withstand the high temperature changes between winter and summer. In winter, when the snow melting device installed at the bottom of the aluminum clad facade begins to work, the temperature of the facade will rise from the -40°C to as high as 50°C in a very short time. Under such conditions the aluminum cladding will have a linear expansion of up to 10mm, which must be absorbed by the Sikasil® sealants.



Upon entering the grand lobby, visitors will see large transparent glass walls spanning the lobby. The facade's glass pyramids are bonded with Sikasil® sealants.

Another challenge was the crystalline glass curtain wall, composed of transparent pyramids, which is water tight, wind tight and resistant to wind pressure. The glass must be able to withstand stress, movement and deformation after being bonded. Sikasil® products ensure a flexible structural bonding of the facade and provide a safe curtain wall. They also prevent condensation forming within the insulating glass under low temperatures. Sika is proud to have contributed to the Harbin Opera House, a palace of music and art for the city which was awarded “City of Music” by UNESCO in recognition of the city’s music heritage.

FURTHER INFORMATION

- [More on Harbin Opera House](#)
- [Sika in China](#)
- [Rabat Grand Theatre in Morocco also built with Sika technology](#)

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