

Fluon® ETFE Film Used In Place of Glass for Transparent Roof of 500-Foot-Tall “Tent of Khan”

Known as the world’s largest tent, the Khan Shatyr Entertainment Center stands nearly 500 feet tall (150 m) and encloses an area of more than 24 acres (100,000 m²), which includes a park, jogging track, retail shops, restaurants, theatres, exhibition space and a water park with wave pools and slides. Located in Astana, Kazakhstan, the structure’s shape is a historically traditional form, and its name, Khan Shatyr, translates as the “Tent of Khan.”

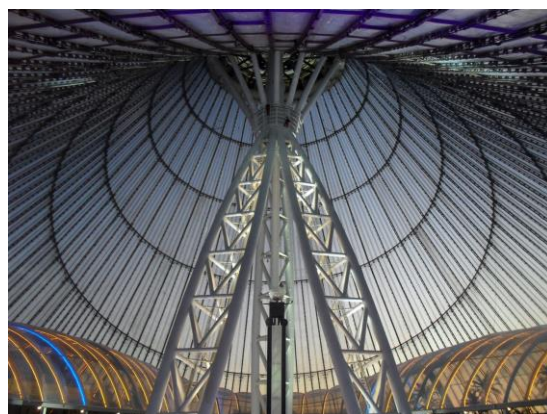


Photo by [Vector Foiltec](#)

Designed by architects Foster & Partners, the elaborate structure is actually quite utilitarian. Because the region’s inhospitable temperatures can dip as low as -31 °F in the winter and climb to 95 °F in the summer, the center is designed to provide residents a place to enjoy social and cultural activities year round.

It is this same harsh climate that made AGC’s Fluon® ETFE fluoropolymer film the material of choice for the tent’s construction. Thanks to ETFE technology, the massive tent can resist the extreme weather conditions. The structure is a tubular-steel tripod construction that supports a suspended net of steel cables, which is covered by a three-layer ETFE envelope*. The ETFE film layers form “cushions” of air, providing high insulation while resisting dirt and pollution.

The ETFE and cable roof is much lighter and efficient than it would be if made from glass and steel. The translucent material allows daylight to enter the interior, while protecting it from the extreme outdoor temperatures. When it is cold outside, warm air is blown up the inner surface to prevent icing. When the outdoor temperature rises, internal heat is exhausted through the top of the tent.

Fluon ETFE Film is made of a high-performance thermoplastic fluoropolymer, and features excellent transparency, non-stick and insulation properties, as well as resistance to heat, chemicals and weather. ETFE film is attracting global attention as a high-performance building material. AGC’s Fluon ETFE film was used in Singapore’s National Stadium, Russia’s Fisht Stadium in Sochi for the 2014 Winter Games, Munich’s Allianz Arena and Brazil’s Itaipava Arena Pernambuco where the 2014 FIFA World Cup Brazil™ matches were held. ETFE film can also be used for electronics, solar cells, wallpaper and greenhouses.



For more information about Fluon ETFE Film, visit <http://agcchem.com/products/specialty-materials/fluonetfe-film>

*EFTE Film cushions engineered, fabricated and installed by Vector Foiltec

About AGC Chemicals Americas Inc.

AGC Chemicals Americas Inc. is a wholly owned subsidiary of Asahi Glass Company Ltd., a \$13 billion multinational corporation and one of the world's largest manufacturers of glass, electronic displays and chemical products. The company was formed in 2004 through the merging of sister companies Asahi Glass Fluoropolymers USA and AGA Chemicals. Headquartered in Exton, Pa., AGC Chemicals Americas maintains manufacturing operations in nearby Thorndale, Pa., and warehouses located throughout North America. www.agcchem.com.

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Sources:

Foster & Partners: <http://www.fosterandpartners.com/projects/khan-shatyr-entertainment-centre/>

Vector Foiltec: <http://www.vector-foiltec.com/projects/khan-shatyr-entertainment-center/>