

Retractable roof – Kufstein

Exterior Heavy

Project. The Kufstein Fortress Arena with its historical ambience provides a stunning backdrop for many types of open-air event.

The unpredictable weather in the Austrian Alps has resulted in the cancellation of outdoor events at this site and discouraged potential customers from booking events due to lack of weather protection.

Concept/Design. Kugel + Rein, Architects and Engineers, has designed a retractable circular shelter over a 2000 square meter (21,000 square foot) courtyard. The translucent white membrane, which gracefully unfolds like a flower, can be opened or closed within four minutes to protect the area from unpredictable weather conditions. This extends the use of the outdoor space and avoids costly event cancellations.

While the structure was initially designed as protection against the weather, two additional benefits were

realized. The overall acoustics of the space are improved when the roof is deployed, and the use of dynamic multi-colored lighting projected onto the membrane produces a dramatic visual effect.

This creates a spectacular concert experience.

Construction. The membrane structure is circular and surrounded on its outside edge by a polygonal pressure ring, not unlike a giant 52 m diameter wire wheel, made up of fifteen equal segments. This “wire wheel” is an efficient, highly pre-stressed structure which besides absorbing the force of external wind also brings only vertical loads to bear on its foundations.

A retractable tensioned membrane roof system now protects the outdoor event space. The roof can be quickly deployed when needed, and the 40% light transmission of the SEFAR® Architecture TENARA® Fabric retains the outdoor feel of the arena.

Project/Location: Festungsarena Kufstein, Austria

Architect: Kugel + Rein Architects and Engineers, Stuttgart, Germany, www.kugel-rein.eu

Engineering: Kugel + Rein Architects and Engineers, Stuttgart, Germany, www.kugel-rein.eu

Implementation/Fabrication: Hightex GmbH, Rimsting, Germany, www.hightexworld.com

Fabric: SEFAR® Architecture TENARA® Fabric 4T40HF

Photos: andi Schmid fotografie, Munich, www.fotolevel.de



Architecture
Interior / Exterior

S E F A R
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