



Qatar Inflatable Fabric Dome

Client: WRG Creative Communications Ltd Year of Completion: 2009
Main Contractor/Customer: Edwin Shirley Projects

Marking the opening of a brand new pipeline delivering liquefied natural gas to the UK, the QatarGas inauguration event represented a significant moment in the history of the state of Qatar and Architen Landrell was excited to be involved. This important development in the energy industry was marked by a large public exhibition featured two vastly different Architen Landrell structures which each drew on the diverse skills of our team.

The most challenging of the two was a 44m diameter steel supported inflatable dome designed to appear like an iridescent floating pearl in the middle of the desert. Comprised of 16 inflated PVC cushions and Architen Landrell were contracted to design and manufacture the inflatable fabric panels, extrusions and air handling system for the building. The clients brief demanded that the dome have a perfectly smooth and spherical geometry which therefore added some interesting design challenges. The key was to pattern the exterior layer of the cushion to fit the defined geometry and the inner layer of the cushion to interact safely and aesthetically with the interior steel. Architen Landrell worked closely with WRG Creative Communication Ltd, ES Projects, Momentum Engineering and Tensys during the design stages in order to ensure that the brief was met and that the building be a unique and landmark structure.

There was a lot of discussion about the choice of fabric for this project and a white/aluminium PVC Blackout fabric was chosen by the client allowing the dome to reflect well in the water, giving the illusion of an entire globe. The blackout material was necessary because the lighting and visual elements of the inaugural event required that there be very little light transmission. Further to the mechanical climate control of the structure, the material properties of the white/aluminium fabric also helped to keep the dry desert heat at bay.

The size, location and desired aesthetic of the structure, were all major elements effecting design and meant careful and patient testing procedures carried out in our laboratory and production facilities. Many long term heat and load tests were performed on the fabric, extrusions, and graphics in order to ensure that the structure could withstand the desert environment and meet the design and engineering challenges of the structure.

The inflation system and air handling electronics were designed and built in house by our ...see <http://www.architen.com> for more information.

Location:
Qatar

Category:
Exterior

Market Sector:
Exhibition

Scope Of Works:
Design
Engineering
Research and Development
Manufacture
Project Management
Install

Fabric Type:
PVC - Fabric

Design Style:
Inflatable

Function:
Sculptural/Decorative
Promotional
Printed
Exhibition