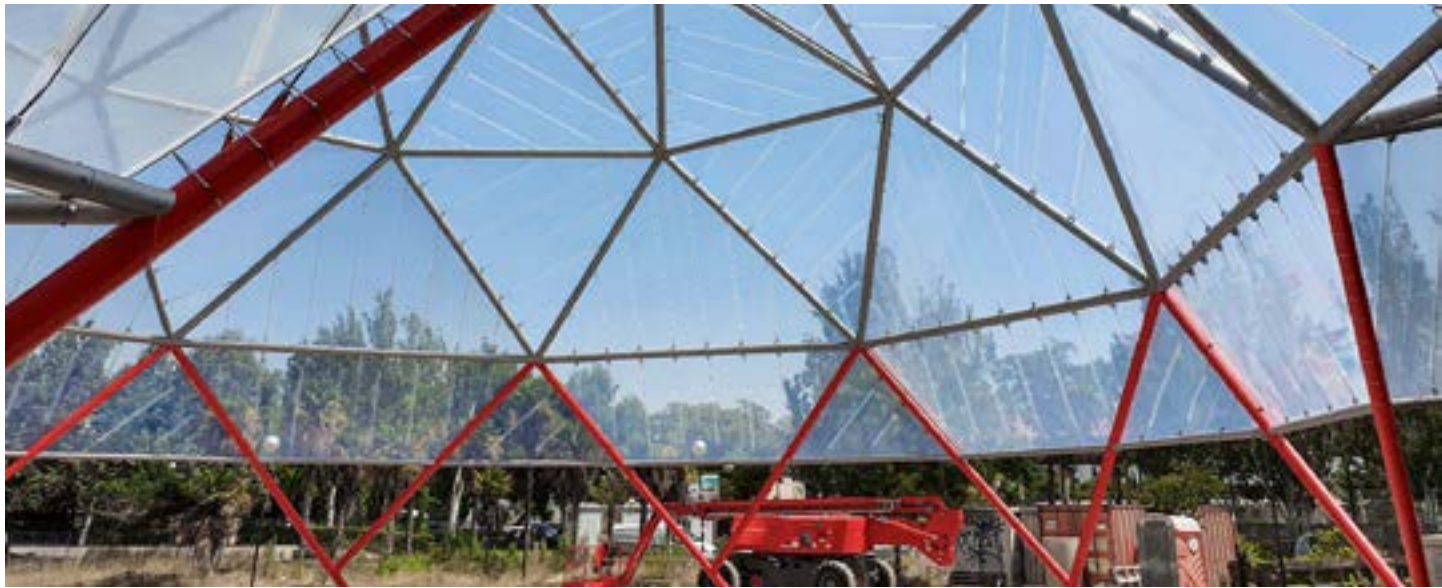




GEODESIC DOME ZARAGOZA

PROJECT DESCRIPTION

The objective of this project was to create a scenic space for hosting cultural activities all year round in La Granja public park in Zaragoza. The space needed to feature a stage and a large area for the audience to be seated, with both areas being protected against inclement weather conditions.

In order to achieve this, we chose a large open space within the park and decided to build a triangular geodesic dome on it using steel tubes. We created a hemispheric structure with a diameter of 30m and a marquee attached to it to cover the stage.

A single-layered ETFE covering was used for this project as it is a light, transparent and resistant material.

CHARACTERISTICS

Material	ETFE Film
Application	Urban spaces
Surface	1.216m ²
Measures	Semisphere Ø30m
Location	Zaragoza
Architect	Doctor Arquitecto Jose Javier Gallardo Ortega
Year	2020

TECHNICAL DATA

The metallic structure is made entirely from tubular profiles with a diameter of 219mm. It is divided into two different construction elements: the straight bars and the joints which they are screwed to.

The circular section of the bars eliminates the use of sharp edges on the structure and allows the ETFE sheet

to be directly supported on the tubes without danger of it cracking or piercing.

The ETFE sheet is completely transparent and is 250µm thick. Three large canvases are made to cover the entire structure. The largest of them is 48m long and 24m tall. The edges of each canvas are attached to the structu-

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re using aluminium tubing which is split and screwed to toothed runners.

Wires are added to every triangle on the structure to reinforce the membrane. In the marquee area, these cables will have a diameter of 10mm, while in the triangle area of the hemisphere it will be 8mm. The positioning and direction of these cables within each triangular area becomes the focal point of the structure's design and a key aspect of the project's global aesthetic.

