

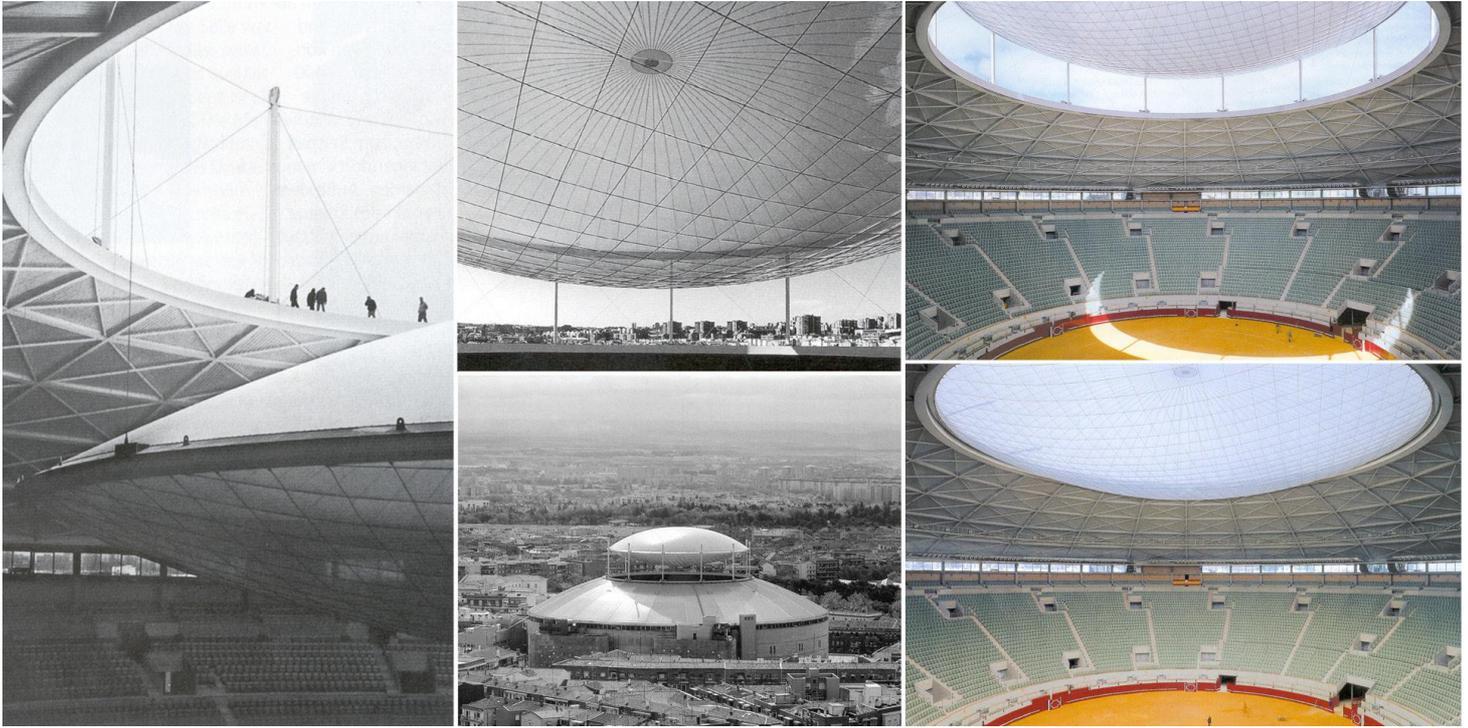


# Roof Structure of Vista Alegre Arena

Vista Alegre, Carabanchel, Spain / 1997

Structural type  
Characteristics  
Owner  
Client  
Scope  
Architect

one-layer dome-shaped roof  
100,00m span, with a moveable central part of 50,00m diameter.  
Ayuntamiento de Madrid  
Palumi  
detailed design and construction support  
Jaime Pérez Aciego



The fixed roof of the Vista Alegre Facilities is a Schwelger-type dome, composed of steel parallels, meridians and diagonals, with a 1/8 rise-span ratio. It is supported on concrete pillars at its perimeter.

The fixed roof consists of a single layer comprised of commercial steel profiles (IPE). At the central part of the roof, there is a steel compression ring which is 50.0m in diameter. On this ring, 12 steel masts are placed which support the moveable section of the roof when it is raised.

This moveable roof-section consists of a 12.0m deep pneumatic lens-shaped cover, held together by a perimetrical steel ring 50.0m in diameter. Its upper membrane is made of PVC polyester; its lower one is a transparent Velaglass-sheet, sustained by a cable mesh 1.50m x 1.50 m<sup>2</sup>.

This moveable section of the roof can be raised 10.0m above the fixed part of the roof, hanging from the 12 masts which are supported on the main roof area.



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