

Lift of the Dome Roof, New Sydney Showground Hall 1

Client: Olympic Co-ordination Authority of NSW Government
Consultants: Ove Arup & Partners, Scott Wilson Irwin Johnston
Contractor: Thiess Contractors



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Exhibition Hall 1 of the New Sydney Showground is a circular building with a column-free domed roof which is 97 metres in diameter and 42 metres high at its zenith. Built during the Olympic construction programme to host Volleyball, Badminton and Rhythmic Gymnastics, it was completed in December 1997.

The dome roof is a composite structure of laminated timber ribs and circumferential steel tubes. Fagioli PSC and sister company Austress Freyssinet developed an alternative method with Thiess Contractors.

The method was in three stages. It involved erecting at each stage a full circumferential ring, including laminated struts, purlins and roof decking, at ground level and then lifting it to a holding level whilst the next ring was completed. The dome was then lowered to rest on the ground. The lifting system was moved out to the new perimeter and the dome was lifted to the next assembly hold level.

