

# Allianz Arena

## New Soccer Stadium Munich, Germany

### MAURER MSM<sup>®</sup>-bearings, protection curtains



#### Figures and Facts

**Location:** Munich, Germany  
**Owner:** Allianz Arena Munich Ltd.  
**Concessionaire:** Soccer clubs: F.C. Bavaria Munich, TSV 1860 Munich  
**Contractor:** Alpine Bau, Ltd. (concrete), Max Bögl Ltd. (steel)  
**Architect:** Herzog & de Meuron, Suisse  
**Consultants:** ARUP Ltd., SSP Ltd.  
**Total investment costs:** 290 Mio. €

**Design:** Concrete bowl and steel truss roof structure, covered with a translucent and transparent membrane

**Utilisation:** Pure soccer stadium with terraces directly bordering the pitch

**Floor space:** 171.000 m<sup>2</sup>  
**Number of seats:** 66.000  
**Construction Time:** autumn '02 – spring '05

#### Involvement of Maurer Soehne

Supply and installation of 96 **Spherical MSM<sup>®</sup> bearings**, 5.500 kN, 45 mm movement, providing high load bearing capacity and low friction forces

Supply and installation of 34.000 m<sup>2</sup> **movable sun- and noise protecting membrane** with cable control system. The installation was realised without scaffolding but by means of free-climbers.

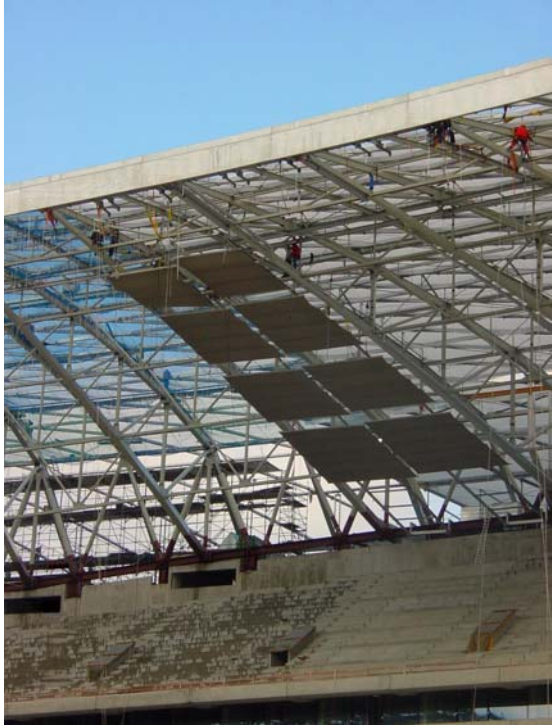


Fig. 1-3: installation of protection curtain system

The remarkable roof structure is made of parabolic steel truss girders with a cantilevering length of 60 m, supporting the 35.000 m<sup>2</sup> transparent covering-cushions made of rhombic ETFE-elements. To provide sun- and noise protection during events, variable curtains are arranged below the roof structure. The installation of the curtain-elements including the control mechanism was realised by means of free-climbing fitters to avoid a required placing and shifting of scaffolds.

The transfer of the loads (up to 5.500 kN vertical loads on each support point) and the accommodation of occurring movements (up to 45 mm) is done by means of MAURER Spherical bearings, equipped with a special sliding material MSM<sup>®</sup>. These devices combine high load bearing capacity with a small bearing size as the applied sliding material MSM<sup>®</sup> can accommodate much higher stresses with lower friction values than conventional sliding material.

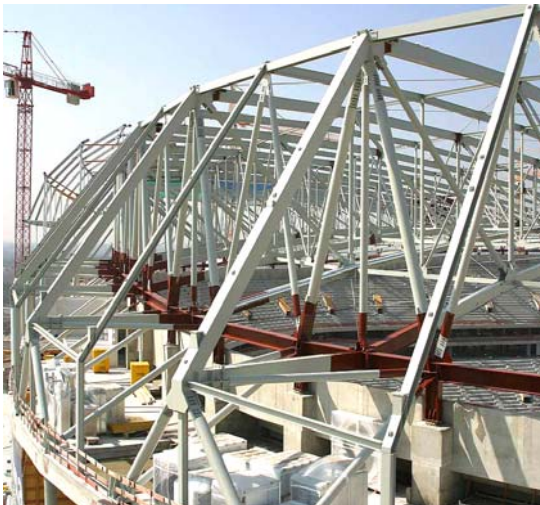


Fig. 3, 4: supporting point of cantilevering steel truss beams, MAURER MSM<sup>®</sup> spherical bearing