



15th International Symposium on Tubular Structures

Technical Tour

Saturday, 30 May 2015

Departure from Hotel Pestana by 8:30 AM

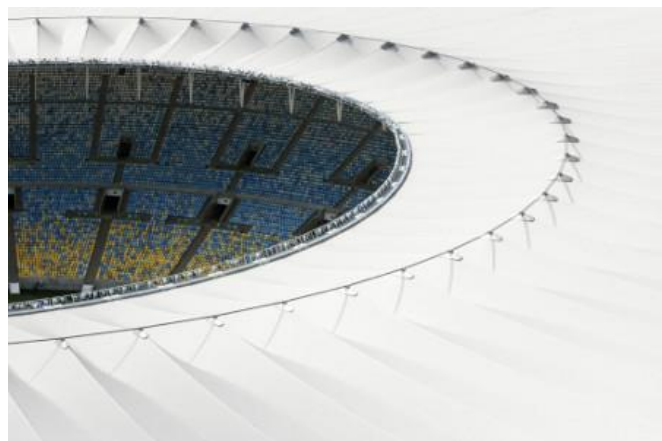
ISTS15 offers an excellent opportunity to take a special guided tour in Maracanã Stadium, including the touristic visiting together with presentation of engineering aspects of the renovating works that took place to prepare the stadium for the 2014 FIFA World Cup, the Association Football World Championship.

How about feeling like an ace entering the field?¹

Go behind the scenes of Maracanã Stadium, stage of the 2014 World Cup Final Game. From the Tribune Press to the locker rooms, through the Grandstand, the cabins and a collection of relics of the stars who made the history of the world soccer temple. Prepare yourself for a world of dreams, exploring every way, with videos, sounds and different experiences that will last forever in your memory.



New lightweight roof for Maracanã Stadium(1)



New lightweight roof for Maracanã Stadium (2)

¹ <http://www.maracana.com/site/en>

Maracanã bicycle-wheel roofing system²

International structural engineering firm, Schlaich Bergermann and Partner (SBP) has engineered the lightweight roof for the Maracanã Stadium in Rio de Janeiro, Brazil. SBP was selected by Empresa de Obras Públicas of Rio de Janeiro as the structural engineer to design and oversee construction. The 45000 m² circular roof design is based on the bicycle wheel approach. The structure is covered with a PTFE-coated fiberglass membrane and is supported by the existing reinforced concrete columns of the old stadium bowl. It comprises high-strength cables connecting inner tension rings at the center of the circle to an outer rim, or compression ring and the cable spokes, which are allocated at the inner edge of the roof, are tightened between the outer compression ring and the tension rings. According to SBP, “this approach uses only a fraction of the steel used in a comparable-sized conventional stadium roof structure”. “There are very few buildings across the world that have achieved such a splendid reputation within the rather short time of the stadium’s existence,” said Michael Stein, managing director of SBP in New York. “For many football fans, the name Maracanã stands for great moments in sports. We are delighted to be able to contribute to the redevelopment of the stadium for the 2014 World Cup, and to crown this international cathedral of football with a stunning new roof.” Originally built to host the Brazil 1950 FIFA World Cup, the stadium was once the largest in the world. It historically packed in crowds of up to 200,000 – among the highest attendances ever seen in the history of the World Cup – but due to refurbishments and upgrades, the Maracanã now has a reduced capacity of 73,531 for Brazil 2014. The stadium remains the country’s largest football venue.



The original Maracanã stadium configuration, before the renewing works.



Maracanã stadium after renewing works

² <http://www.stadia-magazine.com>