

## YAOUNDE – COSO NEW STADIUM

### DESCRIPTION

The grand stands of the Stadium will be covered by a Tension Structure Roof composed by two inner tension rings (TR = Tension Ring) and a perimeter compression truss ring (CR = Compression Ring) connected with radial carrying and stabilizing cables.

The governing structural principle of the horizontal structure of the roof is that the equilibrium, geometry, static stiffness, dynamic stiffness, are obtained by an accurately planned and constructed distribution of forces in combination with an accurate geometry, in the components of the tension structure made by the cables, the connection nodes, the steel components and the perimeter compression truss ring as a whole integral system.

Compressed sub-vertical flying masts (made by 2 x CHS 298.5mm each one) connect top and lower cable groups of TR. The Tension Structure Roof has plan dimensions about 300 m x 245 m and an height of about 46 m above ground. Compressed sub-vertical flying masts (made by 2 x CHS 298.5mm each one) connect top and lower cable groups of TR.

**Service provided:** Preliminary, final and executive structural design

**Client:** Piccini Group

**Year:** 2017

**Amount of works:** € 50.000.000.

