

# LIVORNO – SPORTS HALL

## DESCRIPTION

The main roofing structure is formed by 24 meridian arches, arranged with radial symmetry at consistent inter-axis with 15° central angle, and by six parallel arches arranged about every 8° azimuth. The average roofing surface is similar to a spherical radius of about 70 metres and a 29 metre arrow vertex.

At 14 metres from the 0.00 reference height, a ring of pre-stressed cables formed by 3 high strength steel spiral cables with 42 mm diameter is disposed. The arches that are set directly on the foundations are blocked by cylindrical hinges made from metal. The covering of the vault is made of a composite system of corrugated sheets of galvanized and pre-painted steel, dimensioned in a manner as to pass directly over the spans (without using secondary structures) between the arches by more than 12 metres.

**Service provided:** Structural preliminary, final and executive design.

**Client:** Livorno Municipality

**Year:** 1997

**Surface:** 11.500 m<sup>2</sup>

**Amount of works:** € 5.690.000,00

