

TRI-GENERATION SOLAR POWER PLANT



105

Tri-generation is the simultaneous production of mechanical power (often converted to electricity), heat and cooling from a single heat source such as solar energy. This tri-generation power plant can be found in the gardens of the Villa di Pratolino north of Florence, Italy. The plant can produce 11 kilowatts of energy. That is enough to power the street-lamps which guide visitors through the park and the illumination of the Appennine Colossus sculpture by Giambologna. Stainless steel was selected for this application because of its good heat and corrosion resistance, and excellent mechanical properties.

Location | FLORENCE, ITALY

Environment | OUTDOOR

Product | SPIRAL ROPES, SPHERICAL JUNCTIONS, WIRE AND ROUND WELDED TUBES

Fabrication process | MECHANICAL JOINING AND WELDING

Grade/surface | AISI 316, AISI 316L, AISI 303

Material thickness/diameter | SPIRAL ROPES: 8 MM DIAMETER; ROUND WELDED TUBES: 101,6X4 MM CIRCULAR SECTION; SOLID METAL SPHERICAL JUNCTIONS: 132 MM-DIAMETER

Weight

Competing material | PAINTED CARBON STEEL

Date of Completion | 2009

Manufacturer | ENEL ENGINEERING AND THE INNOVATION DIVISION OF THE UNIVERSITY OF PISA

Material Supplier

Source of Information | CENTRO INOX

Remarks

