

D34 CED ENI – Ferrera Erbognone (PV) - Italy

The CED is a compound composed of six interconnected operating units which are housed in separated buildings; the office and control rooms are located in a bridge like central structure which spans between the units. A structural joint separates each unit from the adjacent ones.

Each one of the three levels of the compound has an area of approximatively 20 000 m²

The existing architectural landscape is recreated by an artificial hill which partially hides the constructions.

The major part of the cooling necessary for the computers is produced by natural ventilation and by heat inverter pumps which benefit from the wasted heat of a close by oil refinery.

Because of all the above said features the compound is named ENI GREEN.

Each of the units is composed of the natural draught cooling section, of the power continuity building and of the computer room; auxiliary services are housed also.

All the structures are in reinforced concrete to be in part prefabricated and in part cast in place; precast, pre-stressed beams constitute the grid which supports the computer racks and feature a profiled section for reducing the drag of the cooling air flow.

The foundation system is based on direct foundations; the major part of the edge walls which retains the earth of the artificial hill has a height of around 15.00 m; the floor slabs resist the thrust of the wall.

The construction was planned according to steps which allow for the completion of each level including the earth fill against the edge walls; the structural analysis took into account this progressive evolution of the structure.

Client: ENI (Ente Nazionale Idrocarburi)

Architect: Starching - Milano

Construction firm: CMB Milano

Construction year: completed

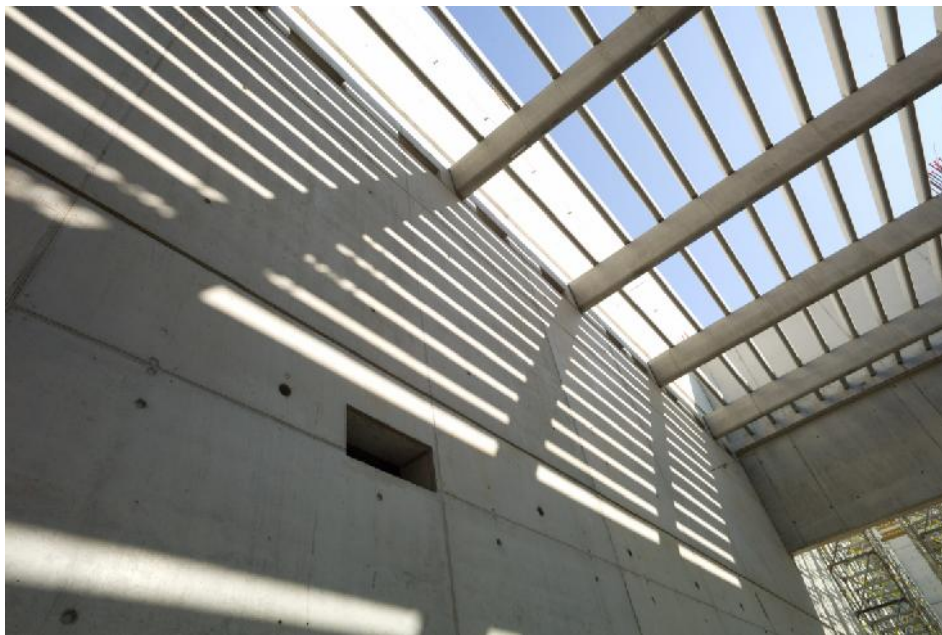
Price of the structures: 17 000 000 Euro

Activities supplied: complete structural design which was developed in the following steps: conceptual, preliminary, definitive and final and work supervision

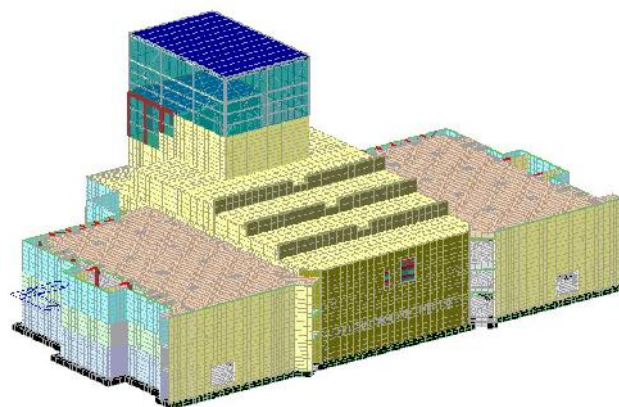




The artificial hill and the ventilation towers



The aerodynamic sections of the beams supporting the computers



Structural model of one of the units