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STEEL AND SOLAR PERFORMANCE

Exel Group breaks new ground with its new bioclimatic photovoltaic panel's production plant



Being aware of the global necessity for better energy management, Exel Group has constructed its new PV panel's production plant giving emphasis to the building's bioclimatic character.

The engineering study has been developed in cooperation with Henning Larsen Architects and Greek engineers and it represents a novelty in industrial buildings architecture in Greece.

The building is constructed according to the directive 2002/91/EC of the European Parliament and of the Council of 16 December 2002 "on the energy performance of buildings" which aims at the decrease of their energy requirements and their conformation to the local climate. Exel Group's new building achieves this goal

without degrading its surrounding environment or the work conditions.

Energy required is much generated by solar power by photovoltaic panels installed on the plant's roof. Energy losses are reduced to minimum due to appropriate building materials and coloration. The building is facing southwards in order to achieve maximum energy generation from sunrise to sunset. The photovoltaic panels are scheduled to be glass-to-glass laminated and semi transparent in order to make use of energy production while permitting a degree of natural lighting and shading.

Reducing energy for heating and cooling is enhanced using a buffer tank for liquid medium (water) thermal storage and three air-cooled heat pumps. Two of these pumps are sufficient for the cooling and heating requirements whilst the third one is serving as a system backup. During the day the tank covers the cooling and thermal loads and only the peak loads need to be covered by the heat pumps. During the night one pump is used to charge the tank. Use of skylights on the roof improves the natural lighting of the interior. When daylight is not enough use of dimmers helps reduce the energy consumption to a minimum.



A BRAND NEW 30 YEAR-OLD SUCCESSFUL COMPANY



Bioclimatic building architecture is a global necessity because of its significant contribution to energy conservation. Integrating energy demand management systems allows us, as a part of a community, to influence in our way the energy market towards the security of its mid and long-term supply and to its turn to efficient and renewable recourses.

Watch the phases of construction:

<http://www.youtube.com/watch?v=GFy7P6TdEV4>

Find out more about Exel Group:

www.exelgroup.gr