

PROJECT	Hellenic Petroleum Comp
DATE	October 2009
CUSTOMER	Aktor S.A.
INDUSTRY	Industrial – Energy
LOCATION	Elefsina - Attiki
PRODUCTS	Penetron Admix®, Penetron® System, Penebars™, Penetron® Grout



CASE SUMMARY

In autumn 2009, in Elefsina area, the construction - expansion of the new refinery unit of Hellenic Petroleum Comp. has started

Part of the new unit was also the construction of the underground network of collection and recirculation of the residual products of the refinery.

The underground network envisaged the construction, sealing and repairing of 1000 wells from reinforced concrete, total volume 4000 m³. The reinforced concrete should be fully sealed and protected from corrosion phenomena, such as concrete carbonation and chloride penetration due to corrosive underground. There was also the requirement, the reinforced concrete to be protected from chemical attack due to the high chemical load of the refined byproducts. For all these reasons, the project engineer, decided to use Penetron Admix ® system for the total waterproofing and protection of the concrete constructions.



The advanced and innovative system includes the permanent and absolute concrete waterproofing with the addition of Penetron Admix®, a special crystal growth concrete additive following the completion of any repairs with Penetron®, Penecrete Mortar™ and Penepug. This system ensures the permanent waterproofing of the construction, but with one key difference from most known waterproofing systems. Instead of applying a waterproofed topping on the concrete surface, we make the reinforced concrete construction, not only permanently waterproofed, but with high chemical resistance providing corrosion and carbonation protection. Also, the system, due to the crystal growth creates a continuous self healing effect in case of moisture ingress. The system, in total is user and environment friendly while keeping low manufacturing cost, remaining a highly reliable waterproofing and protection system for concrete structures, without the need for continuous maintenance



In the project Penetron® Grout and the water expanding system, Penebars™ were also used in order to waterproof, seal and anchor the connection between the concrete wells and metal pipes with diameters from Ø100 to Ø800.



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