

Oô (Upper Garonne, France) Lake d'Oô dam

SPECIALISED ACROBATIC BUILDING TEAMS
ALSO DEPLOYED TO REPAIR CONCRETE



Located at 1500 m above sea level, within two "Natura 2000" zones under the protection of the European Union, Lake d'Oô is one of the most beautiful areas in the Pyrenees mountains in the South of France. The dam on the lake, which feeds Oô de Luchon power station, celebrated its 100th anniversary in 1921. The dam is of the gravity type: the dam wall was constructed mainly in

masonry and the water is held back by its sheer weight. Since its construction until today, it has played an important role in the production of hydro-generated electricity and as a back-up to feed the River Garonne in periods when its level is low. After analysing the water levels of the River Neste d'Oô that crosses the dam and then carrying out a site survey, EDF, the largest produc-

er and provider of energy in France, launched a project to carry out major restoration and requalification work on the dam. The aim of the work was to increase the size of the spillway to maintain the dam at its highest level more efficiently, and the replacement of the sluice gate for the drain at the foot of the dam which, if necessary, allows the dam to be emptied.

RIGHT. The dam on Lake d'Oô is situated at an altitude of 1500 m in the Pyrenees mountain range. It was recently repaired with a complete Mapei system.
BELOW. The expansion joints were sealed again with MAPEFOAM and MAPEFLEX E-PU 30 NS.



Mapei solutions to repair the downstream face of the dam wall

The company commissioned to carry out the work, Aevia France SUD, contacted Mapei with a request for a proposal for a complete system to repair the downstream face of the dam wall. The work was carried out by specialised teams working suspended from ropes and cables without the use of scaffolding and with the support of the Mapei France Technical Services Division who provided the right training on how to apply the products. The reinforcement rods in the deteriorated areas were protected with MAPEFER 1K, anti-corrosion mortar. Before using the repair mortar, a coat of bonding slurry made with PLANICRETE LATEX was applied on the surfaces.

MAPEGROUTT60 F, a fibre-reinforced thixotropic mortar that is manufactured and distributed on the French market by Mapei France, was then used to repair the deteriorated areas. The cast iron covers for the drains at the foot of the dam were sealed

with MAPEFILL MC compensated-shrinkage concrete, which is also manufactured and distributed in France by Mapei France. The distribution joints on the dam wall, which by now were completely worn, were sealed by applying MAPEFOAM closed cell polyethylene foam cord along the bottom of the joints and then sealing the joints with MAPEFLEX E-PU 30 NS two-component, high-strength, epoxy-polyurethane sealant. This system allowed both the vertical joints and the horizontal joints to be repaired. When replacing the sluice gate for the drain at the foot of the dam, IDROSTOP hydrophilic expandable rubber profile was chosen to make sure the joints were perfectly waterproof, which was bonded in place with IDROSTOP MASTIC thixotropic adhesive.



Find out more
MAPEFLEX E-PU 30 NS



TECHNICAL DATA

Lake d'Oô dam, Bagnères-de-Luchon, Haute-Garonne (France)

Year of construction: 1921

Intervention by Mapei: supplying products for concrete repair and sealing joints

Period of renovation works: 2020-2021

Owner: EDF Hydro Sud-Ouest

Contractor : AEVIA France SUD (Groupe Eiffage)

Mapei coordinators: Jérémy Cachard and Gaëtan Dujardin, Mapei France

Photos: Gaëtan Dujardin, © AG Pyrénées 31

MAPEI PRODUCTS

Protecting the reinforcement rods:

Mapefer 1K
Repair work on the concrete: Planicrete Latex, Mapegrout T60 F*, Mapefill MC*

Sealing distribution joints: Mapefoam, Mapeflex E-PU 30 NS

Waterproofing joints: Idrostop, Idrostop Mastic

*These products are manufactured and distributed in France by Mapei France

For further info on products visit mapei.com mapei.fr