

PROJECT NAME

Derivation Canal
Reconstruction

CLIENT

Slovensky
vodohospodarsky
podnik, Ruzomberok

LOCATION

Krpelany-Sucany-
Lipovec, Slovakia



PRODUCT

COLETANCHE® ES2

+ BITUMSEAL,
bituminous mastic for wet
surfaces

SURFACE

5 712 m²
61 483 ft²

INSTALLATION DATE

VIII/2015

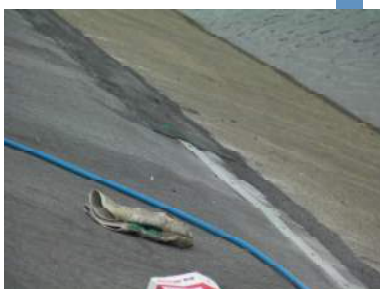


BACKGROUND

This project is pilot project for diminishing of seepage through the embankments of the canal. Canal serves as a regulation of water flow coming to two hydroelectric power plants in the border of two regions of Central Slovakia, called Orava and Liptov. These regions are located in the middle of Slovakian mountains, High Tatras, Rohace, Little Tatras and Little Fatra. In the spring periods there is a lot of water coming to the Vah river main stream from the melted snow on the surrounding mountains. So in order to regulate the water flow coming to the hydroelectric power plants these derivation canals were constructed around 1950.

The canals are based on the excavated part and on the embankments placed on the both sides. The inner surface of canal was furnished with non-reinforced concrete monolithic slabs. These slabs are having, in presence, heavy cracks, mostly because of variation of the water level and effect of ice cyclic pressure and because of the absence of the reinforcement. In presence the concrete slabs are not watertight and the surrounding embankments are facing to the strong seepage rate, which represents a complication of exploitation of adjacent terrain and the risk of the loss of mechanical stability of the embankments themselves. Technical and security Slovak state authority for water works decided that the operator should take appropriate measures to diminish the seepage ratio into the part of embankments, being in the worst condition.





REASONS OF CHOICE

Coletanche was found as the most suitable solution among the others (removal and replacement of concrete slabs, driving of the watertight plates between concrete slab and the soil....) because of the most simple feasibility with the lowest cost.

The possibility of installation by the own maintaining team of the operator was appreciated.

As well as the possibility to connect the liner to the wet surface of present concrete slab.

Acceptable drying time of concrete support was limited by the allowed period of the water level depression.

Other liners were not accepted because of the refuse of their application exposed to the climatic conditions.

About COLETANCHE®:

COLETANCHE® bituminous geomembranes have been developed 40 years ago. This durable composite is an effective waterproof and gas-impermeable separation layer with significant properties: UV resistance, workability at temperatures -40 to 40°C (-40 to 104°F), mechanical / puncture resistance, harsh chemical resistance, dimensional stability and mechanical workability, easily installed, welded and repaired by local crews or maintenance people of any client.

COLETANCHE® offers value to all civil engineering projects: effective for solid and liquid waste storage, heap leach pads, tailings ponds, dams, reservoirs, containment basins, canals, & ditches. The COLETANCHE® geomembrane, an efficient alternative, takes the place of two or more layers in geo-profiles reducing material and labor costs.

