

Case Study - Maroondah Aqueduct Lining

- Project : Maroondah Aqueduct Lining (Blackhole Scour to Yering Gorge Pump Station)
- Asset owner: Melbourne Water
- Contractors: Sinclair Knight Merz (Consultant/Specifier)
PMP Environmental (Installer)
- Product: Coolpro Reinforced Polypropylene Engineered Membrane (3.81m wide)

The aim of this project was to complete a 4km (approx.) section of the cracked Maroondah Aqueduct Lining. The section was between the entrance of the covered section immediately upstream of Blackhole Scour, through to Yering Gorge Pump Station Off-Take. This aqueduct is a vital asset in the supply of water to Melbourne carrying water pumped from the Yarra River to the Sugarloaf Reservoir.

Melbourne Water have stated that "Despite the excellence of the workmanship, Melbourne Water's aqueducts tend to leak because they are so old. And with more than 200 kilometers of aqueducts in the water supply system, leakage is a serious concern."

Contractors were required to overcome many challenges whilst completing the project, including;

- The aqueduct consists of many curves, undulations and tunnel/covered sections. This meant that the membrane had to be deployed in small lengths, meaning more welding, along with the need to be flexible to handle undulations. The flexibility of the RPP product allowed it to conform to the natural contours of the hillside and tunnel beams providing a neat finish. This combined with the relative ease of welding enabled efficient installation in difficult conditions.

- Due to the width and depth of the aqueduct it was not possible for a single membrane layer to be used. TenCate Australia were able to provide 3.81m wide rolls allowing the job to be completed with only one single longitudinal weld in the centre of the aqueduct.

- After rainfall, groundwater seeped up under the liner causing bubbles. When water was reintroduced into the aqueduct the groundwater was forced to the end of the aqueduct forming a dam. Neither the material or the welds failed, proving that with proper installation Coolpro meets the rigorous demands of strength and waterproofing in channel lining applications.

With the aqueduct being part of the distribution chain for Melbourne's water, Coolpro was the ideal product for the project as it is also meets the rigorous demands of USA NSF certification for potability.



TenCate Australia Pty Ltd
83 Batten Street
North Albury NSW
AUSTRALIA 2640

Ph: +61 2 6025 8671
Free Call: 1800 822 248
Fax: +61 2 6025 0129
email: info@tencate.com.au

www.tencate.com.au

 **TENCATE**
materials that make a difference