



QENOS WORKING TO DELIVER SAFE DRINKING WATER TO THE HUNTER

Potable drinking water for the people of Newcastle, Lake Macquarie and the lower Hunter is sourced from the Chichester Dam and relies on an 80 km long pipeline, connecting the dam with the distribution network. The pipeline is operated by Hunter Water and passes under the Hunter River near the town of Osterly.

THE CHALLENGE

Over time, the existing dual steel pipeline has suffered damage and corroded, requiring immediate action to reduce the high risk of failure.

HOW DID QENOS HELP?

A safe and cost effective solution was chosen in the form of a dual 1200mm PN16 polyethylene pipeline installed by means of horizontal directional drilling.

The pipe was made using Qenos Alkadyne HDF145B PE100 High Density Polyethylene pipe resin and was manufactured at Iplex Pipelines' Albany plant.

RESULTS

✓ Resistance to Slump

The 109 mm thick wall of the pipe presents a challenge to most PE100 pipe materials, which tend to slump during manufacturing of large bore pipes. Alkadyne HDF145B is designed to resist slumping and produced a pipeline with excellent dimensional stability that was manufactured at high production speeds.

✓ Consistent Pipe Thickness for Quick and Secure Connections

The pipes arrived at the site in segments of 12 m and were welded together into two pipeline strings. The consistent wall thickness of the pipe and the latest technology welding machines ensured secure connections in less than 2h per weld.



80km long pipeline connecting the Chichester Dam with Hunter Waters' distribution network.



CUSTOMER CASE STUDY

July 2017

✓ Minimal impact to residents and environment

Two channels of nearly 300m long were established under the Hunter River using horizontal directional drilling. Each pipe string weighed over 100 tonnes and had to be transported to the borehole over a series of rollers and cranes. Once in place, the pipe strings were connected to the drill and dragged back through the borehole, commencing the underground journey to the other side of the river.

✓ Rapid Installation and Readiness

The 'pull-through' took less than 6h and when the PE100 pipe emerged from the drill hole, it was ready to connect to the Chichester Dam pipeline securing drinking water supply for the greater Newcastle region.

The pipe manufacture, delivery, welding and installation were delivered on time and on budget, including 195 tonnes of PE resin, 12 truck deliveries to site and 49 welds.

For Hunter Water, the Hunter River Crossing using polyethylene pipe represents a key component in a critical water mains rehabilitation project.



THE LOW SLUMP PROPERTY OF ALKADYNE HDF145B WAS ONE OF THE KEY FACTORS ENABLING THE SUCCESSFUL PRODUCTION OF THE DN1200 PN16 HDPE POLIPLIX® PIPE FOR THE HUNTER RIVER HDD CROSSING. IPLEX'S NEW IMPROVED TOOLING DESIGN HELPS STABILISE HEAVY WALL PRODUCTION WITH QENOS'S RESIN RESULTING IN HIGH QUALITY PIPE.

Peter Cameron, National Process Technician - PE
Iplex Pipelines

More info

The Hunter River Crossing Project:



Alkadyne HDF145B PE100 High Density Polyethylene pipe resin
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Onsite installation of the dual 1200mm PN16 polyethylene pipeline.

