

Brisbane Water

Pinkenba - Brisbane River - Queensland

“WIN-WIN” with Hawle System 2000™ Restraint Valves

Vinidex recently offered the innovative Hawle System 2000™ Restraint Valves to overcome a serious problem with the installation of traditional flanged valves in older areas of Brisbane.

Brisbane Water is undertaking a program of watermain replacement of aging pipelines and selected polyethylene (PE) pipes to replace an old DN 300 steel pipeline in the corrosive, acid-sulphate soils in the suburb of Pinkenba along the Brisbane River. The underground water can rise to just below surface level at high tide in this built-up industrial area.

The installation included 1km of 315od PN16 PE pipes and 14 x 315od Hawle System 2000™ Restraint Valves. 125od and 180od PE pipes and Hawle valves were also installed.

The Problem -

Due to the soft ground, the original valve installation designed by Brisbane City Council, required a thrust assembly to be bolted to each flanged valve. The proposed assembly comprised a 1m length of flanged ductile iron pipe anchored to the ground with a steel reinforced concrete block 1.5m deep, 2.0m long and 300mm thick.

The Solution-

Vinidex offered an option to the installation contractors, Brisbane City Works (BCW) to install Hawle System 2000™ Valves, which are bolted directly onto the pipe using external “gripper” rings, eliminating the requirement for thrusting. No thrust blocks, flanges or welding was required to install the valves, resulting in substantial savings in both materials and installation costs.

BCW must offer competitive outcomes for its owners BCC, so together they evaluated the alternative offer carefully, and approved the alternative. The Hawle System 2000™ restraint valves reduced the total project cost by omitting the requirement for butt welding as well as the number of fittings. The total valve requirement was for 14 x 315od, 7 x 180od and 7 x 125od valves.

The Construction Manager, Mano Manoharon of Brisbane City Works identified the benefits during the evaluation process. *“We considered the two options available to us and recognized that the use of the Hawle “gripper” valves was instrumental in reducing the number of fittings required which saved time and therefore costs”.*

The System 2000™ valves also offer considerable space savings by eliminating the PE stub flanges at each end which are required for the conventional flanged valves. This was beneficial where the valves were adjacent to tees. The elimination of flanged joints also reduces potential problems in the future.

The System 2000 -

The Hawle System 2000™ restraint system was developed in 1993 and is proven throughout Europe. The system is now used or approved by many major water authorities, including Sydney, Brisbane and the Gold Coast. The Vinidex-Hawle range has WSAA Product Appraisal. The current size range includes 63od

up to 315od in PN16 pressure rating. In the near future the range will be extended to include sizes up to 630od.

The company Hawle holds a significant place in history, with the invention of the resilient seated gate valve in 1958. Continual development and attention to quality, has ensured the Hawle valve is maintenance-free.

Design features allow for low force of installation, requiring a chamfer and lubricant to the pipe end. They can be easily dismantled and reused. A major benefit is the ability to be installed in wet areas where welding is difficult. The valves are resilient seated and made of ductile iron with a high quality protective coating.

Testing –

The Hawle™ restraint system has undergone rigorous pressure testing and tensile testing to ensure a safety factor of 4 to 6 times the requirement for the operating pressures.

In addition to the Hawle valves, a package of other products was supplied on this project including Plasson electrofusion couplings, the 180od Hydrant Saddles, and the innovative RI Plastics “Polymain” Tees for the 315od hydrants, scours and branch lines – fittings that offer a complete package for PE pipelines, at a lower installed cost.

Vinidex provided a reliable, easy, time and cost effective solution for Brisbane Water.

