

A new high quality water pipeline for Beijing's E Town

case study

The background

Beijing E City home to more than 2,000 high-tech companies

Beijing E Town or as it is more correctly known the Beijing Economic Development Area (BDA) was developed in 1992 at a cost of US\$8.5 billion. Currently the 46.8 km² site is home to over 2,000 companies from over 30 different countries, who produce a wide range of products from the latest electronic components to medical equipment to top of the range cars.

With so many high-tech industries continuous development of the site is inevitable. So when BOE Technology required a high quality water supply for their production of thin film transistors for their LCD television screens a new US\$2.2 million project was initiated to supply recycled water from Beijing Tongzhou Waste Water Treatment Plant to the BOE Technology plant. Since the recycled water is relatively acidic metal pipes could not be used and



General view of the installation site

therefore polyethylene pipes were specified and Zhuozhou Chinaust were asked to supply them to the project.

The challenge

Large diameter high pressure pipeline to be produced and installed in 2 months

To transport the recycled water to the plant a 6 km PE100 pipeline, 800mm in diameter and operating at 12.5 bar was specified. This required a pipe with

a wall thickness in excess of 58mm which could be difficult to produce. An additional complication was that the pipe was required to be produced and installed within only a 2 month time slot and since it was a very prestigious project it was important that everything went smoothly and this target was achieved.

The solution

Large diameter pipes produced from BorSafe™ HE3490-LS, welding training and support by Zhuozhou Chinaust

Large diameter thick walled pipe can be difficult to produce because during the extrusion process the hot material flows downwards under gravity as it leaves the die head creating a thicker walled pipe at the bottom compared to the top. The solution was

for Zhuozhou Chinaust to turn to Borouge and use their BorSafe™ HE3490-LS PE100 material, which is specially "engineered" to reduce this gravity flow and thereby reduce start up time and scrap and speed up the overall production process.

The second key success factor was to ensure that the fusion welding was carried out to the highest standard on site and as efficiently as possible in order to minimise the installation time. This was



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achieved by Zhuozhou Chinaust providing training for the installer in butt fusion welding and two people on site for ongoing technical support.

In this way the new production line for the manufacture of LCD display units was able to start up on schedule and the high quality PE100 pipeline will continue to provide the water for many years to come.



On-site butt fusion welding training

The benefits

Water is scarce in China particularly in its capital city and therefore the development of recycling projects such as this is important for the future sustainability of Beijing. Polyethylene(PE) provides the optimum solution because it is welded thereby reducing the chances of future failures and leakage.

In this project Zhuozhou Chinaust were able to satisfy all the customer requirements by choosing BorSafe™ HE3490-LS for production and actively supporting the installer by training and on-site technical support.

Summary table

Customer	Zhuozhou Chinaust
Application	Large diameter high pressure water mains
Grade Used	BorSafe™ HE3490-LS
Functional Requirements	<ul style="list-style-type: none"> • High resistance to acid corrosion • High quality transportation of water • Produced and installed in 2 months
Benefits	<ul style="list-style-type: none"> • PE is resistant to acid corrosion • Quick and easy pipe manufacture with BorSafe PE100 • Pipes are fusion welded to provide leak free joints • Zhuozhou Chinaust provided on-site training and technical support to ease installation • Ultimately providing the most durable solution

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