

# Australian first: Protecta-Line® PE pipe ideal for contaminated grounds Melbourne, Victoria

<b>Product</b>	Protecta-Line® PE DN180 PN16 (Manufactured by GPS, part of the Aliaxis group)
<b>Application</b>	Industrial and Infrastructure
<b>Installer</b>	Winslow Constructors (with subcontractor Sands Plumbing)
<b>Local Authority /Government</b>	South East Water
<b>Consulting Engineer</b>	SJE Consulting

## What is Protecta-Line® ?

Protecta-Line® PE pipe is specially manufactured to allow it to be laid in contaminated land such as previous industrial land for potable water applications.

The pipe is manufactured to AS/NZS 4130 internally and is wrapped with an aluminium foil skin. A PE outer layer is coextruded over the foil to protect it during transportation, handling and installation. The product can be laid like regular PE pipe and joined by butt welding, electrofusion fittings and mechanical fittings.

Generally plastic pipes such as PE and PVC cannot be laid in soils contaminated with substances hazardous to human health. In particular organic compounds eg, hydrocarbons, phenols, benzenes, etc. will permeable through the plastic pipe wall and affect the water quality.

***Protecta-Line® PE pipe provides a cost effective solution.***





There are many sites around the country with contaminated land for which our customers have been seeking a cost effective, easy installation solution for laying pipelines. Although there are other pipe systems options available in the market, these solutions can often be expensive and provide to be more difficult installation options.

The need for a more cost effective solution was identified as this will be an ongoing issue for developers in Australia as previously heavily contaminated industrial sites, are re-zoned into commercial or residential sites. Plastic pipes such as PE or PVC are not permitted in these conditions as hydrocarbons (such as petrol) and other organics which contaminate the ground will permeate through the pipe, and contaminate the water, leaving it with a taste and smell making it unsuitable for human consumption.

Joe Barresi, Technical Sales Engineer at Vinidex, learnt of an innovative PE based pipe system used in Europe specifically for use these conditions. One of the European manufactures of the product is an Aliaxis sister company GPS Pipeline Systems in the United Kingdom with its Protecta-Line® system.

The system itself is independently tested and it has a proven 20-year history. The pipe construction consists of an internal standard PE host pipe for carrying water, an impermeable aluminium barrier layer to stop the ingress of contaminants and an outer layer of polyethylene protection. These are bonded together with two adhesive tie-layers. This means Protecta-Line® is impervious to contaminants in the soil so no soil samples or excavation of contaminated soil to landfill are required. It also offers all the installation advantages of using a PE pipes over metallic pipes, delivering significantly lower installation costs.

After collaboratively presenting the product solution to Melbourne water authority South East Water (SEW) with Alain Rondeau Head of Business Development Export from GPS Pipeline Systems, the water authority was enthusiastic to trial the product for the first time in Australia. An interim approval was applied for and granted in May 2020.

Not long after this, Frank Ibrahim, Infrastructure and Civil direct Territory Manager was in discussion with Winslow Group. They were seeking options for a 400m long DN180 potable water pipeline in a tender they were pursuing on a re-zoned industrial Port Melbourne site which was being converted into a commercial business area as part of the Fishermans Bend rezoning strategy. The industrial site, when established in the early 20th century, received large amounts of uncontrolled fill. Together with its function as a heavy industry site and association with the Government Aircraft Factory, it has left the ground contaminated and not suitable for regular plastic pipes for potable water transportation.

Frank and Joe presented the Protecta-Line® solution to the Winslow group who were excited by the benefits it provided over traditional methods. Winslow in turn offered the solution to SEW who were eager to use this project as a trial for Protecta-Line® and approval for use was granted.

Installation of 400m of DN180 Protecta-Line® pipe was completed in November 2020. "Installation was like regular PE pipe, it was easy to use and easily adaptable where existing services or obstructions can affect the proposed alignment." - Winslow Group. It was also ideal for sleeved applications. The only extra attention required was the wrapping of joints and slightly more care required during handling and installation.

**Vinidex offers a PE pipe solution for heavily contaminated grounds. It's an innovative, easy to lay, cost effective, light weight and safe water transportation solution over other methods.**

