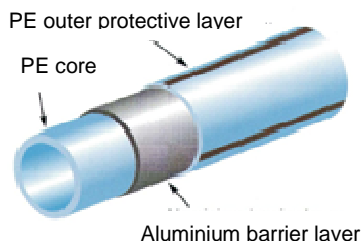


# Why Barrier Pipe?

*We want to help you understand why we might specify the installation of barrier pipe for your new or replacement water supply, and explain why it provides a higher level of protection over standard medium density polyethylene (MDPE) pipe.*

## What is barrier pipe?

Barrier pipe is a reinforced pipe used to protect water supplies against certain types of contaminants in the soil that can degrade standard MDPE pipe and put your water supply at risk. There are different types of barrier pipes available, including ductile iron, plastic-coated copper and multi-layer plastic pipes with a metal layer.



The most common barrier pipe used for water supply pipes has a polyethylene core surrounded by a protective metal barrier and covered with another layer of polyethylene to act as a protective barrier. This type of barrier pipe is identified by the black/brown stripes along the length of the outer layer of plastic. The image adjacent shows a cross-section.

## Why does barrier pipe offer more protection than MDPE?

The metal creates a barrier to permeation of hydrocarbons, such as petrol, and protects the water within the core from contamination.

Barrier pipe not only provides added security against land that is already contaminated but also protects against any future issues. Although innocuous at the time, a simple drip of oil or leak of petrol from a car sitting on a driveway can, over time, begin to permeate through the ground. When a contaminating substance comes into

contact with a plastic pipe it seeps through and gets into the water supply.

## Why is barrier pipe more expensive?

The methods of construction of barrier pipe cause it to be more expensive than standard MDPE pipe.

There are suppliers who sell barrier pipe in short lengths (from 1 metre); you can search online. A suggested search term in your preferred internet search engine would be "barrier pipe water blue".

## When will you specify that barrier pipe must be used?

The previous use of the site will determine whether the land is at risk of contamination and a barrier pipe needs to be used. We ask you to provide information about the current and previous use of your site to help us understand the risk. The more detail you can provide, the clearer the assessment we can make, and we would welcome additional sketches or photographs of the site to support your application.

If the land has been used for any of the following activities, there is a high possibility that contaminants are present in the ground which could damage or permeate plastic water pipes:

- Chemical works
- Vehicle repair/manufacture/storage
- Petrol stations and/or on site fuel storage
- Gas works
- Hazardous waste treatment
- Tanneries
- Landfill sites
- Paper manufacture
- Print works
- Railway yards
- Scrap yards
- Tinner products

In the absence of a ground condition assessment (soil report) for a new or replacement supply, where the site is currently used as or has previously had activity in one of the above categories, we are very likely to ask you to lay your supply pipe in an approved barrier pipe material.

Each application will be assessed on its merits. Where no ground condition assessment is provided to support the application, we will make a decision on the service pipe material based on the information on your application and other sources of data available to us. If we determine that the risk is sufficiently high, we will specify that a suitable barrier pipe must be used.



We will advise you of our decision. You then have the choice to accept the decision or to provide us with a ground condition assessment to give us more information. A further review can be made and may amend our decision. This will clearly incur a delay to your application so you are encouraged to provide a soil report with your application if you have any concerns about your site.

It is important to note that the selection of the communication pipe material resides entirely with Affinity Water Central. You are strongly advised not to lay any pipe work until you have sent your completed application form to Developer Services, and spoken to a member of the team to ensure that you your supply pipe material and diameter.

If we have specified barrier pipe and you install MDPE within your property boundary, we can refuse to connect your supply.

### **How can I find out for sure if the land is contaminated?**

To determine whether you have contaminated soil and will need to use barrier pipe, you will need to have a ground condition assessment (soil report) carried out. We adhere to the WRAS Guidance Note 9-04-03 Issue 1, The Selection of Materials for Water Supply Pipes to be Laid in Contaminated Land, which you can find a copy of online.

If the levels of certain contaminants are below the limits specified, then we may allow you to install MDPE. However, if these limits are exceeded, then a barrier pipe will need to be installed. It is important to understand that a ground condition assessment (soil report) is used in conjunction with other methods to determine the risk of contamination to your supply.

All soil reports must be assessed by Affinity Water before any pipe is laid.

**We've tried to answer the most commonly asked questions here, but if you have any other questions please don't hesitate to contact us.**

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**Further information can be found on our website at:**

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