

## Rail

The Liniar plastic piling range offers a wide range of applications for the UK rail network infrastructure, including bank retention, floodwater areas, track side refuges and trench shoring amongst others.

With benefits including cost savings, durability and ease of handling on site, Liniar plastic piling:

- Is maintenance free
- Does not rot or rust
- Is lighter than steel – therefore easier to handle and transport
- Has a Class 1 fire rating along with no risk of sparking
- Is made from 100% recycled plastic
- Is available with wood composite fascia
- Can easily be cut or bored on site
- Is chemical and salt water resistant.

Through its involvement with the Rail Alliance and its membership of the RISQS (formerly Achilles Link-Up scheme), in addition to exhibiting at Infrarail and Rail Live, the Liniar range from HL Plastics is gaining credibility in rail networks throughout the UK.

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## Flood Defence

The UK has seen unprecedented levels of flooding over recent years, highlighting the need for cost-effective and robust solutions to be put in place to avoid future reoccurrences. The management of flood plains and wetlands.

Liniar plastic piling is used extensively by associations such as the National Trust and the Environment Agency as it's lightweight enough to be carried to site in hard-to-reach areas such as moorlands and peat bogs.

With key objectives of sustaining wetlands and protecting the rich wildlife that habit them, plastic piling is being used to elevate water levels, reduce peat erosion – and ultimately, to help prevent water draining down to lower ground and flooding the farmland and properties that lie there.

Made from recycled PVCu, plastic piling can also be installed by hand if ground conditions allow - eliminating the need for heavy machinery that could destroy wildlife and fauna in protected areas.

Surprisingly, Liniar plastic piling has also been installed at depths of up to 5.5m below ground, using pile driving machinery, for a flood prevention project in Thailand. The next stage of the project aims to install the piling to 7m deep, so watch this space for further updates.

The Liniar piling range from HL Plastics is 100% lead-free and made in Britain, in addition to being:

- Surprisingly strong
- Lightweight to transport to site
- No mechanical handling required
- Made from 100% recycled, lead-free plastic
- Maintenance free - does not rot or rust
- Resistant to most chemicals
- Covers a wide range of applications
- Available in a range of styles
- A cost effective alternative

Free CPD training is available to engineers, architects and construction professionals all over the UK – just contact us on 01332 883900 to arrange a visit.

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## Waterways

The UK's waterways are subject to erosion and plastic piling can help by creating a watertight barrier and an attractive, clean edge to ponds, lakes, fisheries, river and canal banks.

## Environment

Farmers, forestry commissions and environmental protection bodies such as the National Trust and the Environment Agency use Liniar plastic piling extensively, for a number of reasons:

- The PVCu used to make Liniar piling is made from 100% lead-free recycled plastic, thus promoting sustainability;
- Plastic piling won't rot or rust, nor leach chemicals into water;
- It won't require any maintenance once it has been installed;
- The lightweight nature of the piling means it can easily be carried to site without harming areas of natural beauty with vehicle access;
- No mechanical handling is required to install piling in soft ground conditions – see the video below.

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## Landscaping

There are many uses for Liniar's plastic piling range in landscaping and gardening projects, with different products and applications available depending on the requirement.

Using a tie-back system, piling can be used for soil retention or to create tiers in gardens and larger areas – and because it won't rot or degrade, as well as being watertight, no maintenance is required once it has been installed.

The new log pile from Liniar offers even greater flexibility for landscapers. Each section consists of three 'logs' extruded together with an interlocking joint on each end, and is available in lengths of up to 6m long. For additional strength, the 'logs' can be filled with concrete and topped off with soil, with plants added to provide an attractive finish.

Liniar exhibited log pile at the RHS Chelsea Flower Show in 2014. Made from the same recycled lead-free PVCu as the rest of the Liniar range, log pile has a wood composite fascia to give the piling a natural look – offering a hard engineering solution with a soft engineering appearance.

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## Construction

Liniar piling is used in a wide range of applications within the construction industry – from retention and landscaping to the regeneration of waterways, highways and utilities.

Similar in appearance to some steel piles, the Liniar PVCu full pan pile provides a watertight and maintenance free alternative. Surprisingly strong, the plastic piling can be tied back and has been tested in accordance with ISO 9002.

A major third party independent testing programme was conducted by the Transport Research Laboratory (TRL). Although this was aimed largely at highway applications this report tested the mechanical properties and durability of plastic piling from around the world and subsequently went on to recommend potential uses for plastic piling, primarily in the highways area.

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## Utilities

When trench work is needed to access utility pipelines, shoring is usually required in order to stabilise the walls and make it safe for the work force. Traditionally, shoring was made from steel, and due to its weight and cost, had to be installed and removed with every job.

Liniar's PVCu piling has enabled utility contractors to install piling along the sides of the trench and leave it in place. It is unlikely to be a target for thieves whilst the work is underway, and the low cost means it can be left in place once the work is completed. It is also lightweight enough to be carried easily to site and installed manually.