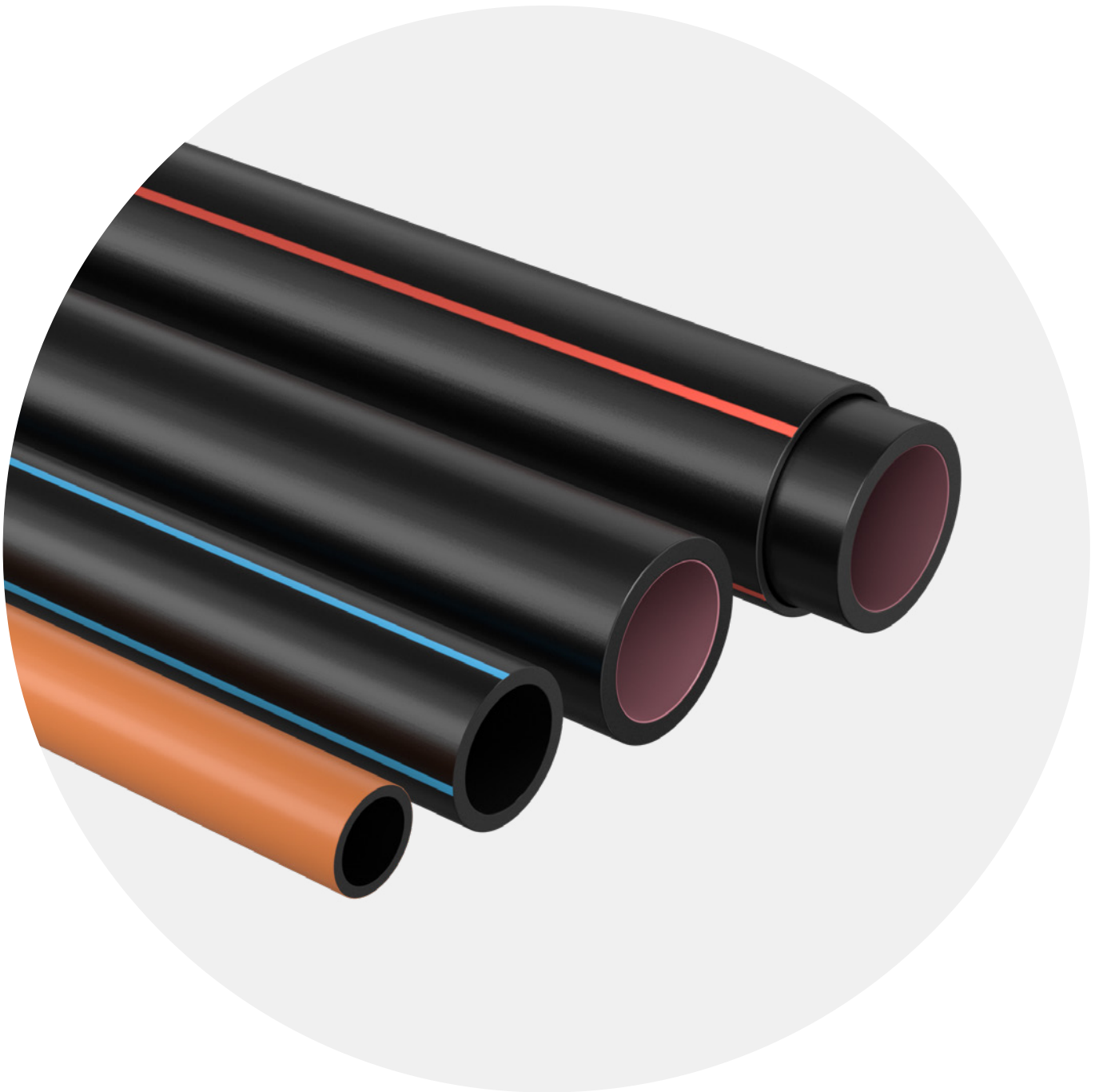


# Specialist pipework for fuel

*PLX*



PLX range overview





# PLX is a complete range of specialist fusion-welded pipework systems for the safe transfer of liquid fuels and their vapours.

**PLX is suitable for use with leaded, unleaded petroleum, including ethanol rich alternative fuels (E85), diesel, bio-diesel and fuel oils.**

PLX is commonly used in forecourt applications, as well as critical/back up power applications providing fuel to generators in hospitals, data centres, prisons and banks.

The PLX range was originally developed over 25 years ago and through continuous product innovation, our range of fuel management systems provide total peace of mind by delivering proven protection against permeation and leaks when transferring fuel.

PLX also conforms to a range of other global fuel standards including:

- EN 14125
- UL 971 v1
- AS/NZS 61386.1.2015

## Key product information

- 10 bar pressure rating (primary)  
4 bar pressure rating (secondary)
- Temperature rating: -20°C up to 50°C
- 30 year design life
- Size range: 32mm up to 315mm
- Electrofusion jointing
- Single wall and secondary contained options
- Permeation resistant
- UV protected
- Corrosion resistant
- Specialist range of installation tooling
- Leak detection access
- No hot work permits required

## 01 Forecourts

Over the last 25 years PLX products have been installed in more than 20,000 forecourts worldwide for some of the biggest international oil companies and retailers. Our extensive portfolio of products means that we can fulfil all of the fuel transfer pipework requirements for an entire forecourt from offset fill points, to fuel tanks and cable management.



## 02 Power Supply

Maintaining power supply in the event of a mains failure is vital in many environments including hospitals, energy farms, prisons and a range of other applications. Our PLX pipework safely and effectively feeds fuel-powered emergency generators used for back-up power in many critical power supply applications.



## 03 Transport

Bulk re-fuelling applications for marinas, airports, rail and bus depots require a reliable pipework system to feed the fuel dispensers. Our large diameter PLX pipe and fittings ensure fuel can be safely, efficiently and quickly conveyed to a wide range of vehicles.



## 04 Data centres

With the successful operation of so many businesses relying on data centres, maintaining power supply is crucial. Uninterrupted Power Supply Systems (UPS) are an integral part of data centre infrastructure and our PLX pipework system offers the reassurance that fuel will always be efficiently transferred to power the battery generators should the UPS be called into action.





# Contents

## The PLX range 6

Single wall pipe system	6
Close-fit pipe system	8
One-Weld : Secondary contained fittings	10
EF termination fittings	12
Pipe-in-pipe system	14
Adblue pipe system	16
Electrical conduit pipe system	18
Tools and accessories	20

## Application schematics 22

Pipework for forecourts	22
Transport refuelling applications	24
PLX for critical power supply applications	26

## Case studies 28

Protecting cables in service stations	28
Saving time with One-Weld fittings	29
Refueling a marina	30
Delivering Adblue in a depot	31

# PLX single wall pipe system

Our high performance multi-layered polyethylene composite pipe system has been used for over 25 years in fuelling applications.

Single wall PLX pipework is often utilised for vent and vapour recovery lines within forecourt applications.

PLX single-wall pipework is available in sizes from 32-160mm (up to 315mm available upon request) and is commonly used for below ground applications both within forecourts and other bulk fuelling environments. The single-wall products are available in straight 6 metre lengths or 50m and 100m coils.

The pipe system is co-extruded with a protective internal barrier layer using the latest extrusion technology, resulting in consistent and technically superior performance.

## Key product information

- Forecourt and bulk fuelling installations
- Below ground applications
- Vapour and recovery lines
- Size Range: 32mm to 315mm
- SDR 11 & SDR 17 options
- PN10 pressure rating (PN6 at 315mm)
- Available in straights and coils
- EN 14125 approved
- Electrofusion welded system
- UV resistant
- Transition fittings available





# PLX close-fit pipe system

PLX secondary contained pipework provides security against accidental fuel leaks or losses, whilst enabling continuous interstitial space monitoring for leak detection requirements.

PLX Close-Fit pipe work is available in sizes from 32#40mm to 110#125mm and is used for above and below ground applications within forecourts and other bulk fuelling situations.

The pipe system is co-extruded with a protective internal barrier layer using the latest extrusion technology, resulting in consistent and technically superior performance.

PLX close fit pipework is available in 6 metre straight lengths or 50 and 100 metre coils.



## Key product information

- Forecourt and bulk fuelling installations
- Above and below ground applications
- Suitable for pressure and suction applications
- Size Range: 32#40mm up to 110#125mm
- Secondary contained system with self centering ribs
- Ability to monitor interstitial space for leak detection security
- UV resistant
- 'One-Weld' fitting technology
- Red identification stripes on secondary pipe
- EN 14125 approved
- Electrofusion welded system
- Transition fittings available



# PLX One-Weld

## Secondary contained EF fittings

Our next generation of electrofusion PLX fittings are designed to significantly improve installation time on site.

PLX One-Weld reduces the amount of pipe preparation time required and allows both the primary and secondary joints to be welded simultaneously in one weld cycle.

### Key product information

- 4 welds within one electrofusion cycle
- Saving significant installation time (average 15 minutes per fitting)
- Designed for use with PLX secondary contained close fit pipe
- Interstitial monitoring as standard
- Manual and barcode welding options
- Industry first One-Weld elbow

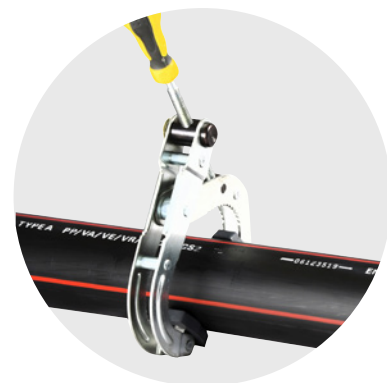
### Interstitial monitoring

PLX One-Weld fittings are designed to allow effective monitoring of the interstitial space between the primary and secondary joints for optimum leak detection.



### Integrated pipe measurement tool

The PLX One-Weld coupler features an integrated measurement tool that provides easy and accurate socket depth measurement for primary and secondary joints.



### PLX Hand-held pipe clamp

Designed to easily secure both primary and secondary PLX pipes in position during electrofusion jointing to prevent movement.

Scan to view video





# PLX

## EF termination fittings

PLX Termination fittings have been specifically designed for use as an end of line connection as part our leading fuel pipework system, PLX.

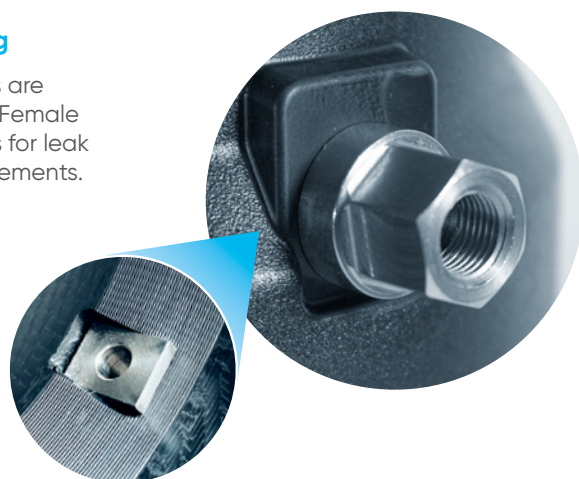
The fittings enable PLX secondary contained close fit pipe to be terminated to a single wall connection all within one fitting, while maintaining secondary containment throughout the pipeline. Therefore, reducing the number of preparation steps, fittings and welding sequences required over traditional termination assemblies.

### Key product information

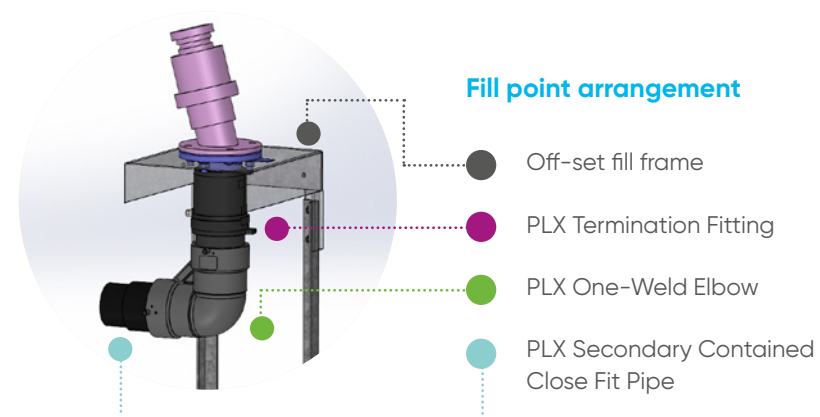
- Reduces the amount of time and parts required during installation
- Designed for use with PLX secondary contained close fit pipe
- Compact design vs traditional methods
- Interstitial monitoring options
- Manual and barcode welding options
- Adheres to Blue Book recommendations

### Interstitial monitoring

PLX Termination Fittings are available with 1/8" BSP Female stainless steel test ports for leak detection system requirements.



### Fill point arrangement



Scan to view video



# PLX pipe-in-pipe system

The PLX 'Pipe-in-Pipe' system offers a secondary contained option that can be used above or below ground. Pipe-in-Pipe provides resistance to all hydrocarbon based fuels, ensuring there is no permeation of fuel through to the environment.

PLX Pipe-in-Pipe is available in sizes from 160#225mm to 315#400mm and has a pressure rating of 10bar whilst operating up to 20°C. The system is often used in transport refuelling applications such as rail yards and marinas or where large volumes of fuel, or fuel contaminated water needs to be transported.

The pipe made from a robust Polyethylene material provides exceptional resistance to rapid crack propagation and long term stress cracking.

## Key product information

- Forecourt and industrial installations
- Above and below ground applications
- Size Range: 160#225mm to 315#400mm
- 10 bar rated (primary) 4 bar (secondary)
- Secondary contained system with interval supports between pipes
- Ability to monitor interstitial space for leak detection security
- UV resistant
- Transition fittings available





# PLX Blue pipe system

PLX Blue is specifically designed for use within AdBlue (r)/DEF applications. Available in single wall and secondary contained options, with the ability for leak detection monitoring, PLX Blue delivers total peace of mind for installers and clients alike.

High-performance pipework system is required to convey the solution from tank to pump.

PLX Blue is available in sizes from 32mm up to 63#75mm as standard (larger sizes available on request) and has a pressure rating of 10bar, operating up to 20°C.

The system is often used in forecourts and other transport

refuelling applications such as, distribution centres, lorry parks, rail yards and marinas.

The pipe made from a robust Polyethylene material, which provides exceptional resistance to rapid crack propagation and long term stress cracking.



## Typical applications

- Forecourts, truck parks, distribution centres, ports and marinas, rail

## Features and benefits

- Single wall 32mm up to 63mm (straights)
- Secondary contained 32#40mm up to 63#75mm (straights)
- 10 bar rated (primary) 4 bar rated (secondary)
- Polyethylene black outer skin with sky blue stripes
- System specially tested for Adblue® applications
- Electrofusion welded system
- 'One-Weld' transition technology
- Duplex stainless steel transition fittings



# PLX electrical conduit pipe system

## with chamber entry fittings for protecting conveyed cables

A unique external barrier conduit, with an integrated aluminium barrier layer, offering true external permeation protection to conveyed cables from fuel spillages and chemicals present in contaminated land.

Our PLX Electrical Conduit is suited for non-pressure applications in petrochemical and industrial environments.

### The ultimate cable protection solution

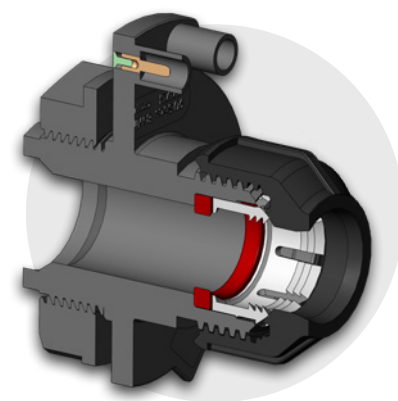
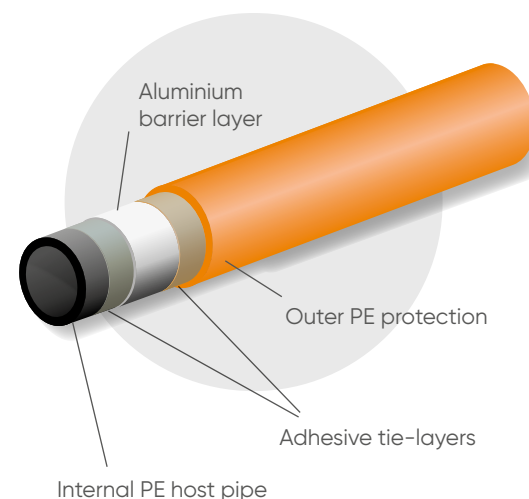
- Protects conveyed cables from potential fuel spillages or leaks, along with chemicals that may be present in contaminated land
- Suitable for corrosive conditions
- A lightweight, flexible pipe that is easy to install

### Fittings

- PLX Electrical Conduit can be jointed by means of Philmac compression fittings or PLX electrofusion fittings\*
- Our conduit range also features a 32mm electrofusion chamber entry fitting for forecourt applications (additional sizes are available on request).

### The double bonded five layer construction comprises:

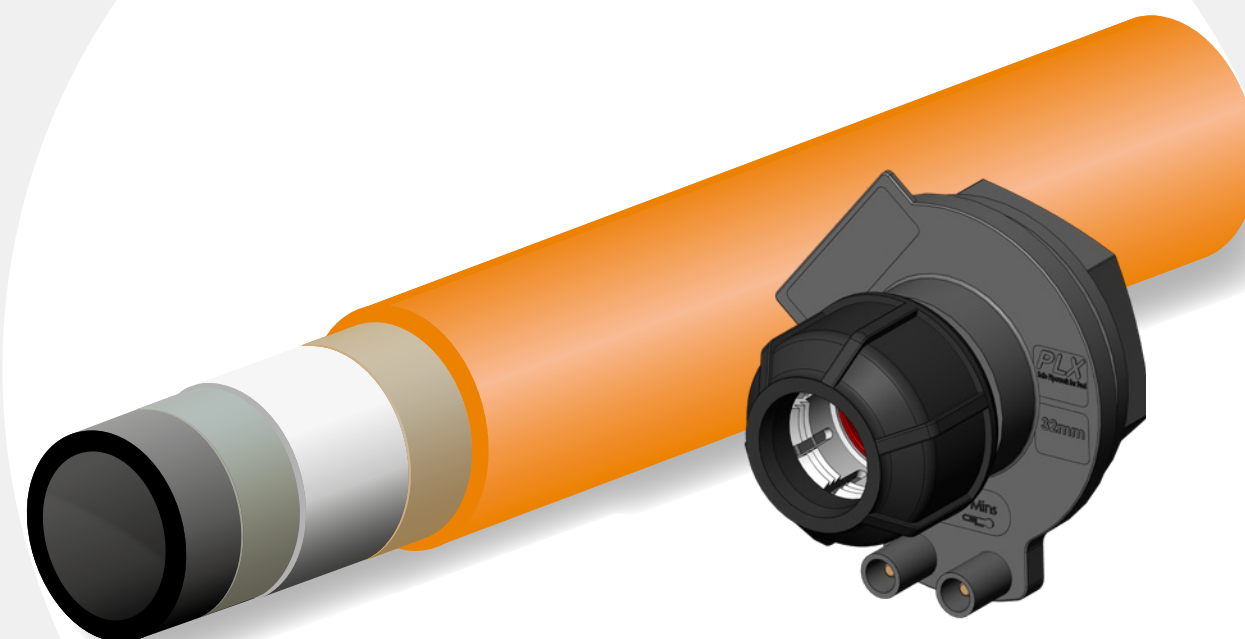
- An internal black PE host pipe (PE80) made from 100% recycled material sourced from our own production
- An impermeable aluminium barrier layer to stop the ingress of contaminants
- An outer PE protection layer (PE100) and two adhesive tie layers



### 32mm chamber entry fitting

- Electrofusion welded to the chamber.
- No rubber seals or gaskets required
- Securing nut holds fitting in place prior to welding
- Compression joint gives fast, secure connection to conduit pipe.

\*If utilising PLX electrofusion technology, PLX Electrical Conduit peeling tool will be required to remove the external aluminium layer prior to fusion.



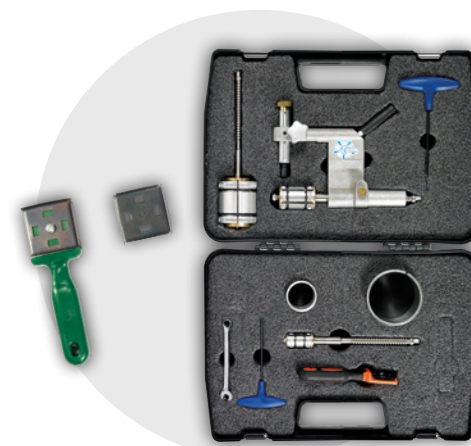


# PLX tools and accessories

The range of PLX preparation tools and accessories has been specifically designed to deliver a smooth and easy installation process.



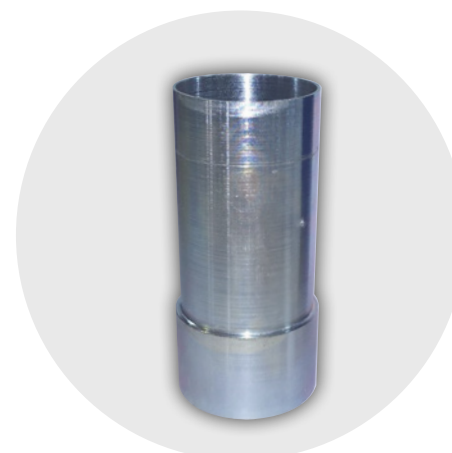
Pipe preparation tools



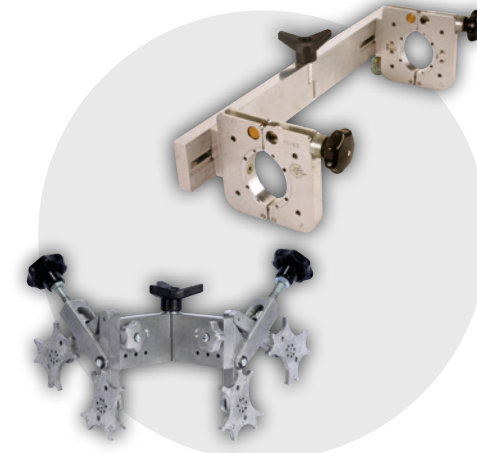
Welding machines



Protection sleeves



Pipe clamps



Pipe cutters



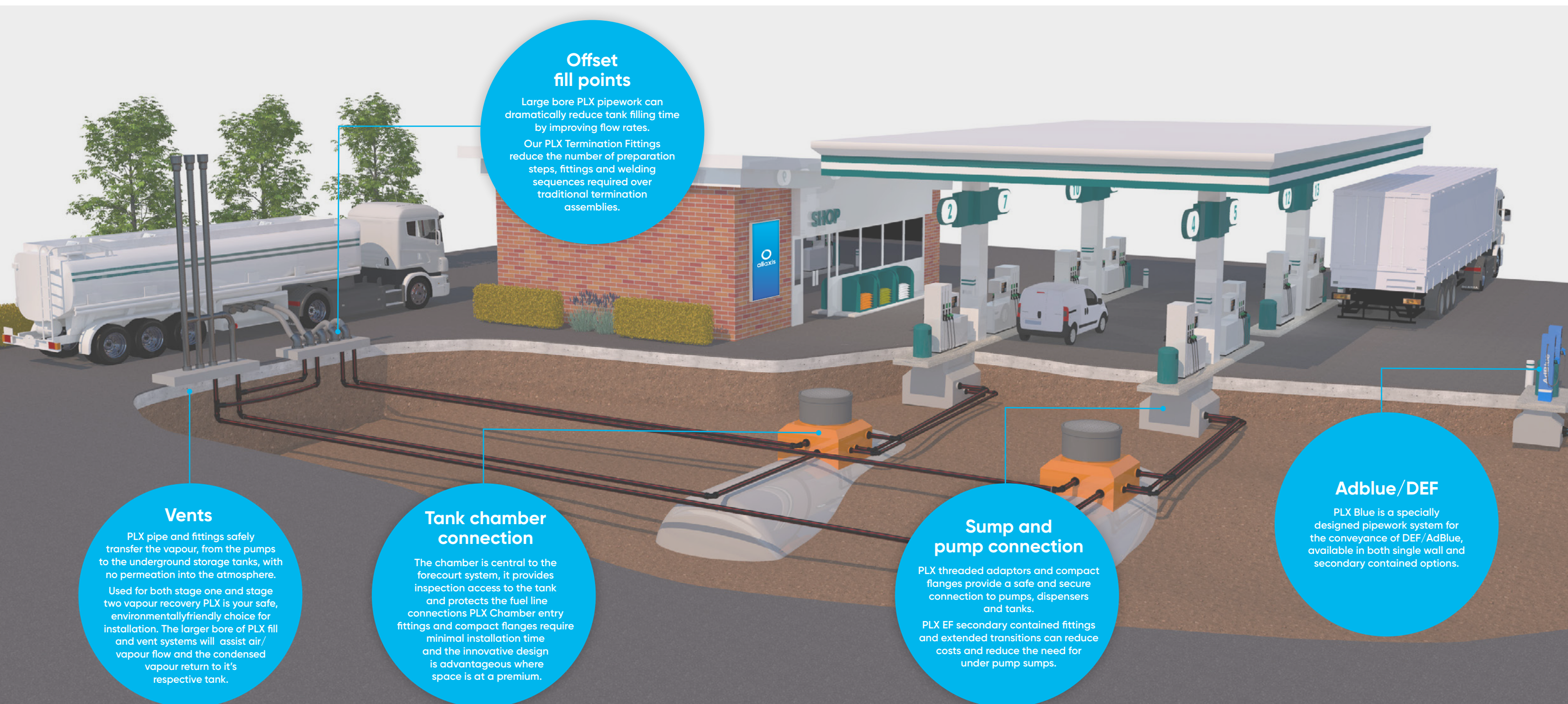
Chamber and sump entry fittings





# PLX for forecourts

Our expertise in delivering polymer fuel systems in forecourt applications for over 25 years means we are able to develop and specify solutions that provide high-performance protection against corrosion and permeation while being simple and easy to install.





# Transport refuelling applications

The bulk fuelling requirements of transportation hubs can be diverse where reliability is of paramount importance. PLX plastic pipework, often in large diameter sizes has been used to supply fuel to marinas, airports, rail haulage yards and haulage distribution depots.



## Aviation

PLX is both internally and externally corrosion resistant, as well as being compatible with civil and military grade aviation fuels.

PLX ensures a clean supply to all types of aviation refuelling activity.

## Airport

## Distribution centre

## Tunnel



## Tunnels

PLX can be used for surface water drainage pipework installations which are under most road tunnels.

Through kerb drainage systems, PLX can be connected safely and transfer these mixed chemical fluids through to a separator and other storage facilities.



## Haulage or Distribution Centres

The added protection of the dual containment pipework provides a leak tight system suitable for high-speed suction or pumped applications.

## Railway depot



## Rail

Compact, robust and maintenance free, PLX is insulated against accidental damage and freezing conditions. Easily installed into preformed shallow ducts, PLX systems are suitable for fuel and lubrication oil dispensing applications whilst ensuring no permeation.

## Marina



## Ports and Marinas

PLX secondary contained pipework provides a secure environment for bulk transfer of marine fuels to storage tanks, during vessel refuelling, bunkering and water pumping operations.



# PLX for critical power supply applications

Sudden or prolonged loss of electrical power can be catastrophic for many business services so for extra security, oil powered emergency or uninterrupted power supplies (UPS) are, therefore installed for back-up power. PLX pipework is often installed to convey fuel oil to boilers, which in turn powers back-up generators.



## Emergency power supply

PLX pipework is used to safely transport fuel from storage tanks to generators for emergency power supply applications.

The pipework system ensures a continuous flow of fuel to the backup generator which is imperative to a building such as a hospital or prison.

Hospital

Prison

Level crossing

Data centre



## Uninterrupted power supply

PLX is the ideal pipework system for uninterrupted power supply applications.

In buildings such as data centres where any loss of power, and subsequent loss of information could be financially catastrophic, an uninterrupted power supply (UPS) is imperative.

PLX above & below ground pipework is perfect for supplying fuel to UPS systems.



## Off grid power

PLX Pipework can be used for power generation in off grid applications, supplying fuel to generators including energy farms, remote housing among other off grid services.

Off grid power



## Case study: Protecting cables in Australia's service stations

### The Challenge

A service station in Rosebud, Victoria required a reliable solution to carry electrical cables around the forecourt and turned to Shipman King, leading equipment suppliers to the service station industry.

### The Solution

Shipman King specified PLX Electrical Conduit due to it being a true external barrier pipe, offering a unique solution for protecting conveyed cables from potential fuel spillages and leaks within forecourt applications.

Unlike existing options, which comprise an internal barrier, PLX conduit is specifically designed to prevent any fuel from entering the pipework from the external environment.

HAZPRO Electrical were particularly impressed with the rigid nature of the product, which helps aid installation when utilising pipe coils, ensuring

that pipe runs have minimal movement once unrolled on site, when compared with alternative conduit options available.

**Commenting on the project, Peter Saxon, Operations Manager at Shipman King, said:**

"The PLX conduit was the ideal product for this project, it was the first time we have supplied it and we have had fantastic feedback from the installers, who have praised the rigidity of this pipe as it doesn't roll back once unrolled.

Coils could be unrolled, easily lay in straight lines and they all stayed in position, which is a major advantage and speeds up the installation process –

**Product:**  
PLX Electrical Conduit

**Solution:**  
External Barrier Protection

**Project:**  
Rosebud, Victoria service station

**Installer:**  
Shipman King/HAZPRO Electrical

making it easier for the installer."

"We have other customers now asking for this product and we are expecting to switch supply of all of our cable conduit to the PLX product."



For more case studies scan below:



## Case study: Fuelling the future with PLX

### The Challenge

As forecourts continue to grow and evolve, installers and contractors are increasingly looking for products and solutions that enable them to deliver projects both quickly and efficiently.

### The Solution

Westfield Services is one of the first UK companies to experience the timesaving benefits of Aliaxis' new PLX One-Weld Fittings range, having used the innovative product as part of a new service station project on the A44 in Pinvin, Worcestershire. The One-Weld Fittings form part of Aliaxis' wider PLX fuel system range.

Aliaxis' new PLX One-Weld Fittings offer a significant time and space advantage for installers. As its name suggests, the modern time-saving solution offers the ability to fuse four welding surfaces in only one weld cycle. The benefits of this were recently demonstrated during the build of a new service station in Pinvin, Worcestershire,



marking the first use of the new One-Weld Fittings in the UK fuel industry.

The procurement and installation of the below ground pipework element of the process was contracted to Westfield Services. In turn, the installation team utilised the support of Aliaxis' UK PLX distributor, Berry's Technologies, to help with product specification and technical advice. With 110/125mm Secondary-Contained Close-Fit Pipe used on the offset fill lines, Berry's Technologies recommended PLX One-Weld Fittings to be used in conjunction.

Part of the PLX fuel system range, the industry first 90-degree elbow and innovative coupler can generate significant time savings for installers – as much as 15 minutes per fitting on site.



**Product:**  
PLX One-Weld Fittings

**Solution:**  
Transfer of fuel from underground fuel tanks through to the dispenser lines

**Project:**  
Pinvin, Worcestershire

**Installer:**  
Westfield Services

This is because primary and secondary joints can be welded simultaneously, which reduces total fusion time, as well the number of preparation steps required, making the installation process much quicker and more efficient. The elbows in particular also take up less space than the existing alternatives, helping to reduce excavation size.

In addition to time and space savings, the PLX One-Weld Fittings also include a number of innovative product benefits. The coupler features an integrated pipe measurement guide, which indicates the correct socket depth that is required for both primary and secondary PLX Close-Fit pipes, allowing for quicker and easier installation.



# Case study: PLX refuels Lowestoft Haven Marina

## The Challenge

Lowestoft Haven Marina is a marina situated on the coast of East Anglia. In operation all year round, it is essential that the berthed boats have a reliable pipework system to feed the fuel dispensing units on the pontoon. Allerton Marine Services needed to source a new pipework system that was safe and longer lasting, as well as ensuring that no harmful emissions can escape into the environment.

## The Solution

After careful research, the contractor decided to opt for a plastic pipework solution. Fuel permeation resistant, durable, lightweight and flexible, plastic pipework systems require significantly less energy to manufacture, transport and install than traditional pipework materials.

**Richard Allerton, Director at Allerton Marine Services, said:**

"As Aliaxis are specialists in plastic pipework systems, we approached the company to see if they could offer us a solution for fuel transfer. With a 30-year design life, we were recommended the Close-Fit system from the PLX range, which provides a secure environment for the conveyance of marine fuels.

It is corrosion and permeation resistant, as well as maintenance free, and as the pipe is secondary contained, it provides security against accidental fuel leaks and losses. As this ticked all of the boxes, we knew that it was the ideal solution for the marina.

"Prior to installation, we were invited to the factory to complete installation training, where our installers spent the day with the Aliaxis team and were shown how to correctly install the pipework system and fittings using the appropriate tools."

The PLX Close-Fit Pipe System in size 50#63mm was installed at Lowestoft Haven Marina, which runs from the 10,000ltr tank on the marina down to the fuel dispensing unit on the floating pontoon. The pipe was run

through 14m of 3" NB galvanised pipe across the boat lifting dock for extra protection and then dropped down onto the floating pontoon and placed into the service duct for a 50m run. The pipe then terminates at the containment tray underneath the fuel dispenser. Thanks to the installation of secondary containment fittings, this allows interstitial monitoring and leak detection of the complete system.

Richard continued: "There are lots of key features and benefits of the PLX system. We are really pleased with the secondary containment pipework and the fact it enables us to monitor the system and detect a leak is extremely beneficial. The transition from steel to plastic was certainly the right choice and I am sure this will also be proven in the years to come. The Aliaxis team were a great support throughout the project and we can't fault their services."

*continued top of page 31*

**Product:**  
PLX

**Solution:**  
Safe fuel conveyance

**Project:**  
Lowestoft Haven Marina

**Installer:**  
Allerton Marine Services



The smooth bore of the PLX plastic pipe ensures less friction build-up and guarantees a consistent flow rate is maintained throughout the life of the system. With optimum flow levels maintained, minimal maintenance and repair work is required to ensure the system operates efficiently.



# Case study: National Express use PLX Blue at Walsall Depot

## The Challenge

The National Express West Midlands Bus Depot in Walsall required a new AdBlue tank to transfer the necessary levels of the additive to its diesel-fuelled vehicles and needed a reliable pipework solution that could safely transport the AdBlue.

## The Solution

PLX Blue, a purpose-designed system to safely transfer AdBlue, was installed as the most effective solution, which offered the reassurance it will safely carry the substance without fear of the additive leaking into the environment. The new 15,000 litre AdBlue tank is located just outside the depot building, with PLX Blue

installed to transfer the AdBlue from the main storage tank into two AdBlue dispensers within the fuel lanes inside the depot.

**Commenting on the project, Andrew West, Managing Director at Fuel Storage Systems said:** "We have used PLX previously but we wanted a dedicated system for transferring AdBlue for this project to be confident that it could be safely

**Product:**  
PLX Blue

**Solution:**  
Safe conveyance of AdBlue

**Project:**  
National Express Walsall Bus Depot

**Installer:**  
Fuel Storage Systems

conveyed without any impact on the surrounding environment and PLX Blue was the ideal solution."



For more case studies scan below:





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