



Commercial Piping Systems



Uniquely British, Uniquely Terrain

Polypipe are the largest British owned, British based plastic piping systems manufacturer. Our unique product portfolio equips Polypipe Terrain to provide the UK Building Services Industry with a comprehensive range of above ground drainage and mechanical solutions.

Polypipe's continued investment in British manufacturing enables us to build on our proud heritage and create such unique new product ranges as **TERRAIN FUZE** and **TERRAIN FIRETRAP**. Like all Polypipe Terrain products they are designed and manufactured to meet the specific requirements of the UK market and reflect a tradition of innovation that can only come from a true industry leader.

Investment in People

At Polypipe, it's not just investment in product and engineering that sets us apart. We appreciate how important our people are to the success of our business. We invest to ensure that our employees grow in knowledge and capability, assisting us to grow too. We are proud of their record in achieving long service but beyond all else, the health and safety of our employees comes first.

Sustainable Approach

Polypipe take sustainability seriously and are delighted to have become the first plastic piping systems company to be awarded the coveted Carbon Trust Standard.



Lean manufacturing techniques, and our approach to recycling all manufacturing waste, are at the heart of our sustainable manufacturing processes, whilst we also have the capability to re-use off-cuts of our products if they are returned from site.

Indeed, plastic is itself a sustainable product - lighter and easier to handle and transport, it requires less energy to be converted from polymer to finished product, than traditional materials.

Furthermore, our product portfolio includes many products designed to aid the construction of a more sustainable built environment, such as rainwater harvesting and underfloor heating.



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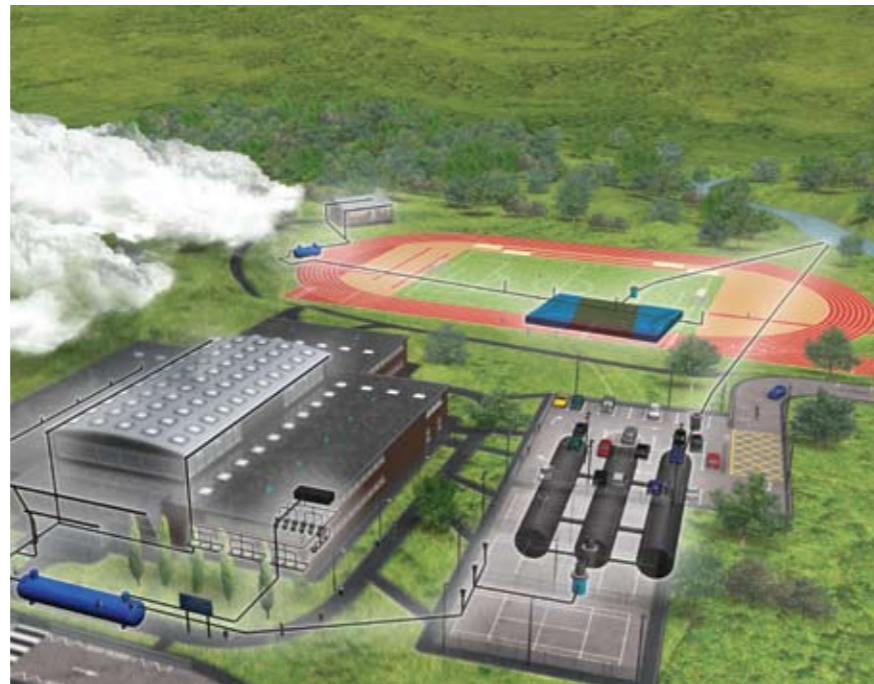
Managing the built environment

Polypipe's products and systems combine seamlessly to provide end to end solutions for managing rainwater, drainage, water supply and indoor environments

1 ROOF TO RIVER™

Roof to River is an all embracing solution for projects requiring a holistic system for the management and re-use of rainwater.

- Harnessing of rainwater through either gravity or siphonic systems
- Filtration and storage of rainwater for re-use
- Attenuation or soakaway of rainwater through the use of small and large piping systems, modular cells and flow control devices
- All of the necessary pipework systems to connect a scheme together



2 DRAINING AWAY

Removal of waste water from source through to discharge point, encompassing:

- Traps and pan connectors
- Small diameter waste collection systems
- Soil stacks and run-outs
- Round plot drainage
- Main sewer systems



WATER SUPPLY

3

Delivery of hot, cold and chilled water from source to point of use, encompassing:

- Mains water systems
- Boosted cold water systems
- Hot and cold water distribution systems
- Chilled water supply



INDOOR ENVIRONMENT

4

Managing the indoor environment through:

- Ground source heat collection
- Under floor heating systems
- Passive ventilation systems



Terrain PVC Soil and Waste

Terrain Soil and Waste is an exhaustive range of solvent-weld and push-fit PVC drainage products. This market leading system is renowned for quality, dependability and reliability in use.

Terrain Solvent Weld

The Terrain Solvent Weld system offers a neat way to achieve a permanent joint which is why it has become the system of choice for the professional installer. Quick and easy to use, the system allows you to create bespoke solutions for each individual project, and has proven itself time and again on some of the UK's most prestigious and challenging projects to be a wholly reliable, maintenance free system.

Terrain Push-fit

Terrain's Push-fit Soil and Waste System offers a comprehensive range of socketed pipes and fittings to meet all project requirements where a push-fit system is preferred.

Terrain PVC soil and waste products lend themselves well to pre-fabrication. For more information please see page 11.



Terrain Unique

Terrain Unique is a range of unique fittings designed to speed installation on UK applications and includes products such as variable boss branch and soil manifold. These products assist the installer to overcome challenging installation situations with one simple to use fitting.



At Terrain we are always looking for good ideas to help us produce fittings to speed installation. If you regularly come across an installation challenge where a new fitting may assist, please let us know by emailing commercialenquiries@polypipe.com

Waste Systems

Our waste systems incorporate both Push-fit and Solvent Weld solutions in 32mm, 40mm and 50mm sizes, and include a comprehensive range of fittings for all applications.



Terrain Traps and Pan Connectors

To complement our soil and waste systems, a comprehensive range of over sixty traps and pan connectors is available. All products carry the kitemark.

NEW Technical Manual

For dimensional and range information, installation instructions and standard details please refer to the new Terrain Soil and Waste Technical Manual.



Terrain Firetrap

Terrain Firetrap offers a simple and effective way to achieve and exceed fire rating for drainage stacks. It features a selection of sleeves and collars offering up to 4 hours fire protection and allows you to create passive protection systems to meet Building Regulations Part B in line with BS 476:20 and BS EN 1366.

Terrain Firetrap Sleeves

- Provide fire stopping for pipe penetrations
- Crush and seal the plastic pipe, closing the penetration
- Ideal partner for Terrain Fuze
- Quick and easy to install



Terrain Firetrap Collars

- Suitable for all Terrain drainage systems
- Seal pipes from 50mm to 160mm
- Can be face fixed or set into a wall or floor slab
- Suitable for use on concrete, masonry and plasterboard

Extensive Fire Testing

Terrain Firetrap is the result of extensive independent testing of our products across numerous applications. Data from this work is detailed in the Terrain Firetrap Product Selector, giving you total confidence that using our products will achieve the necessary rating.

Terrain FUZE

A high performance drainage system, Terrain FUZE has many advantages over cast iron and other traditional systems. Manufactured from high density polyethylene, Terrain FUZE provides a comprehensive, modern solution to above ground drainage requirements, providing specifiers and installers maximum flexibility in the design process.

Benefits Include:

- Lightweight and easy to handle
- Quick, easy installation
- Suitable for chemical drainage
- Corrosion resistant
- Fully compatible with Terrain PVC
- Satisfies all relevant regulations
- BBA certified

Utilising the intrinsic properties of high-density polyethylene, Terrain FUZE offers greater benefits above and beyond more traditional materials and performs significantly better when tested for impact and abrasion resistance, chemical corrosion and extreme temperatures. Indeed, when tested with Terrain Firetrap sleeves, Terrain FUZE achieves up to a 4 hour fire rating!

The lightweight nature of Terrain FUZE allows the product to be installed quickly and efficiently, giving direct, resource-saving benefits to specifiers and installers.

As with our PVC system, Terrain FUZE incorporates a number of unique fittings to aid installation. Terrain FUZE is also perfect for pre-fabrication, particularly where repetition is prevalent. See page 11 for more information.

Installation

Terrain FUZE is easy to cut, simple to joint and can be installed using either butt-welding or fusion-welding methods. In either case, the resulting joint is extremely durable and is stronger than the product itself.

Technical Manual

For comprehensive technical information, please refer to the Terrain FUZE Technical Manual.



Terrain Acoustic dB12



Terrain Acoustic dB12 is designed to meet the increasing demand for acoustic drainage, providing a simple method of dramatically reducing sound emitted from soil and waste systems, particularly relevant in multi-occupancy buildings such as flats, student accommodation and hotels. Manufactured as a triple layer pipe system with specially developed layers of copolymer polypropylene, the system comes complete with a range of acoustically engineered fittings to ensure fast and easy drainage installations for soil and rainwater systems.

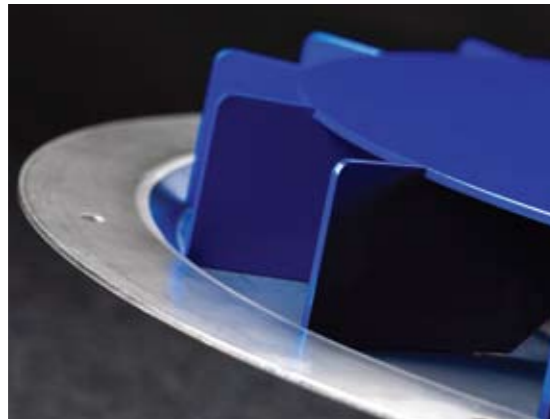
A range of socketed pipe and ring seal fittings in combination with vibration damping brackets ensures that the system not only meets, but surpasses current building regulation requirements for sound insulation that can be incorporated in both new and refurbishment applications.

- Excellent airborne and solid borne sound insulation
- Flame retardant to B1 in compliance with DIN4102
- Elevated impact resistance even at low temperatures
- Resistance to a wide range of chemical agents at high temperatures
- Suitable for waste water with pH values from 2 to 12
- Push fit single lip elastomeric seals
- Easy to install

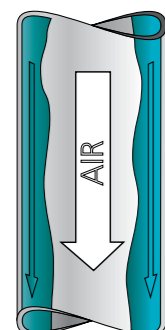
Terrain HydroMax Siphonic Drainage

Terrain HydroMax provides an advanced Siphonic Roof Drainage solution offering full compliance with BS 8490:2007 using **TERRAIN FUZE** BBA certified pipes and fittings. Terrain's self-cleaning, high velocity flow HydroMax siphonic roof drainage system offers a quick and efficient way to remove large volumes of rainwater from roofs in a controlled manner. Designed to accommodate recent changes in storm patterns, as stipulated in BS EN 12056-3:2000 it uses siphonic principles to 'suck' the rainwater from the roof into small diameter pipes, creating a flow capacity up to ten times greater than that of an equivalent gravity-fed system.

Specially designed high flow siphonic roof drain eliminates air ingress to promote speedy priming



- Pipes run horizontally within building envelope
- Reduces underground drainage requirements
- Up to 45% cost saving overall
- Exceptionally accurate design software
- Easy routing of rainwater from roof to desired discharge location, making system an ideal partner for rainwater harvesting

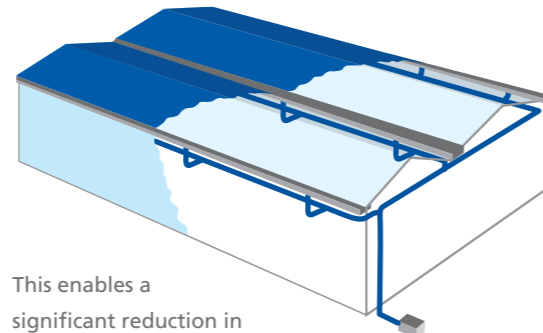


Gravity flow

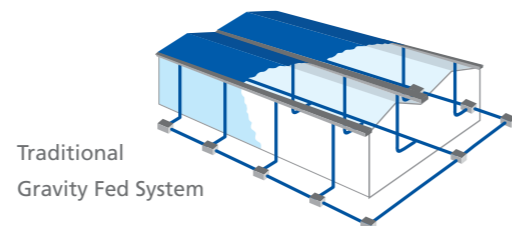
A gravity drainage system limits capacity to one-third water, that adheres to the inner pipe wall, with a large two-thirds air core.

Design Freedom

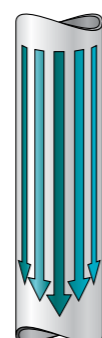
With Terrain HydroMax, collector pipes can be installed horizontally without a slope, allowing the design team to control downpipe locations.



This enables a significant reduction in underground drainage, trenching, soil removal, treatment of backfill and often means no drainage is required under the building floor slab.



Traditional Gravity Fed System



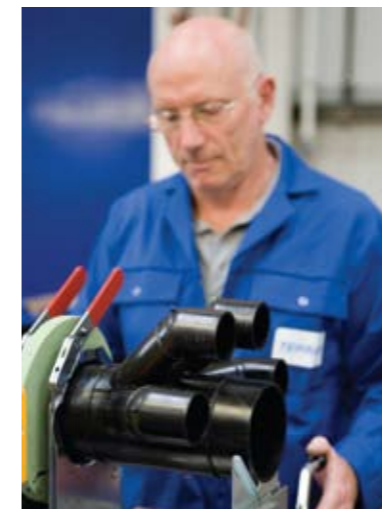
Terrain HydroMax

In the Terrain HydroMax system, air is purged from the pipe so that it runs 100% full of water, enabling smaller diameter pipes to remove higher volumes of rainwater.

Pre-fabrication

In recent years the Construction Industry has embraced many forms of off-site manufacturing and it is no different when it comes to drainage. Polypipe Terrain offer a comprehensive drainage fabrication facility which has become ever more popular as the standard supply method for fast moving construction projects.

It is particularly useful where stack configurations repeat such as in high rise apartments, hotels, or on challenging projects such as hospitals or shopping centres.



Soil and rainwater stacks are fabricated in a factory controlled environment by our highly competent team based at Terrain's manufacturing plant in Aylesford, Kent. With over 100 years of fabrication experience between them, our team takes immense pride in the quality and accuracy of their workmanship. Stacks are then delivered to site for fast, effective installation.



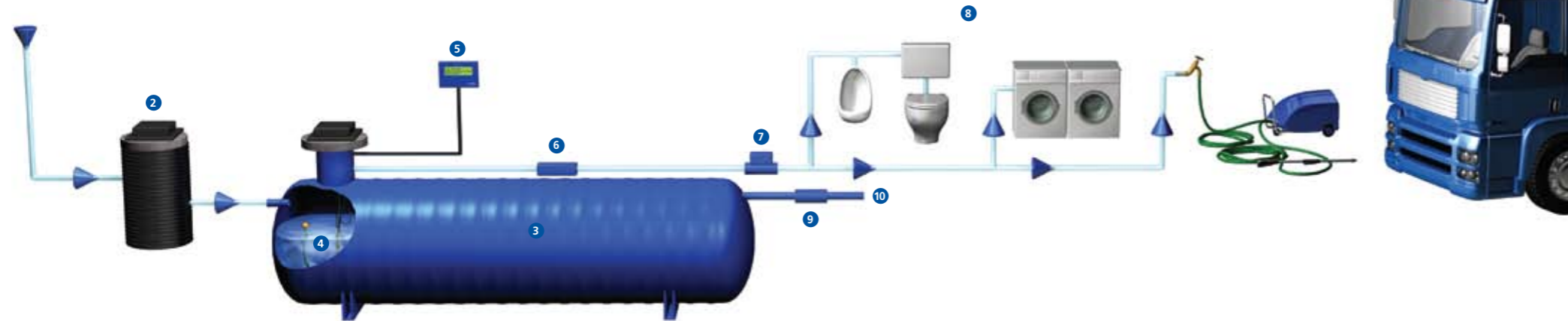
Our pre-fabrication capability also enables us to make bespoke fittings to overcome specific site issues. Often, such fittings become popular enough that we will invest in tooling to make them part of our everyday range.

If you have a specific requirement or wish to discuss a project that may be suitable for pre-fabrication, please call our technical department on 01622 795200 or email commercialenquiries@polypipe.com



Rainstream Rainwater Harvesting

Rainstream offers a range of highly effective solutions for the storage, filtration and re-use of rainwater. These systems have been designed to help conserve one of our most precious resources, water. Rainstream will help contractors and specifiers to achieve higher BREEAM standards and to conform to numerous environmental legislative standards.



The System

The flexible nature of the Rainstream approach to rainwater re-use means that no two systems are ever the same as each one is designed to meet the specific requirements of an individual application.

A number of elements are common to many types of system however and the operating principles are largely standard throughout.

Key to illustration

1. Rainwater falling onto roofs, roads and paved areas can be collected by a variety of measures.
2. Pre-tank filtration then removes any larger pieces of debris such as leaves, before the collected water passes into the tank
3. Storage vessel is typically a large tank which can sometimes be included within a building, surface mounted externally or buried below the surface of the site.
4. Captured water is re-distributed through a second stage filtration and pump assembly.
5. A sophisticated control unit monitors water levels in various parts of the system and matches these to the water demand outlets.
6. Third stage in-line filtration to remove finer particles of debris before use.
7. An optional ultraviolet disinfection process can be used to kill off bacteria and improve the quality of the collected water.
8. Water is supplied on demand to a number of outlets around the property and can be used for many different purposes including; flushing toilets, irrigation or cleaning vehicles.
9. A back flow prevention device stops a backward flow of contaminated water from the sewer and acts as a rodent barrier.
10. Outlet to the sewer, soakaway or attenuation.



Rainstream Advanced Control Unit (ACU)

Polypipe's Rainstream ACU is the latest development in non-domestic rainwater re-use. From designer to user, the Rainstream ACU offers a simple and effective solution for the control of rainwater distribution. Featuring, in a single unit, intelligent pump control combined with integral break tank and mains water top up, the Rainstream ACU saves space in the plant room, a separate break tank and booster set are not required, and it minimises the volume of mains water required in dry periods.



Suitable for use with both below and above ground storage tanks, the Rainstream ACU is available in a number of output options up to 14m³/h.

Technical and After Sales Service

Our Rainwater Support Services

Our Rainstream experts are always available to provide detailed technical support, whether it is via telephone or during a site visit. Technical literature is also available to give guidance on the various components which are used to create the Rainstream system.

- Initial project assessment
- Project specific components
- System configuration
- Bespoke manufacturing capabilities
- Technical guidance

Education Activities

Sustainability and awareness of environmental issues are key areas that form the basis of modern school curriculums. Providing creative, innovative ways of teaching people about the issues facing the world is essential to develop their own opinions and responses.

Intended for use at Key Stage 1 and 2, Rainstream classroom offers support to schools and teachers, with planning ideas and activities, to help teach why water is a vital resource and the many ways in which water affects our lives. Designed with creative teachers in mind, the overall aim of this resource is for it to be adapted and personalised to the setting in which it is used, to put the learning in to context, and, to promote thinking and problem solving skills.

Polypipe Rainstream Monitor

Installing a Polypipe Rainstream Monitor pack encourages users to monitor the water usage in their building. Primarily intended for use with Rainstream Classroom to monitor water use within schools, children and teachers will have the opportunity to collect usage data and understand how water is used in their school.



Mechanical systems

Terrain's comprehensive range of pressure pipe systems for mechanical applications include HPPE, PVC, ABS and PEX-al-PEX.

All of our pressure pipe systems are fully **WRAS APPROVED PRODUCT** approved and conform to numerous British Standards.

Terrain HPPE Pressure (PE100)

Terrain HPPE pressure pipe is available in two pressure ranges and operates comfortably in temperatures between -40°C and +60°C, subject to pressure requirements.

- Excellent impact resistance
- Fusion weld or mechanical installation
- Full range of pipes and fittings
- Pre-fabrication service available

Available sizes:
SDR 17 (10 bar) 32mm to 1200mm
SDR 11 (16 bar) 20mm to 630mm

Ideal for:

- Boosted cold water
- Chilled water
- Pressurised waste water systems



Effast PVC and ABS

Effast PVC

PVC has a high chemical resistance with good flow characteristics and is suitable for carrying potable water.

- High abrasion resistance
- Operating temperature 0°C to +60°C subject to pressure requirements
- Installed with solvent cement or mechanical installation
- Suitable for mains water in high rise applications



Effast ABS

A lightweight, rigid and easy to install system which is non-toxic and combines chemical resistance with high impact strength. It is suitable for potable water, chilled water and water sewerage treatment applications.

- Operating temperature -40°C to +60°C subject to pressure requirements
- Installed with solvent cement or mechanical installation

Polypress



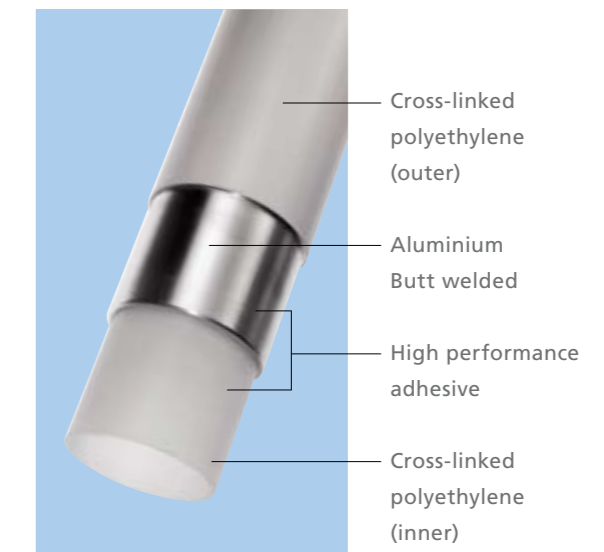
Polypress Press-Fit Plumbing System

Polypress integrates multi-layer composite pipe with robust press fittings in a single system, ideally suited for hot and cold water supply and heating applications. By mechanically pressing the connection between pipe and fitting, a permanent joint is made.



Available in diameters 14, 16, 20, 26, 32, 40, 50, 63 and 75mm, Polypress has been specifically developed to be capable of withstanding long term operating temperatures of 95° and pressures of up to 10 Bar.

The layer of aluminium within the Polypress pipe allows the installer to easily form the smaller diameter pipes by hand, whilst also retaining its rigidity when used for hot water applications.



- Suitable for potable water, hot and cold plumbing and heating systems
- Lightweight and easy to install
- Equivalent performance but more economical than copper
- Combines rigid pipe with flexible pipe in one system
- Mechanically pressed joints
- Intelligent product so bends stay in place
- Smooth inner bore prevents scale build-up
- Inherently stable



Underfloor heating

Energy efficient, unobtrusive and cost effective - an environmentally friendly way to heat a building. Polypipe's underfloor heating systems can be used in all types of commercial, industrial and residential developments. It's easy to specify and quick to install, while our technical, design and support services allow you to create a genuinely bespoke project specific solution, every time.

Underfloor heating distributes heat evenly and efficiently in a highly controllable way and with flow temperatures running at significantly lower temperatures than conventional radiators systems, in some cases even as low as body temperature, thus reducing CO₂ in transmission and generation.

Underfloor heating makes a perfect partner for modern heat sources including high efficiency boilers, CHP, solar, thermal and heat pumps, helping to achieve uprated levels of SAP, CSH and BREEM.

- Low running costs
- Reduces CO₂
- System longevity & maintenance free
- Reduced lifetime cost of heating system
- UK manufacturer

Outstanding versatility

With its combination of reliability and maintenance-free, long-term performance, Polypipe underfloor heating is ideal for:

- Multi-occupancy buildings such as student accommodation and high rise apartments
- Public buildings
- Offices
- Hospitals and medical centres
- Schools and colleges
- Hotels
- Sports halls and leisure developments

Polypipe underfloor heating is flexible on installation and compatible with all floor construction types, including solid, timber, suspended, floating and overlay, and can be integrated into acoustic flooring systems.

Almost any type of floor finish can be applied - carpets, tiles, laminates, vinyl and more - without affecting the performance and efficiency of our underfloor heating.

Guaranteed performance

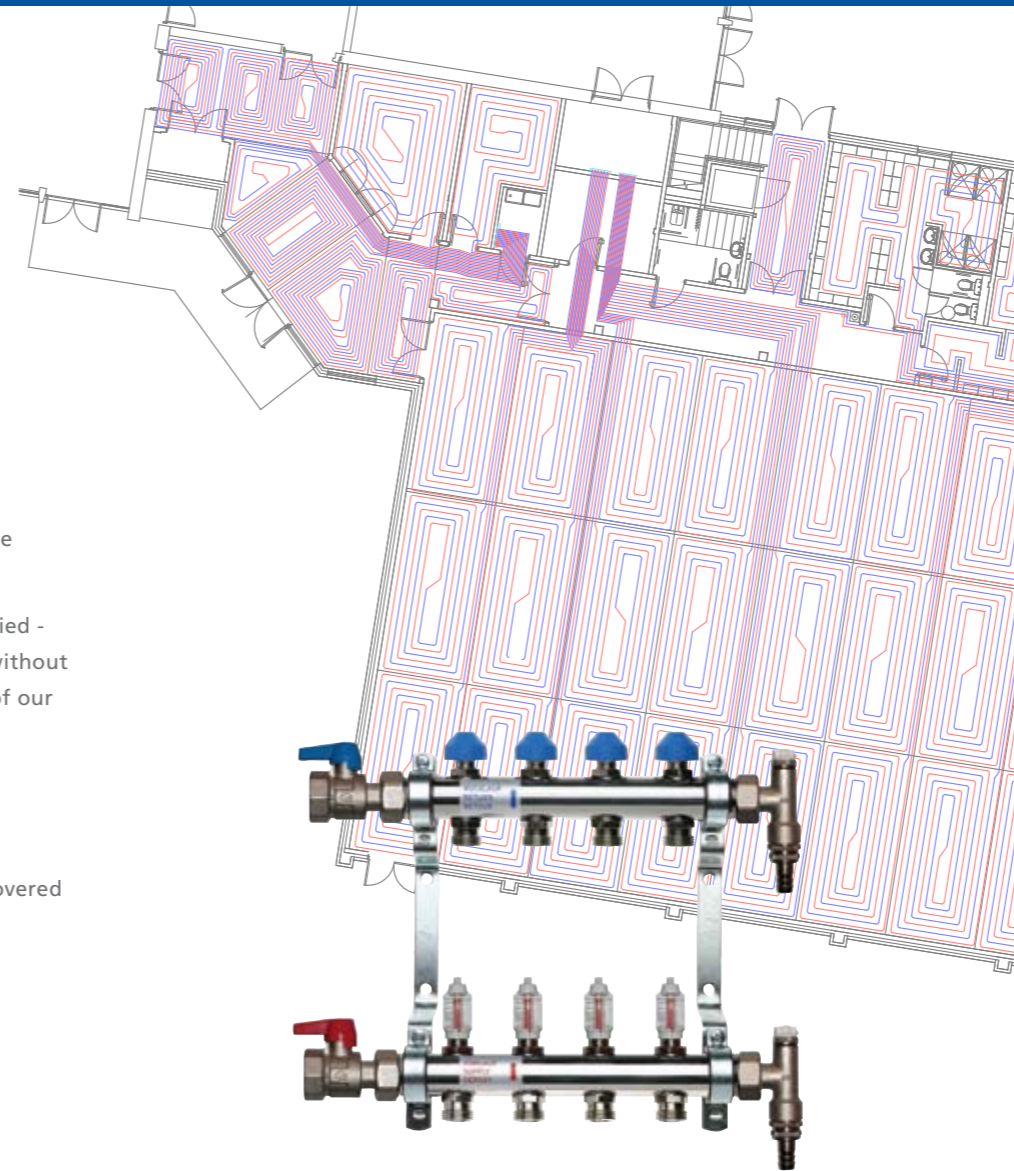
Polypipe underfloor heating pipework is covered by a 50 year guarantee against material or manufacturing defects.

Quality assurance in accordance with BS EN ISO 9001-2000

BBA & WRAS approvals

British Standard Class 5 rated BS7291 Part 1

Kitemark license number 38148 to BS7291 Part 2



Centre of Excellence

A full range of hands-on training courses are available at our purpose built demonstration, exhibition and training facility in Aylesford, Kent.

The Centre of Excellence combines modern showroom areas with practical training facilities, live product demonstration capabilities and seminar facilities which cover all aspects of Polypipe Terrain's comprehensive product range.

Hydraulic tower



The specially designed hydraulic tower showcases most of our product systems, detailing good and bad installation practice. It is a vital tool in exploring the inner workings of our products, using transparent pipework to demonstrate water flow clearly.

The Centre has been built with the tremendous technical expertise and industry knowledge that Polypipe Terrain has, and provides relevant information and training for its customers throughout the supply chain.



For more information or to arrange your own training course at the Centre of Excellence please call 01622 795200.

Case Studies

Stratford, East London

Polypipe Terrain has been successful in supplying its products to the many prestigious projects currently being built in Stratford, East London.

For example, Terrain Fuze has been specified along with Terrain Firetrap for all of the above ground drainage on the Athletes Village, along with Polypress which will be providing most of the hot and cold water distribution.

Polypipe Terrain have risen to many challenges on these complex projects, not least of which providing large diameter downpipes for the bespoke rainwater pipework to fit the Velodrome's striking roofline and external envelope and raising the bar for fire protection on the above ground drainage pipework for the Athletes Village.

Polypipe Terrain's above ground drainage systems have also been used on the Stadium and we have even supplied Terrain Fuze to provide rainwater drainage from the Media Centre car park.



The Rock, Bury



The range of Polypipe Terrain products specified for this £350 million development in Bury illustrates the extensive nature of the company's product portfolio.

Terrain Fuze was chosen for all the main stacks on this project, which also features Terrain PVC run-outs. The development's boosted cold water systems were created from Terrain HPPE, while Polypress was selected for the extensive hot and cold water distribution network. Terrain's ability to prefabricate bespoke products helped create specially designed manifolds in the distribution network.

When complete, The Rock will provide over 500,000 ft². of new retail accommodation. This will include two major department stores, eight flagship outlets, 60 additional shop units and 408 new apartments.

Caerphilly Hospital



Polypipe Terrain's problem-solving approach helped get construction of the new £172 million Caerphilly hospital back up to speed.

When asked to help put the 225-room development back on track, Polypipe Terrain suggested a prefabricated approach to the drainage. After detailed discussions to outline the scope of its abilities, the company devised a prefabricated soil stack which could be produced off-site and allow the M&E sub-contractor to install and test without responsibility for any bathroom installations.

Some 28 different 2.4 metre stack designs in both Terrain PVC and Terrain Fuze were supplied, each marked with a unique installation location code and identification code. This allowed the contractor to speed up the rate of installation and get the project back on schedule.

Birmingham City Council



A project to refurbish the soil and vent systems on a number of Birmingham City Council's extensive portfolio of tower block accommodation led to Polypipe Terrain successfully tendering to supply a combination of products, technical support and training services.

With the existing cast iron soil stacks suffering badly from corrosion and poor performance, the Council faced the daunting challenge of replacing this pipework whilst the tower blocks remained occupied. It established a Capital programme to manage this huge ongoing project and began searching for a soil and waste solution that was easy to install on live applications. The successful product also needed to reduce noise problems which surrounded the drainage and ultimately, stand the test of time.

Polypipe Terrain worked closely with the Council to show that its Acoustic dB12 system could satisfy these parameters. The company also agreed a program which would give both general training and specific installation guidance to the various parties involved, and examine the opportunity to reduce costs by the use of pre-fabrication. The replacement programme is set to be ongoing and has already helped Polypipe Terrain secure similar work from neighboring Wolverhampton City Council.

Technical Support

Technical Support

Our experts are available to provide technical support at the end of a telephone along with on-site training across our product range. A range of brochures, trade price lists, technical manuals and installation guides are available. For more information or to request literature see our contact information on the back cover.

Research & Development

Polypipe Terrain has dedicated and unrivalled research and development facilities setting the highest standards in the industry. In the last decade we have invested heavily in laboratory facilities including the independent UKAS accredited Berry & Hayward Laboratory. Our laboratories allow product development and certification testing to be undertaken in-house therefore shortening time to market and maximising product benefits for our customers.

Quality Control

We pride ourselves in providing a consistently high level of product quality. Where possible all of our products and processes are covered by independent third party accreditation, including BSI to ISO 9001 : 2000. Polypipe Terrain have several laboratories in action 24 hours a day and a fully equipped modern materials laboratory for development and analysis.



Product Information

Technical Manuals

Commercial Piping Systems



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