

Commercial Floor Heating Solutions



Commercial Floor Heating Systems for all applications

Polypipe Terrain Floor Heating is ideal for a wide range of commercial applications including; public buildings, mixed-use developments, medical centres, hospitals, schools and colleges, hotels, leisure and sports facilities, retail, industrial buildings, offices and apartments.

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Leaders in commercial solutions

With reliability and energy efficiency coming to the fore as critical considerations in commercial space heating, Polypipe Terrain’s cost effective and unobtrusive systems are a natural choice. Operating at lower overall flow temperatures than conventional heating systems, they are more economical to run and help reduce the overall carbon footprint of a building through their lower energy consumption. It’s that same low operating temperature that also makes them ideal for modern heat sources.

Versatile and flexible

Polypipe Terrain’s unique heating system components, along with our bespoke design and specification service, allow us to create a solution for every application and building type. Along with their easy application characteristics, this allows us to match system characteristics to all kinds of new build and renovation projects.

Much of this versatility springs from the performance and adaptability of the polybutylene piping that lies at the heart of every system.

Sustainability

BREEAM, the Code for Sustainable Homes (2010) standards and building regulations are increasingly driving the specification of low or no carbon technology in commercial and domestic projects. For specifiers of heating systems, there are many modern solutions to meet this requirement, including high-efficiency gas condensing boilers and heat pump systems that run at lower temperatures than conventional technology.

For these types of heat sources, underfloor emitters are the favoured choice for its capacity to extract the maximum heat energy from water of a lower temperature.

Maintenance free

The longer lengths of joint free polybutylene pipe forming the heat emitter result in the piping system being maintenance free. All elements with the system are subject to rigorous pressure and heat testing and are manufactured in strict accordance with BS EN 9002. With no radiators or exposed pipework, the risk of accidental damage through wear and tear or during decoration and refurbishment is practically eliminated too.

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.

50 year Guarantee

All Polypipe Terrain commercial heating pipe components and fittings carry a 50 Year Guarantee against manufacturing faults, as long as they are installed in accordance with our recommendations. For more information, please call our Technical Department on **01622 795200**.



Floor Heating for all specifications

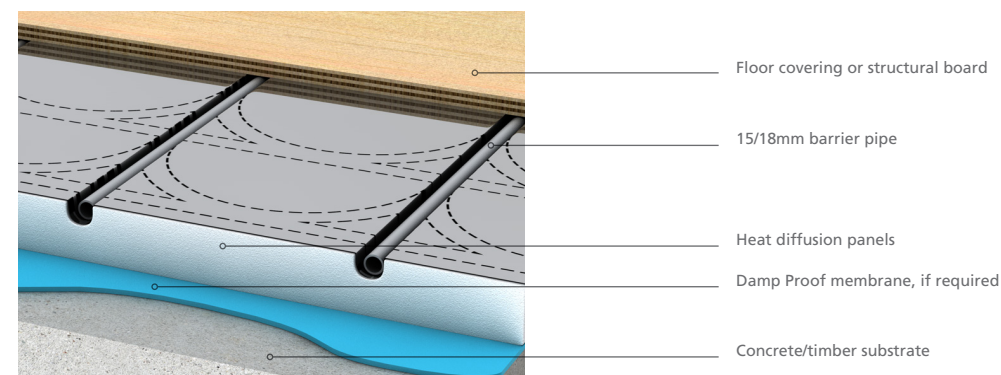
Polypipe Terrain floor heating systems use advanced heat technology to provide a flexible and proven solution across the widest possible range of applications. Designed to satisfy specifiers, installers and the end-user alike, they are cost effective, easy to install and provide long-term reliability and performance.

Floor solutions

Delivering versatility and flexibility to meet the vast majority of commercial heating requirements.

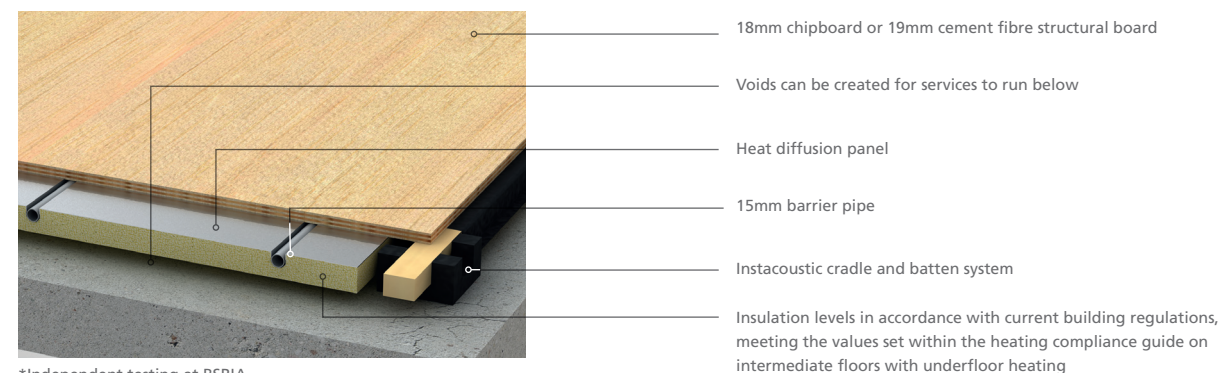
Project specific solutions

Heat diffusion panels for new build, Modular off-site and refurbishment projects. Various sizes, thicknesses and densities are available. Solution dependent on application and project specific requirements.



Terrain E-dB

Excellent performance and response at low flow temperatures. Suitable for new build, renovation and material change of use applications. Part E compliant with potential regulatory benefits for BREEAM and Code for Sustainable Homes. Constructional and performance benefits when compared to a traditional screed system.*

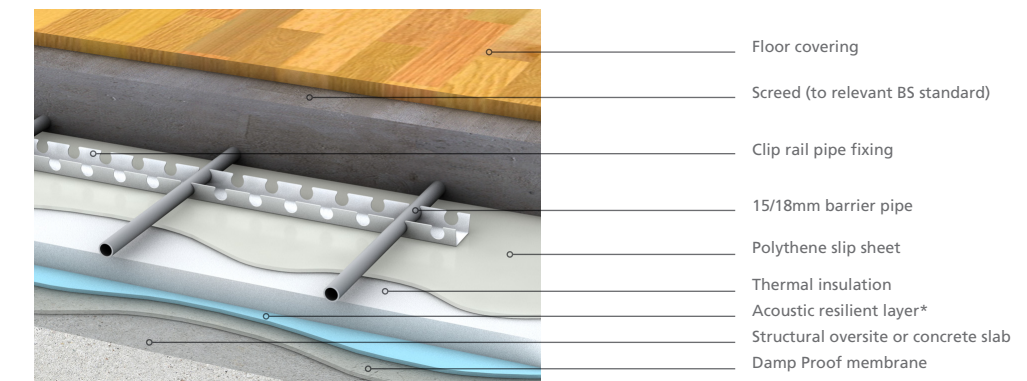


*Independent testing at BSRIA

Polypipe Terrain manufacture, design and install a complete floor package (through approved installers). We provide technical advise and assistance through our dedicated specification managers and in house design team. Early engagement with consultants, designers and architects will enable the correct solution to be advised, designed and applied. Unique and bespoke solutions tailor made for every project. CPD's are available - please contact our main office for more information.

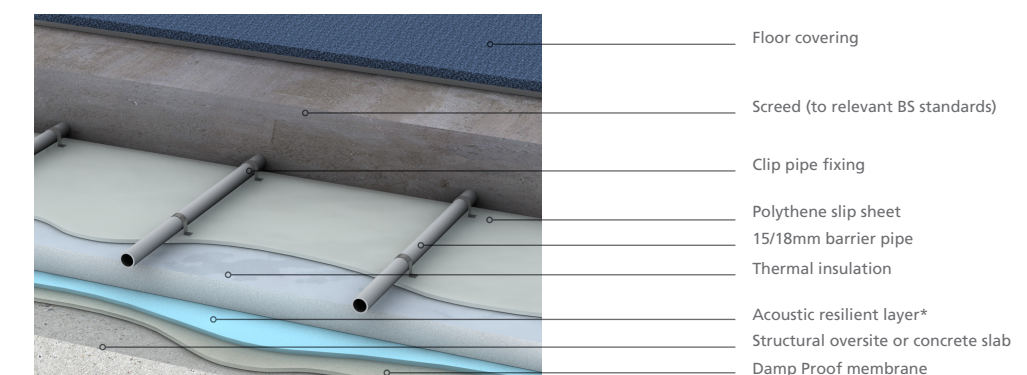
Rail system

The rail system is an alternative to the clip system and is ideally used on larger areas.



Clip system

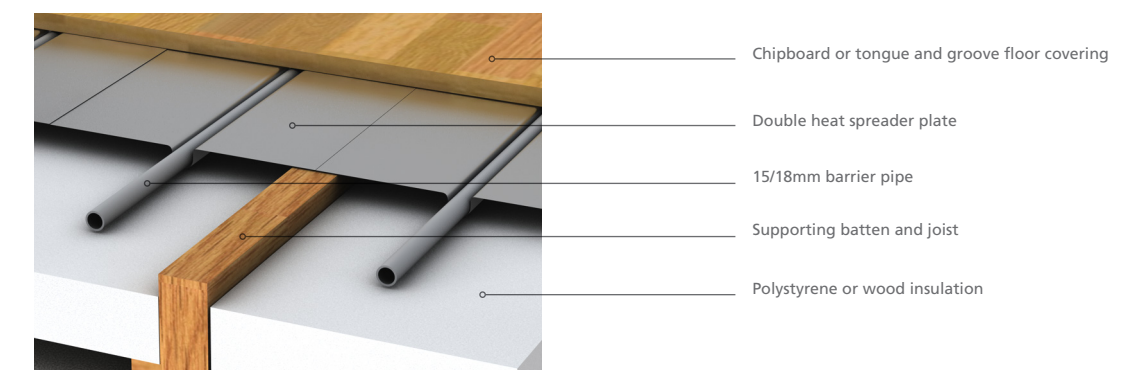
The clip system allows for a quick and easy installation of the underfloor heating pipework and is the most cost effective installation method within a screed floor construction.



*Acoustic resilient layer to comply with Part E of Building Regulations

Suspended floor system

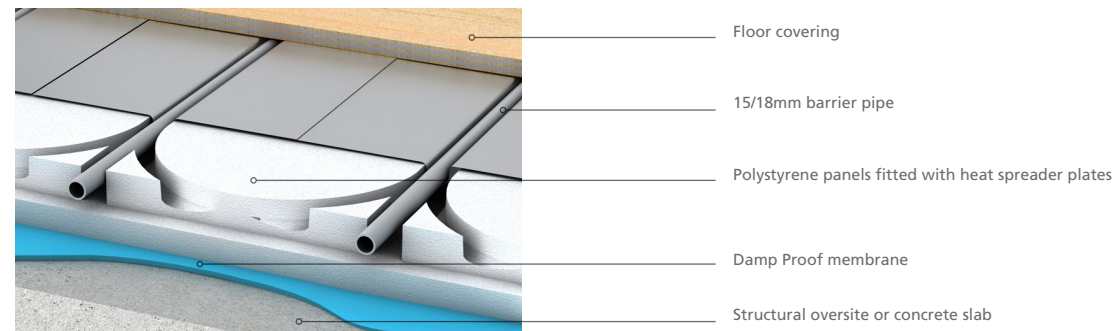
Polypipe Terrain floor central heating on suspended floors can be installed using a variety of methods. Pipe can be laid along the joists using double heat spreader plates or across joists on battens using single heat spreader plates.



Floor solutions

Floating floor system

The Polypipe Terrain floating floor system is ideal for floating floors above existing timber or solid sub-bases. It incorporates a high density polystyrene insulation panel which features preformed pipe grooves.



OV12 system

The OV12 system is ideal for refurbishment projects or where construction height is at a premium. The system uses a low profile panel that is laid over existing solid or timber floors.

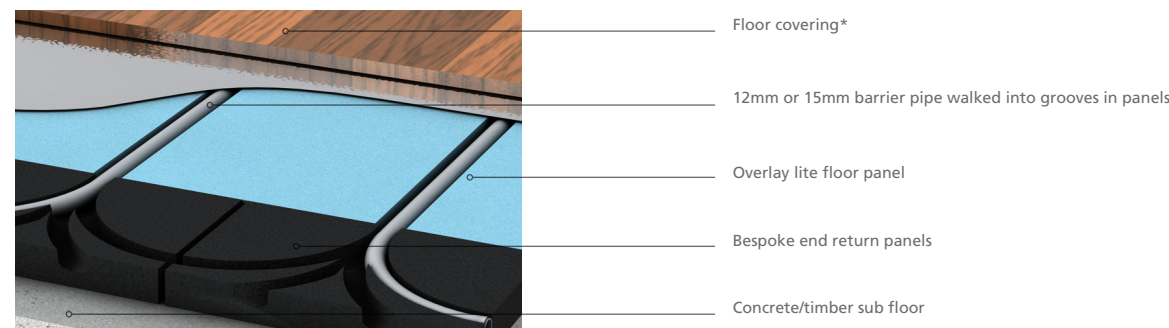


*Floor covering overview

Delivering excellent performance under all floor coverings, Polypipe Terrain Floor Heating is most effective with harder surfaces that offer better thermal conductivity and greater heat output rates. Please contact our Technical Department with any specific enquiries or questions: [01622 795200](tel:01622 795200).

Overlay Lite

The system, suitable for our 12mm or 15mm pipe, is ideal for refurbishment projects or where construction height is at a premium. The system uses a low profile panel that is laid over existing solid or timber floors.



*Floor covering overview

Delivering excellent performance under all floor coverings, Polypipe Terrain Floor Heating is most effective with harder surfaces that offer better thermal conductivity and greater heat output rates. Please contact our Technical Department with any specific enquiries or questions: [01622 795200](tel:01622 795200).

Individual room control

Dedicated, programmable thermostats allow temperatures in each room to be controlled individually via a manifold system of valve actuators. As heat is only delivered on demand, this system ensures maximum heat and energy efficiency. Programmable thermostats provide time and temperature control and feature 7 day programming; set-back temperature setting; frost protection setting; holiday programme; and 5 programme pre-sets.

Wet room sensors

Washrooms and other humid areas can be fitted with wet room sensors so that their temperature and timings can be modified without affecting the rest of the zone.

Commercial control strategy

Control systems which are fully capable of complete integration with building management systems can be designed and supplied on a project specific basis. Working with all the standard available protocols for such systems. Integration with heating, cooling and ventilation with either stand alone front end access or utilising the BMS front end.

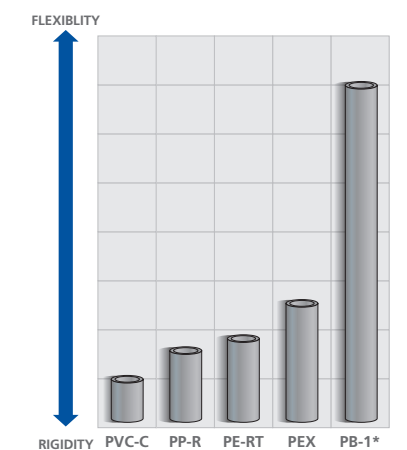
Polybutylene pipe system

At the heart of our systems is our commitment to polybutylene pipe. Unlike a number of other plumbing manufacturers, we choose polybutylene to create the most flexible and efficient underfloor heating pipe available. Polybutylene pipe is ideal for both domestic hot and cold water plumbing and heating systems, offering exceptional durability and long-term performance, which has seen it become the preferred material of choice for today's building projects.

The most important characteristic of polybutylene is its natural flexibility, allowing you to bend, curve and manipulate the pipe into even the tightest of spaces. Polybutylene is the most malleable plastic used in the manufacture of piping systems.

Within the manufacturing cycle polybutylene doesn't require chemical or additional cross linking, which reduces the number of production processes, leading to faster and more efficient manufacturing.

Flexural Elasticity Modulus (MPa) Method ISO 178.
*PB-1 is the chemical name for Polybutylene.



The graph above shows the modulus of elasticity of polybutylene compared with a range of piping systems.

Case studies



Minories

- Specified as our Floating Floor system
- 110 bed student accommodation in the heart of London
- Installer – Arnold James Services
- UFH design & supply by Polypipe Terrain

Oceans Estate

- Joint specification acoustic floor system
- 217 apartments installed by Instacoustic
- UFH design and supply by Polypipe Terrain



Hammersmith Palais

- Redevelopment of landmark building into 418 bed student accommodation
- Bespoke underfloor heating panel solution designed and supplied by Polypipe Terrain
- Modular off site build, including the underfloor heating
- Main Contrator - Morgan Sindall

Service and support

Manufacturing quality

Polypipe Floor Heating pipes are tested in accordance with BS EN ISO 15876-1:2003 and BS EN ISO 21003-1:2008 respectively at a maximum design pressure of 10 bar for application class 4.

Design service & technical support

Polypipe Terrain's dedicated commercial floor heating technical team will provide advice, support and technical assistance to help you implement your solution every step of the way.

Our comprehensive design service includes:

- System design, including heat loss calculations for residential applications
- Circuit lengths
- Circuit pressure losses and velocities
- Flow rate settings per circuit
- Full product material specification
- Schematic circuit layouts (not full working drawings)

Service and Support

- Pre-project training at training centre
- On-site assistance if required during project installation
- Technical representation available to discuss systems in general and particular projects

Polypipe Terrain offers a complete design and drawing package for your commercial project. To enable us to prepare your design please either send your drawings to our Aylesford office or alternatively you can ring the technical number to discuss your project with one of our engineers.

Legislation and accreditation

Standards



Manufacturing Quality Assurance in accordance with BS EN ISO 9001-2000 (BSI Certificate FM00318).

Installation standard - to follow the recommendation of BS5955 - Part 8 2001 Plastic pipework (Thermoplastic Materials).

P.B.P.S.A

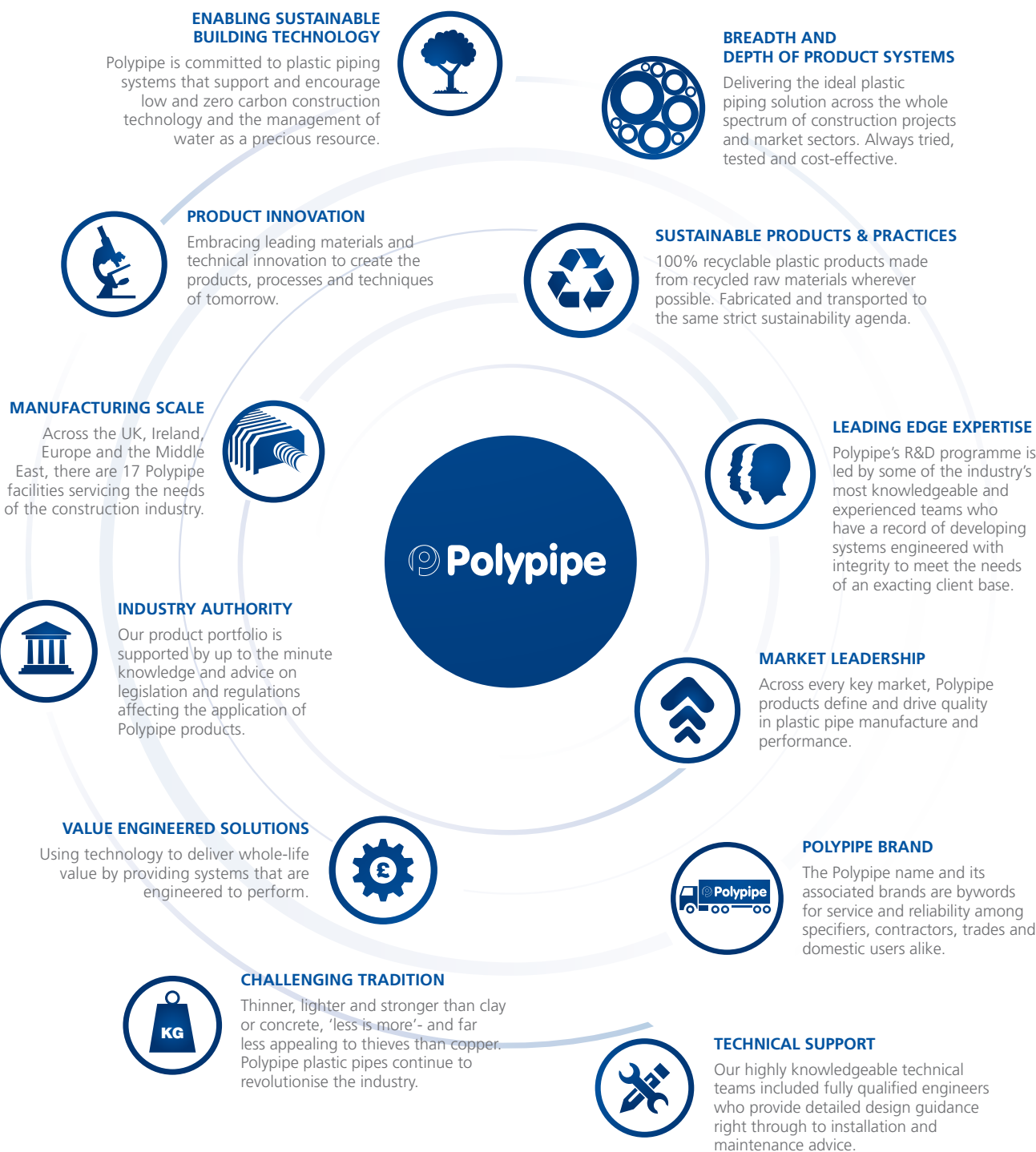


Polypipe is a member of the Polybutylene Piping Systems Association, which is a recognised association of companies whose aim is to promote the features, benefits and best practice installation techniques of polybutylene pipe systems, as well as providing a wide range of technical information and support.

British Gas - has accepted the Polypipe Class 5 polybutylene pipe system as being acceptable for open vented and sealed central heating systems and is eligible for acceptance onto Three Star Central Heating System Cover.

Polypipe

We design, develop and manufacture the widest range of plastic piping products, with over 20,000 product lines available. Our primary focus is on developing and supporting pragmatic product systems through specific knowledge and understanding of the residential, commercial, civils and infrastructure market sectors. We ensure that customers can trust our unrivalled expertise to provide value engineered, fit for purpose piping solutions for the growing diversity and complexity of construction and building technology challenges they face.



Polypipe enabling sustainable building technology

Polypipe provides plastic piping systems that enable the effective installation and performance of sustainable building technology, meeting the twin global challenges of carbon reduction and water management.

CARBON EFFICIENT SOLUTIONS
'SUSTAINABLE INDOOR ENVIRONMENTS'
Ever stricter building regulations and ever more environmentally conscious customers are driving the demand for greener building products and technologies. Polypipe fulfils that demand with a full range of systems that enable collection, transmission, emission and control in heating, ventilation and cooling systems.

WATER MANAGEMENT SOLUTIONS
'ROOF TO RIVER'
Offering a comprehensive range of standalone and modular SUDS products, rainwater harvesting and surface water treatment solutions plus legislative and technical support services, Polypipe's water management solutions team address the surface water requirements of every construction and civil engineering project.



Sector Focus

Our product systems respond directly to sector-specific requirements thanks to focused technical and development teams with hands on expertise in the following areas.

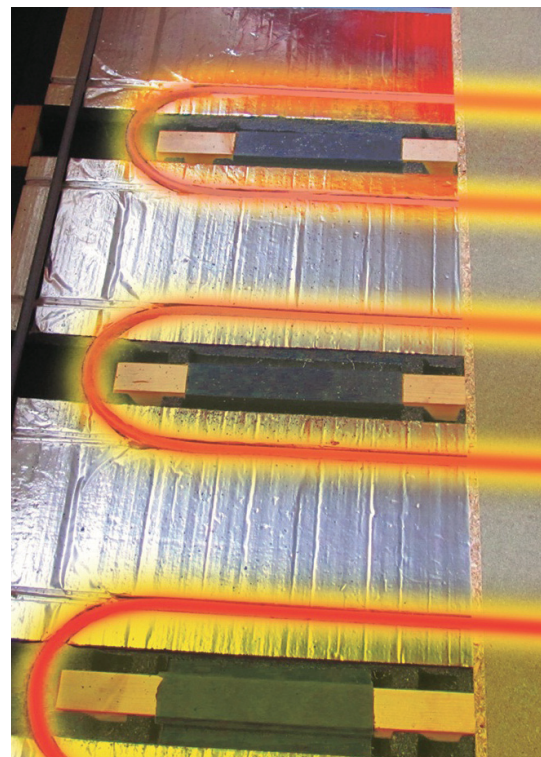
- COMMERCIAL**
Major commercial projects from car parks and high rise office blocks to hospitals, educational premises and shopping centres have all benefited from Polypipe's range of value engineered products and comprehensive service support.

RESIDENTIAL
Polypipe offers the broadest range of residential product and service solutions for both new build and RMI applications, as well as innovative solutions in response to legislative and industry targets for more sustainable housing.

CIVILS AND INFRASTRUCTURE
Delivering performance and sustainability, Polypipe's surface water drainage and cable management systems, supported by our in-house fabrications team, offer civils and infrastructure project planners a complete suite of solutions.

All descriptions and illustrations in this publication are intended for guidance only and shall not constitute a 'sale by description'. All dimensions given are nominal and Polypipe may modify and change the information, products and specifications from time to time for a variety of reasons, without prior notice. The information in this Brochure is provided 'as is' on July 2013. Updates will not be issued automatically. This information is not intended to have any legal effect, whether by way of advice, representation or warranty (express or implied). We accept no liability whatsoever (to the extent permitted by law) if you place any reliance on this publication you must do so at your own risk. All rights reserved. Copyright in this publication belongs to Polypipe and all such copyright may not be used, sold, copied or reproduced in whole or part in any manner in any media to any person without prior consent. © Polypipe is a registered trademark of Polypipe. All Polypipe products are protected by Design Right under CDPA 1988. Copyright © 2013 Polypipe. All rights reserved.

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