

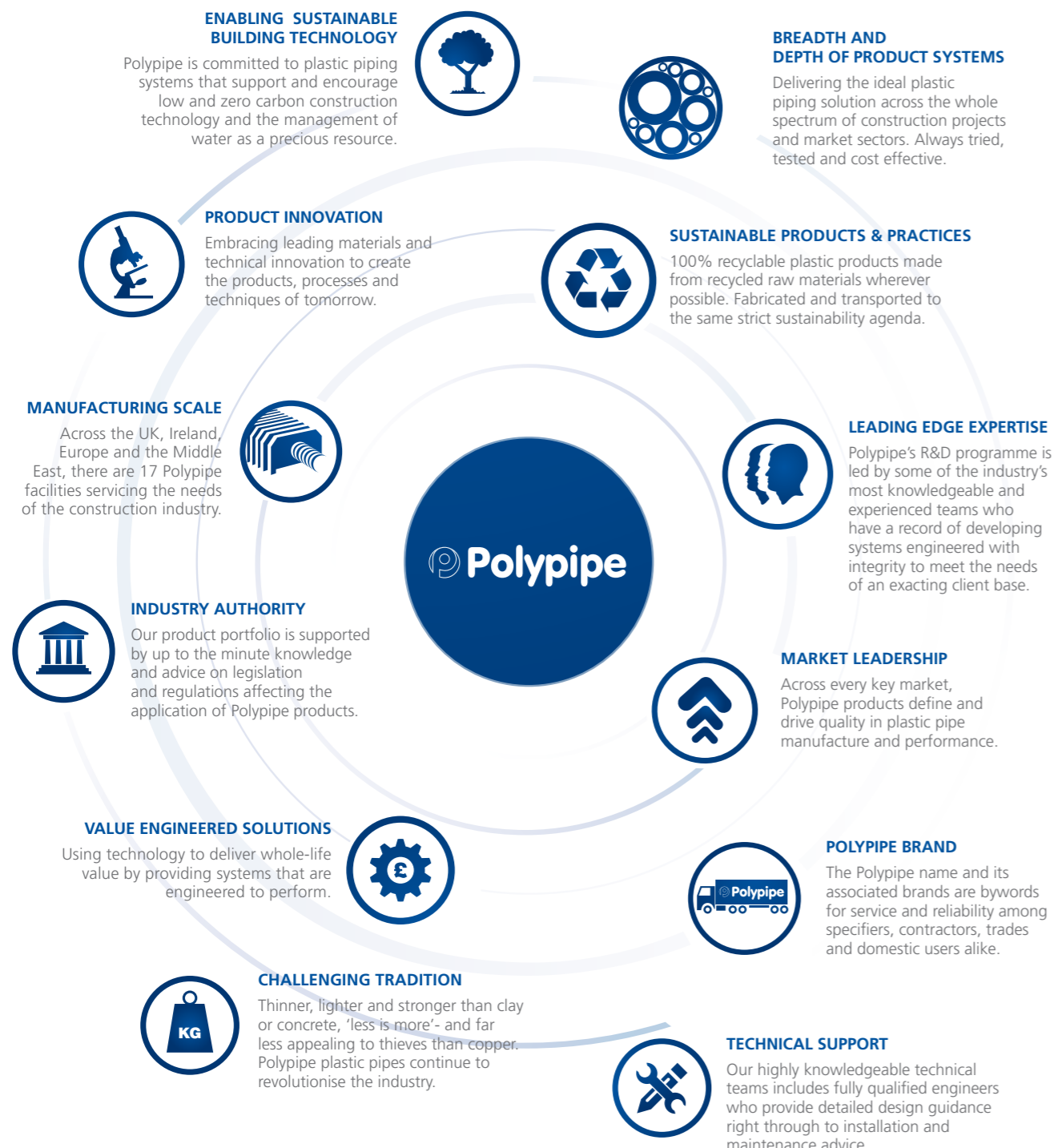
Carbon Efficient Solutions



Enabling sustainable indoor environments

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, civis 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.



Carbon Efficient Solutions

The move towards low energy, zero carbon homes and buildings calls for the adoption of new building technology at an unprecedented pace and scale. Complex combinations of systems and products, such as heat pumps, heat recovery ventilation and geothermal technology, require careful planning if they are to perform as specified.

Polypipe provides plastic piping systems that enable the effective installation and performance of these sustainable building technologies to meet the global challenge of **collection, transmission, control** and **emission** of energy.



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Changing Focus

The Code for Sustainable Homes is a national standard for the sustainable design and construction of new build housing. Its aim is for every new home to be zero carbon rated by 2016

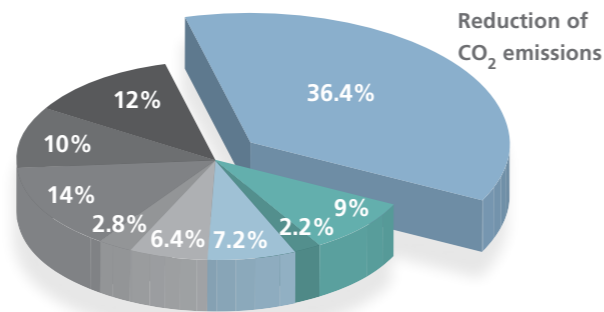
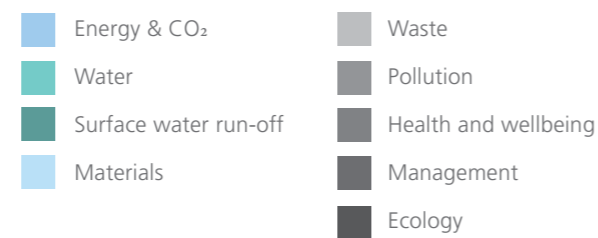
A Code for Sustainable Homes assessment is now required for the majority of new build housing in England, Wales and Northern Ireland and is usually required to satisfy funding or Local Authority sustainability policies. The code introduces minimum standards for energy efficiency based on a simple system of awarded credits. Part of this policy introduces the requirement for all new homes to be zero carbon from 2016.**

**Source of information: Code for Sustainable Homes 2006.
Zero carbon hub 2016 timeline available at www.zerocarbonhub.org

At Polypipe we have focused our development resources on providing piping solutions to enable the utilisation of building technologies aimed at the reduction of CO₂ emissions and redirection of energy usage - Carbon Efficient Solutions.

Total Available Credits

(% points contribution)



Compliance and carbon efficiency

The Government's 'Carbon Compliance for Tomorrow's New Homes' review identifies key design choices that can be made during the specification process to 'lock in' future energy and carbon performance. The following key issues in particular have driven Polypipe's product development programme:

- The need to integrate new technologies for both space and water heating and provide appropriate piping system solutions
- The need to avoid overheating in new homes, with its implications for carbon emissions, health and consumer choices, whilst ensuring in-door air quality is not compromised
- The need for the energy used in homes to be progressively de-carbonated in the coming years

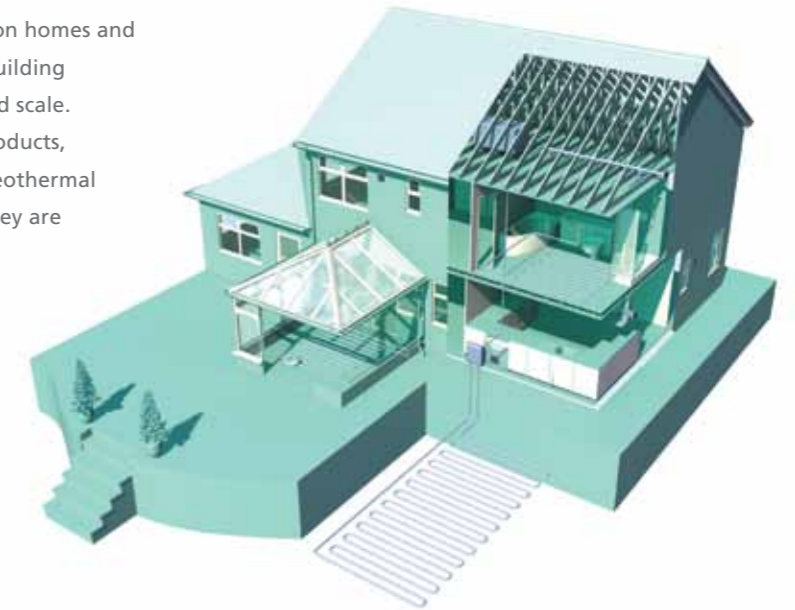


Carbon efficient solutions

"The decision that new homes must be low energy/zero carbon from 2016 is very challenging. These homes will not simply be the homes we build today with extra insulation. A low energy/zero carbon home is a complex combination of systems and products which must perform as specified".**

The move towards low energy, zero carbon homes and buildings calls for the adoption of new building technology at an unprecedented pace and scale. Complex combinations of systems and products, such as heat pumps, heat recovery and geothermal technology, require careful planning if they are to perform as specified.**

**Source of information: Carbon Compliance For Tomorrow's New Homes 2010.



Polypipe's focus is on the development of piping systems that enable the carbon efficient collection, transmission, emission and control of thermal energy

Polypipe carbon efficient solutions

With energy performance and zero carbon homes becoming the key focus of UK Government targets, the requirement for piping systems that maximise specified performance has increased. In response, we have focused on the development of systems to help residential developers and installers implement solutions for increased carbon efficiency .

Polypipe provides plastic piping systems that enable the effective installation and performance of these sustainable building technologies to meet the global challenge of collection, transmission, control and emission of energy.



Carbon Efficient Solutions

RESIDENTIAL

Polypipe is your single source solution for a complete range of carbon efficient products and service solutions to help make homes more compliant and energy efficient

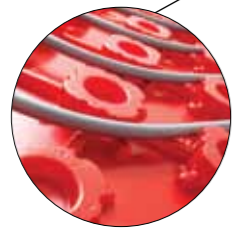
**Multiple product choice
all from one company**



COMMERCIAL

Products and solutions for commercial applications

- Under floor heating systems
- Overlay™ low profile floor heating system
- Mechanical ventilation with heat recovery
- Geothermal piping systems
- Earth duct ventilation system for supply of fresh air (see page 16)
- Pre-insulated pipe system
- Ridgiduct power cable ducting



Under floor Heating Systems
Page 8

Forming part of the building structure for the efficient linkage to renewable energy sources such as heat pumps.



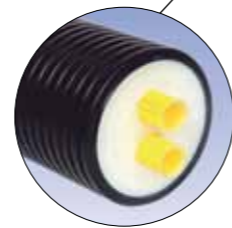
Modular Heating Panel (MHP)
Page 10

Providing a pre-configured under floor heating solution into existing joist voids.



Geothermal Piping System
Page 12

For the extraction and collection of energy from ground or water sources.



Pre-insulated Pipe System
Page 13

Supplying hot water from external energy sources and distributing to remote points of use such as outbuildings.



Overlay™ Floor Heating
Page 9

Low profile system ideal for both renovation and new build projects for use with all types of floor coverings (ceramic tiling, laminate, engineered wood and carpet).



Mechanical Ventilation with Heat Recovery
Page 14

Efficiently combining supply and extract ventilation in one system and reducing energy usage through heat recovery.



Radial Duct System
Page 15

Reducing air leakage in ventilation systems and ensuring quiet running in the dwelling.



Ridgiduct Power
Page 17

Providing high levels of protection to underground power cabling from remote energy sources.

Floor Heating and Control Systems

The ability of under floor heating to achieve comfort levels with much lower energy input than alternatives provides the opportunity to make use of sustainable heat from, for example, geothermal technologies with minimal additional energy requirement. Not only is this energy efficient heat but it is also highly sustainable

In simple terms under floor heating is more efficient because

- It uses lower temperature water (typically 35°C to 50°C rather than 70°C) so less energy is needed to heat the water
- It enables condensing boilers to condense more often
- The nature of the heat (radiant) provides comparable comfort level at a lower air temperature
- The distribution losses are lower

Under floor heating systems

There are several different kinds of Polypipe floor heating systems which can be utilised. Under floor heating is built into solid or screeded floors, usually during the original build. Suspended floor heating systems use pipes laid on top of insulation panels between joints, whilst in floating floor systems the pipework simply sits in the grooves with insulation panels.

Benefits of the under floor heating system

- Provides a sustainable indoor environment to any space with even temperature distribution. Ideal emitter for heat pumps and condensing boilers
- Provides additional wall space
- Provides safe heating
- Low maintenance

Standards

- EN 1264 water based surface embedded heating and cooling systems
- BS 7291 thermoplastics pipe and fitting systems for hot and cold water for domestic purposes and heating installations in buildings

Technical considerations

- Heat source - compatibility with specified heat source in terms of flow temperature, output and flow rate
- Required heat output - ensuring the space is sufficiently insulated to enable the use of under floor heating
- Pipe spacing - in solid floor systems consideration of pipe spacing requirements is essential
- Floor surface temperatures - surface temperature compatibility to floor covering
- Floor surface covering - assess the thermal insulation value of the floor covering
- Control & zoning - specification of appropriate control and setback control for solid floor systems

Allied technologies

- Condensing boilers
- Heat pumps
- Polypipe plastic plumbing systems

References and further reading

- Polypipe technical installation guide (TIG6)
- BSRIA guide - Under floor heating and cooling



Overlay™ systems

Polypipe's innovative Overlay™ system allows floor heating to be installed where traditional under floor heating is not practical, either because of increased floor levels or where the cost, mess and inconvenience of excavation rules it out.

Overlay™ is quick and easy to install under tiles, carpets, hardwood, vinyl and laminate flooring, making it perfect as a 'built on' solution in new build or for retrofitting in refurbishment as the system is installed over the existing floor and is only 18mm in depth. The systems provide excellent response times and heat output compared with traditional built in under floor heating solutions and are therefore ideal for both traditional heating systems and low temperature renewable systems. The systems are available in two panel types, Overlay™ and Overlay™ Lite, to allow for installation to all build types and floor coverings.

Additional benefits of the Overlay™ system

- Allows under floor heating to be applied to existing floors
- Provides a 'built-on' solution in both new build and renovation
- Enables retrofit opportunities, particularly in older buildings
- Enables simple project management
- Provides a quick response floor heating system

Additional technical application considerations

- Floor surface covering - assess the thermal insulation of the floor covering to be used (0.15w/m² recommended) and the compatibility with Overlay™/Overlay™ Lite
- Resultant height of the floor around doors and thresholds

In recent years, Polypipe has re-written the rule book on floor heating. With our innovative Overlay™ and MHP (Modular Heating Panel) systems adding to the more traditional screeded, floating and suspended floor methods. Along with our comprehensive range of control systems, we offer the widest and most versatile choice of floor heating solutions available today. Floor heating systems provide hidden home heating that is integrated into the building floor structure.

They work by circulating warm water through a network of piping. Each room is served by a closed network of pipes, known as a 'loop'. Regardless of type, all floor heating provides safe, reliable home heating while creating extra room space by doing away with radiators. It is ideal for use with heat pumps and condensing boilers as it typically runs at just 45 degrees centigrade or lower.

Floor Heating and Control Systems



Modular Heating Panel Systems (MHP)

A prefigured solution with all pipe circuitry, insulation and radiating foil integrated in modular panels that are simply inserted into suspended or floating floor spaces and connected to form a complete system. Polypipe MHP panels have an excellent heat output, even at low temperatures, making them an ideal choice for renewable heating systems and allowing rooms to be comfortably heated with fewer panels to reduce both costs and carbon emissions. As MHP is a totally modular system, floor areas beneath furniture or bathroom fixtures can be omitted to lower costs still further.

Additional benefits of the MHP system

- Simplified installation method
- Most appropriate method using heat pumps in suspended floors
- Versatile range appropriate to conventional and engineered joint spacing
- Ideal 'fit from below' option

Additional technical application considerations

- Joist spacing and panel layout

Control systems

Precise control of heat output and flow rates is critical to the performance of low emission heating systems for maximum comfort and minimum energy consumption. Polypipe have a wide range of water and room temperature control solutions to ensure every heating system delivers optimum efficiency in all conditions.

Water temperature controls

Efficient floor heating is dependent on the correct temperature and flow rate of water through the loop system. Polypipe's Alpha control pack includes the Alpha A rated Grundfos modulating pump, providing up to 15KW of heat load at water temperatures between 30 and 60 degrees centigrade. With a minimum power consumption of just 5W, it represents a highly energy efficient control solution.

Room temperature control

Offering accurate and programmable management of heat from room-to-room, our room control systems ensure heat is delivered when, where and how long it's required. A built in 'set back' facility for high mass under floor heating minimises heat loss in unoccupied rooms by using the system's thermal capacity to maintain temperatures at just below their pre-set level. An optimum start feature records the response rates of each room and calculates heating start times accordingly, ensuring desired temperatures are achieved prior to occupation and automatically adjusted to seasonal change.



TYPE	DESCRIPTION	SIZE	OPTIONS	ACCREDITATION
SOLID FLOORS	Panel based system for screeded floors.	1m x 1.2m panel for all floor sizes.	For use with 15mm and 18mm pipe system.	BBA certification
FLOATING FLOORS	Panel based light weight floating floor system.	1.2m x 1.2m panel for all floor sizes.	For use with 15mm and 18mm pipe system.	BBA certification
SUSPENDED FLOORS	Spreader plate system for joisted and acoustic floors.	1m x 450mm long panel or all floor sizes.	For use with 15mm and 18mm pipe system.	BBA certification
MODULAR HEATING PANELS	Modular system for composite suspended floors.	330mm , 380mm and 490mm Wide x 1.3m and 2.0m length.		BBA certification
OVERLAY™	Overfloor low profile system for heavyweight floor coverings.	12mm pipe system x 18mm depth.		BBA certification
OVERLAY™ LITE	Overfloor low profile system for lightweight floor coverings.	12mm pipe system x 18mm depth.		BBA certification
TEMPERATURE CONTROL	Water temperature control and distribution.	Up to 150m²	A Rated or Standard	BBA certification
ROOM CONTROLS	Programmable digital and analogue room control.	All systems	Wired and RF	BBA certification

Thermal Pipe Systems

Geothermal pipe system

Geothermal heating systems exploit the difference between ambient air temperature and the temperature below ground to extract energy for heating or cooling homes. This energy is transferred by pumping water through a subsurface pipe known as a geothermal 'loop'.

Polypipe system types

Polypipe offers geothermal piping in both 32mm and 40mm sizes and in a variety of coil lengths. It is formed from strong yet flexible polyethylene, making it highly resistant to loads and the pressures experienced at depth in the ground.



A comprehensive range of plastic compression fittings ensures that any system configuration can be catered for with an easy to use permanent jointing system.

Benefits

- Manufactured from black PE80 which is significantly more flexible than other PE100 systems
- SDR17 wall thickness allowing more efficient heat transfer and system performance
- Quick, secure plastic compression fittings for bespoke system design

Allied technologies

Ideal for use with low temperature solutions such as Polypipe's under floor heating systems.

Technical Considerations

Loop lengths and capacities should always be calculated using Heat Pump Manufacturers' guidelines.

Standards

Pipe	EN12201-2
Fittings	To WIS 4-32-11

Pre-Insulated pipe system

Polypipe pre-insulated pipe system is flexible, self compensating underground pipe which is essential for energy saving. CFC free foam insulation made from cross-linked PE-X with closed microcellular structure. The insulating centrepiece guarantees an effective separation of flow and return pipes. The outside casing is HDPE, made in accordance with the closed chamber principle to provide high-grade protection to the piping system, which is suitable for central heating applications only.

Features

As the pipes are light weight and hyper flexible, they can be laid easily and rapidly even over obstacles and round corners. System accessories can be mounted without any special tools.

Where to use

Suitable for single plot applications such as remote boilers and heat pumps.

Standards

Corrosion resistant transport pipe in cross-linked PE-Xa in accordance with DIN 16892/16893 with yellow oxygen barrier in accordance with DIN 4726.

Minimal water absorption capacity of <1% in accordance with DIN 53428.



Benefits

- High grade raw materials ensure long product life
- Double wall outside casing in HDPE provides extra protection to the carrier pipes
- Sophisticated geometry of outside casing ensures unparalleled flexibility
- High resistance to impacts and pressure
- Very elastic thermal foam
- Corrosion free carrier pipes
- PE-X gives long-term insulation qualities and high μ factor
- Fast installation even for bends, obstacles and wall feed-throughs
- No compensators needed
- Simple and safe to operate modular system of connections
- System pipes are highly resistant to external influences
- No skilled welders required for connections

Standards

- DIN 16892/16893, yellow oxygen barrier DIN 4726



TYPE	DESCRIPTION	SIZE	COLOUR	OPTIONS	ACCREDITATION
GEOHERMAL PIPING SYSTEM	Black PE80 flexible pipe with compression fittings.	32mm and 40mm	Black	Variety of coil lengths.	Pipe - EN12201-2 Fittings - WIS 4-32-11
PRE-INSULATED PIPING SYSTEM	Double flexible pre-insulated, self compensating, underground pipe. Inner PE-X barrier pipe with corrugated HDPE outer casing.	25mm and 32mm	Black	Standard coil lengths of 10m, 15m and 20m available 'off the shelf.'	DIN 16892/16893, yellow oxygen barrier DIN4726.

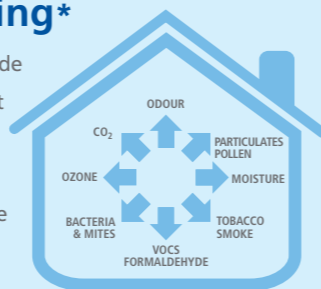
Energy Saving Ventilation Systems

Energy efficiency

Greater air-tightness and insulation in building construction means that both efficient and effective ventilation is now a mandatory requirement; Part L of the Building Regulations aims to improve the thermal insulation of a building. Whilst this provides superior energy efficiencies it also makes it difficult for the building to 'breathe'. The ventilation solutions from Polypipe provide optimum building comfort by allowing fresh air to circulate while maintaining acceptable levels of indoor air quality, without compromising on the energy efficiency of the installation.

Well-being*

If a house is made airtight without an adequate ventilation system, it can be an unhealthy place to live. It is important to 'build tight and ventilate right'.



*BSRIA 2010

Even relatively modern buildings can lose 25% of their heat through uncontrolled ventilation and air leakage. Bathrooms in particular are sources of high energy loss; an average bathroom full of moist air contains over 600 Watts of heat energy, all of which is wasted through vents or open windows. Polypipe's Mechanical Ventilation with Heat Recovery (MVHR) systems can recover up to 92% of this energy for re-use, providing significant savings in heating costs and carbon emissions. When distributed through Domus ducting, it provides the ultimate energy saving ventilation system.

Benefits

- Achieves higher levels of The Code for Sustainable Homes
- Improved SAP rating
- Secures additional points for the dwelling SAP rating, mandatory for any new building
- Recovers up to 92% of wasted heat
- Helps reduce fuel consumption
- Provides sustainable indoor living environments
- Helps prevent mould and interstitial condensation from damaging the building's structure

Where to use

Energy Saving Trust recommend that MVHR appliances should be installed in all new build and major refurbishments.

Standards

- SAP Appendix Q listed
- Energy Saving Trust compliant
- New build must conform to target emission rates (TER) laid down in Approved Document L of the Building Regulations

Application & technical considerations

System significantly reduces the requirement for other energy saving methods required to achieve compliancy with SAP.



Mechanical ventilation with heat recovery (MVHR)

MVHR provides continuous balanced ventilation with the added benefit of heat recovery in one system. It works by extracting stale, warm, moist air from kitchens and bathrooms through an energy efficient counter flow heat exchanger before expelling it to the outside. Incoming fresh air is filtered then warmed using the recovered heat energy and ducted back into the habitable rooms. As well as helping save energy and money, MVHR systems can reduce internal build-up of condensation and reduce the need for additional heating.

Features

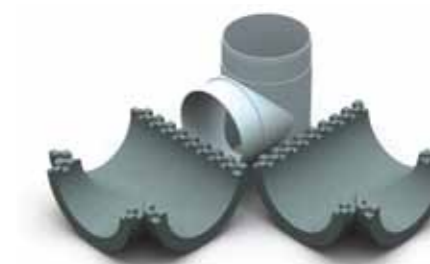
- Appliances available to support up to 7 wet rooms
- Range includes kitchen cupboard and loft variants
- Light weight and compact for easy installation
- Summer bypass options also available
- Range of tamper proof controls

Radial duct systems

An innovative and flexible whole house air distribution system for use with Polypipe appliances, the Polypipe Radial duct system is suitable for use in a wide range of new build or refurbishment applications. It uses a manifold air distribution box to channel air to up to 12 rooms through flexible, semi-rigid ducting and may be used with mechanical extract or heat recovery ventilation. Thanks to a simple 'plug and play' system of push fit joints, the Polypipe Radial duct system can be installed in up to 60% less time than comparable conventional solutions.

Features

- The manifold acts as an air distribution unit, each outlet supplying a different room
- Flexible, semi-rigid plastic ducting securely connects to outlets running directly to each room
- The outlet plenum enables the fixing of a standard air valve connector



Benefits

- Quick, simple installation - up to 60% saving on installation time compared to traditional branch duct systems
- Flexible ducting for easier routing
- Ducting is easily cut to length
- Speedy, push-fit joints
- Straightforward airflow balancing

Duct insulation for rigid duct systems

Domus Thermal is a unique (patent pending) duct insulation system, designed specifically to comply with 2010 Building Regulations and to radically improve the thermal insulation of ventilation ducting in domestic properties. Domus Thermal is used to insulate round or rectangular ducting passing through cold areas, preventing both heat loss and the formation of condensation.

TYPE	DESCRIPTION	SIZE	OPTIONS	ACCREDITATION
MECHANICAL VENTILATION WITH HEAT RECOVERY (MVHR)	Our MVHR appliances warm fresh air drawn into a building with heat extracted from waste, stale air. Distributed through Domus duct systems they also deliver fresh, pre-warmed and filtered air into the living areas of a home.	HR01W - 598 x 435 x 285mm Ø125/100 HR01L - 840 x 430 x 450mm HR02L - 840 x 430 x 450mm HR03L - 840 x 430 x 450mm Ø150/125	Appliances available to support up to 7 wet rooms. Kitchen cupboard and loft variants available, with summer bypass options. Includes a range of tamper proof controls, for optimum performance.	SAP Appendix Q registered and Energy Saving Trust Best Practice compliant. Exceeds the minimum requirements of Building Regulations.
RADIAL DUCT SYSTEM	Whole house air distribution system which uses a manifold to service up to 12 rooms. The manifolds evenly distribute the air through flexible, semi-rigid duct running to each individual room.	Ø125mm or Ø150mm options - depending on size of property.	Can be used with either MEV and MVHR options. Radial duct system packs to suit properties up to 300m ² (small MEV), 400m ² (large MEV) and 125m ² , 225m ² and 275m ² (MVHR).	Enables compliance with Building Regulations.
DUCT INSULATION FOR RIGID DUCT SYSTEMS	Our Domus Thermal duct insulation system is designed to comply with 2010 Building Regulations and to radically improve the thermal insulation of ventilation ducting in domestic properties.	Available to insulate Domus EasiPipe round Ø100mm, 125mm and 150mm and Supertube rectangular 240 x 60mm.	PVC coated, perforated steel banding is also available for surface mounting or suspending the insulated rigid duct system. For information on Domus rigid ducting please visit www.polypipe.com/ventilation .	LABC registered.

Earth Duct Ventilation Systems and Energy Ducting



Large scale earth duct ventilation systems

The provision of suitable indoor air quality within large scale commercial buildings is of increasing importance as sealed building envelopes become the norm in the pursuit of energy efficiency. Ridgiform-XL large diameter pipes offer a versatile and effective high volume ventilation pathway.

Polypipe system

Ridgiform-XL is the flexible sub surface alternative to suspended ducting for ventilation in commercial building developments. Its light weight but extremely strong structure makes it an invaluable component in below ground air ventilation solutions for commercial buildings.

Benefits

Burying ventilation pathways rather than running them across the ceiling offers a number of obvious advantages:

- Reduced overall building height with no loss of headroom.
- Easier planning permission in areas where maximum building heights are specified
- Larger total building volume, helping to maximise potential building revenues by freeing up room for features such as mezzanine floors
- Patented electro-fusion joint system ensures 100% joint integrity, eliminating water ingress into the ventilation system



Cable ducting for renewable energy systems

The use of cable protection systems from Polypipe allows the localised energy infrastructure solutions they protect to perform at their optimum levels, enabling developers to meet the Allowable Solutions requirement under The Code For Sustainable Homes. Providing energy resources in a sustainable and carbon efficient way, cable protection solutions provide security to the valuable infrastructure assets in both localised energy infrastructure and large scale renewable energy developments such as off-shore wind farms.

Polypipe system types

Our range includes UPVC specification ducting, as well as the proven and market leading Ridgiduct (straight lengths) and Ridgicoil (flexible coiled) systems. The inherent strength and flexibility of these plastic piping systems in robust HDPE allows them to resist cracking even under heavy loads and settlement. They are available as both straight lengths, as 50m coiled pipelines and in a wide variety of colours compliant with National Joint Utilities Group (NJUG) guidelines.

Technical considerations

Satisfying statutory, industry and project specifications, cable protection systems from Polypipe have been used extensively for highways, housing developments, and in commercial, industrial and infrastructure projects. Further installation guidance and technical recommendations are available in the Polypipe Civils Product and System Selector.

References and further reading

- ENATS 12-24
- BBA Certificate numbers 90/R049 and 89/2175

Benefits

- Inherent strength, protecting infrastructure cables from damage
- Easy installation and access with a full range of access boxes, pole boxes, covers and divider frames.
- Light weight and easy to handle on-site
- Easy access maintenance and repair

Standards

Cable protection solutions from Polypipe have been independently tested and accredited to UK and European standards including ENATS 12-24 (Energy Networks Association Technical Standards).



Frequently Asked Questions

Q. What is The Code for Sustainable Homes?

A. The Code for Sustainable Homes (CSH) aims to reduce carbon emissions for new residential buildings by setting target levels and ensures Building Regulations demand the very best energy efficiency from new homes.

Q. What levels have The Code for Sustainable Homes set for domestic homes to comply with?

A. **Code level 1** - Requires energy consumption of a residential building to be in line with 2006 Building Regulations.
Code level 3 - Currently mandatory for all new homes and requires a 25% energy saving on homes built to 2006 regulations.
Code level 4 - Requires a 44% energy saving in new homes and is currently EST recommended for social housing.
Code level 6 - will be implemented in 2016 and will require all new residential buildings to be zero carbon.

Q. What is SAP?

A. The Standard Assessment Procedure (SAP) is the UK Government's recommended method system for measuring the energy rating of residential dwellings.

Q. What is SAP Appendix Q?

A. This enables the performance of new technologies including mechanical ventilation with heat recovery to be used in SAP calculations. The appendix includes results of the higher standards of performance required by the EST.

Q. What are Building Regulations?

A. Levels of performance laid down by Parliament for the construction of buildings and installation of services.

Q. How do Building Regulations affect me?

A. Greater energy savings, standards of performance and reduction in carbon emissions is now a mandatory requirement of Building Regulations. Through complying with Building Regulations it will enable you to achieve the best possible SAP rating and attain higher levels of The Code for Sustainable Homes.

Q. What is the Energy Saving Trust (EST)?

A. The Energy Saving Trust (EST) provides independent sustainability recommendations to businesses and individuals. They are accepted by Government as the authority on many environmental issues.

Q. What is the Renewable heat Premium Payment?

A. The renewable Heat Premium Payment (RHPP) is a one-off 'grant type' offer to incentivise the uptake of renewable heat technologies in the period up to the formal launch of domestic Renewable Heat Incentive (RHI) tariffs in 2012.



Q. Do I have to be qualified to install Domestic Ventilation?

A. Domestic ventilation became 'notifiable work' on 1st October 2010 as part of the 2010 revision to Approved Document F of the Building Regulations. This means that domestic ventilation provision in new homes must be commissioned by a suitably qualified person.

Q. How do I become qualified to install Domestic Ventilation?

A. To ensure installers are qualified to install domestic ventilation, commissioning and hand-over, Polypipe have created a two day BPEC accredited training programme specifically written to complement the latest Building Regulation requirements. For more information on the course please call 08443 715523 or visit www.polypipe.com/installer_training

Q. Why is under floor heating more efficient than radiators?

A. This is a complex subject, but in simple terms under floor heating is more efficient because:

- UFH uses lower temperature water (typically 35°C to 50°C rather than 70°C) so less energy is required to heat the water
- This enables condensing boilers to condense more often or heat pumps to operate at low temperatures
- The nature of radiant heat provides a comparable comfort level at a lower air temperature
- The distribution losses are lower as all distribution pipework provides useful heat
- Control is simpler to apply by individual room therefore allowing systems to be more controllable

Q. Is my floor construction suitable for under floor heating?

A. The wide range of systems available allow the use of Polypipe under floor heating for virtually any type of floor construction. These include traditional forms of solid and suspended floor whether they are in a commercial or domestic environment. The addition of overfloor systems such as Polypipe Overlay™ allow existing floors to be heated or this type of system can be applied to new build floor constructions where the integration of traditional under floor heating may be difficult to apply.

Q. What British and European standards apply to wet under floor heating?

A. Water based systems are covered by BS EN 1264 Parts 1, 2, 3 (Design) and 4 (Installation). Floor screeds and finishes are covered by BS 8204 (2005) Parts 1-7, BS 8203, and DIN Standard 18560 Parts 1-7 – the latter being a longstanding Europe wide reference standard. Timber floors and timber finishes are covered predominantly by BS 8201 in the UK.

Technical Expertise & Support



Polypipe offers a wide range of high quality residential drainage, water supply, water management solutions, plastic plumbing and ventilation systems

Planning

In recent years, complex legislation such as the EU Water Framework Directive and guidelines including the Code for Sustainable Homes have all increased the complexity of the planning process. Our teams have the technical and regulatory knowledge to help you meet the broad range of demands needed for project approval and will advise you at every stage on satisfying their requirements.

Design

We offer a range of end-to-end design services, drawing on our full range of in-house facilities and the in-depth knowledge of our designers, specialists and engineers to help you achieve the 'whole house' performance you're aiming for.

Training

A full range of hands-on training courses are available at our purpose built demonstration, exhibition and training facilities, providing relevant information and training for our customers throughout the supply chain.

Technical and on-site support

Our full project co-ordination services will help you manage and prioritise your on-site resources to deliver your water supply, water management, heating and ventilation objectives economically and effectively. All our literature including technical and installation guidance is easily accessed at: www.toolbox.polypipe.com

In-house bespoke fabrication

Polypipe is the only UK manufacturer to operate dedicated, in-house system fabrication services for water management, drainage and ventilation solutions, giving you all the benefits of made to measure fit and performance.

Nationwide merchant network

The national network of Polypipe merchants is essential to our high levels of customer service. Not just resellers, but genuine partners in the Polypipe supply chain, they ensure products you need are available, whenever and wherever you need them. While our 150 strong fleet of trucks and 300 trailers is on the road around the clock to maintain stock levels and service the needs of our customers right across the country.

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 capacity 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 handle and transport and less energy to be converted from polymer to finished product compared to traditional materials.

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



Literature

Product Literature



Underfloor Heating Systems Ventilation System and Product Selector Ventilation Installer Training Polypipe Civils Product Selector

Solutions Literature



WMS Residential

All literature available at:
www.toolbox.polypipe.com

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 Water Management Solutions address the requirements of every construction and civil engineering project.



Market Sector Literature

Additional market sector literature is available please visit www.polypipe.com or contact the telephone numbers appearing under each brochure.



Residential 01709 770000 **Civils and Infrastructure** 01509 615100 **Commercial** 01622 795200

All literature available at:
www.toolbox.polypipe.com

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:

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.

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.

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Carbon Efficient Solutions



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