

Installation Guide & Product Handbook



POLYPLUMB

HOT & COLD PLUMBING & HEATING SYSTEM

HOT & COLD PLUMBING & HEATING SYSTEM

www.polyplumb.co.uk



POLYPLUMB

HOT & COLD PLUMBING & HEATING SYSTEM

UNDERFLOOR CENTRAL HEATING SYSTEM

www.ufch.com



COLD WATER SUPPLY SYSTEMS

incorporating Compression, Push-fit
and Electrofusion Fittings

www.polypipe.com/bp



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POLYPLUMB SYSTEM

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HOT & COLD PLUMBING & HEATING SYSTEMS



POLYPLUMB

HOT & COLD PLUMBING & HEATING SYSTEM

Polyplumb is an integrated flexible plumbing system incorporating polybutylene pipes and a complementary range of push-fit fittings for use in hot and cold water supply and central heating installations.

The **Polyplumb** System is available in 10mm, 15mm, 22mm and 28mm diameter pipe and fittings.

The **Polyplumb** system combines ease of installation with long term performance benefits such as being corrosion and scale free and offering silent operation. **Polyplumb** fittings are designed to accept both copper and polybutylene pipes allowing installers the flexibility to incorporate rigid pipes where necessary.



SYSTEM BENEFITS

The use of Polybutylene pipe in the Polyplumb system offers installers both ease of handling, due to greater pipe flexibility, and a higher design life safety factor than alternative plastics pipe materials.

The Polyplumb system is also safer and quicker to install, and requires fewer joints than rigid pipe systems, as jointing does not require the use of solvents, solder or naked flames. When installed Polyplumb is more resistant to impact damage and pipe freeze bursts than rigid pipe systems.

Polyplumb should not be used for the conveyance of gas, oil or compressed air.



P.B.P.S.A.

Polypipe Building Products Ltd 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. The P.B.P.S.A. web site can be found at www.PBPSA.com.

This document should be read in conjunction with all other documentation supplied with Polyplumb products. If in doubt, ask!

APPLICATIONS - The Polyplumb system is suitable for use in hot and cold water supply, in radiator central heating systems, and in underfloor central heating systems. See Design & Installation Guide (UFH 3) for further details.

PERFORMANCE - The system is suitable for use in working applications up to 12 bar / 20°C (6 bar / 90°C).



**STANDARDS
MANUFACTURING QUALITY ASSURANCE** - in accordance with BS EN ISO 9002 (BSI reg. firm Certificate FM00318).

INSTALLATION STANDARD - to follow the recommendations of BS5955 - PART 8 2001 Plastic pipework (Thermoplastic Materials).

SYSTEM APPROVALS



BRITISH STANDARD Class S rated to BS7291 Part 1 and Kitemark Licence Number 38148 to BS7291 part 2.



WRAS Listed in the WRAS Water Fittings and Materials Directory.



KIWA / KOMO Certificate numbers K14341, 14342 and 14343.
BBA Polyplumb polybutylene barrier pipe, fittings, accessories and underfloor central heating systems are covered by BBA Certificate No 00/3699.

BRITISH GAS - has accepted the Polypipe "Polyplumb" Class S polybutylene barrier 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. NOTE: British Gas do not accept Polyplumb Standard Pipes as part of the 3 star central heating service contract.

BARRIER PIPES - Tested to DIN 4726 and DIN 4727 giving an oxygen permeability less than the value of 0.1g (m²d) specified in DIN 4726.

GASES - The Polyplumb system is not suitable for the transportation of gases.

WATER - Polyplumb pipe and fittings are resistant to the build-up of scale. Short term chlorination for disinfection of supply pipe work and normal levels of chlorine in UK domestic water supplies will not have an adverse effect on Polyplumb. Polyplumb is not suitable however for systems that carry a high concentration of chlorine, eg supplies to swimming pools.

LIGHT - Polyplumb pipe and fittings should be protected from UV light. Standard decorating paints form adequate protection. Polyplumb pipe insulation forms adequate protection for external use. Polyplumb is delivered in light protective packaging.

THERMAL - Polybutylene has low thermal conductivity. Its co-efficient of thermal expansion is $1.3 \times 10^{-4} \text{ m/m}^\circ\text{C}$. It accommodates expansion by its natural flexibility.

ACOUSTIC - The Polyplumb system gives better performance than rigid pipe systems in terms of low noise transmission and low water hammer effect.

ELECTRICAL - As Polyplumb pipe does not conduct electricity, installations generally require less equipotential bonding than metal systems. Both the IEE and the IoP give guidance on the earth bonding requirements of plastic pipe systems. Where Polyplumb breaks the continuity of existing metal pipe which may be used for earthing or bonding this continuity should be reinstated by affixing permanent earth clips and a section of earth cable between the ends of the copper pipe.

COMPATIBILITY - The Polyplumb system connects to rigid pipe systems. For details of compatibility with specific building materials, eg filler foam, wood worm treatments, please consult the Polyplumb hotline on 01709 770000. Polyplumb pipes and fittings can be painted using emulsion or undercoat and gloss. Cellulose based paints, strippers or thinners must not be used.

MAINTENANCE - None required other than checks on inhibitor level in heating systems.

25 Years Guarantee



Polypipe **Guarantees for 25 years** against defects in materials or manufacture of the Polyplumb hot and cold water supply and Polyplumb heating system, from the date of purchase. This guarantee excludes Manifold and Control products detailed on pages 58, 59 and 60. This guarantee only applies if the system is installed in accordance with the manufacturers recommendations contained within this Installer Guide, The Design & Installation Guide and all other Polyplumb installation documents and is used in a normal domestic operation.

Jointing and Dismantling

There are six stages to successfully jointing the Polyplumb system.



1a. Cutting Polyplumb pipe

Always use one of the approved pipe cutters (Code PB777 or PB778).

A slight rotation of the pipe when cutting will help make the operation easier. Never use a hacksaw. Wherever possible, cut on a depth insertion mark, these "K" shaped marks are equally spaced along the pipe and indicate the depth required for full insertion in to a Polyplumb socket fitting.



1b. Cutting Copper Pipe for insertion in a Polyplumb fitting

Wherever possible, use a rotational pipe cutter when cutting copper pipe. Ensure that all cut ends have a rounded lead in, with burrs removed. Never use a hacksaw. You will need to mark the depth insertion on the pipe, the insertion depths are shown in the table.

Pipe diameter (mm)	10	15	22	28
Insertion Depth (mm)	22	27	30	35



2. Use of pipe stiffener

Pipe stiffeners are an integral part of the joint when using Polyplumb pipe with either Polyplumb fittings or compression fittings and need to be fully inserted in to the pipe end. They are not required when using copper pipe.

3. Visual check of fitting & fitting components

Although every single socket is visually checked during the manufacturing process to ensure that all components are present and in the correct order, a further visual check is recommended as tampering by others can take place on site or during distribution. The cap should be hand tight only. Caution - Do not insert fingers into the Polyplumb fittings, as the grab ring is sharp and designed to grip.

Note: Components shown in dismantling section.

4. Insert pipe fully into fitting

The pipe should be inserted into the fitting to full socket depth such that the insertion depth mark aligns with the outer end of the cap nut on the fitting.

5. Grab ring check

A quick tug on the pipe will confirm that the pipe is inserted past the grab ring and that a grab ring was present in the fitting. It does not however ensure that the pipe is fully inserted as this can only be confirmed by using the depth insertion mark.

6. Avoidance of Re-jointing - WARNING!

On no account should a pipe be removed from a jointed Polyplumb fitting by removing the cap-nut and withdrawing the pipe end complete with all the socket components from the fitting to be re-jointed without removing and replacing the grab-ring into the fitting and re-making the joint in accordance with the normal Polyplumb jointing procedure.

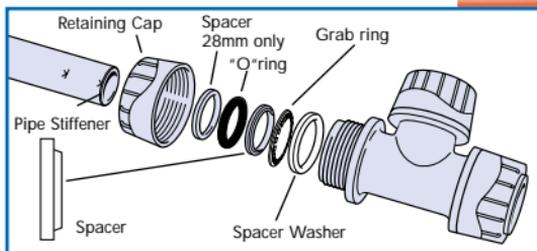
If the pipe end complete with all the socket components is subsequently re-jointed into the body of a fitting, there is a risk that the outer edge of the grab-ring could catch on the outer end or the inside surface of the socket of the fitting which forces the grab-ring into an angled position on the pipe. Forcing the grab-ring into an angled position on the pipe in this way, seriously damages the grab-ring teeth and will reduce the pull-out performance of the joint when subjected to pressure, such that premature failure will almost certainly occur.

Dismantling the Joint

Polyplumb fittings must not be dismantled for any reason prior to jointing.

Procedure for using the component pack of spares.

1. If it is necessary to remove a jointed pipe from a fitting, the cap-nut should be unscrewed and the pipe with all the socket components present on the pipe end should be pulled out of the socket of the fitting. The pipe end complete with all the socket components should be cut off and discarded. A complete component pack of socket spares should be fitted to the socket as described below and pipe jointing should be carried out as described left.
2. The component pack (Code: PB95) is supplied as a cap-nut with all the socket components present in the correct order and retained by a self adhesive sticker.
3. Completely remove the adhesive sticker, ensuring that the socket components remain within the cap-nut.
4. Without removing any of the socket components from the cap-nut, introduce the cap-nut and socket components to the socket of the fitting and tighten up the cap-nut by hand ensuring that the components enter the socket without snagging.
5. Carry out a visual check to ensure that all socket components are present in the correct order as shown in the diagram and that the rubber 'O'-ring is lubricated. If in doubt, the 'O'-ring should be re-lubricated using Polyplumb silicone lubricant.
6. Carry out pipe jointing as described left.



Connections to Other materials

Connection to Imperial Copper

Imperial 3/4" Copper pipe is of significantly different size to its metric 22mm counterpart and therefore requires a different 'O' ring to that supplied in the 22mm fitting. The 22mm 'O' ring should be replaced with a 3/4" 'O' ring PB9034. Standard 15mm fittings can be connected to Imperial 1/2" copper pipe, and 28mm fittings can be connected to 1" copper pipe.

Connection to Irish copper pipe

Irish copper pipe to IS238:1980 can be connected to Polyplumb fittings which incorporate the 3/4" or 1" adaptor set. Using a standard 22mm or 28mm Polyplumb fitting, remove the nut and socket components and discard. Replace these parts with the relevant adaptor set, 3/4" - PB7034 or 1" - PB701. The adaptor sets are distinguishable by the black cap nut.

Connection to Chrome plated and Stainless steel pipework

Where it is necessary to connect to either chrome plated or stainless steel pipework, for instance to exposed pipework in shower areas, the compression adaptor PB7115 (15mm) or PB7122 (22mm) can provide a transition fitting.

Connections close to capillary fittings

Capillary fittings should preferably be completed prior to the use of Polyplumb fitting. Where this is not possible, care should be taken to ensure that flux or solder does not come into contact with Polyplumb pipes or fittings. A damp cloth should be wrapped around the copper pipe close to the nearest Polyplumb pipe or fitting to ensure against damage by conductive heat. Pipework should be flushed to clear flux before active use.

Connection to Incoming cold water supply (MDPE)

A range of one piece adaptors are available to connect directly from 20mm, 25mm, and 32mm MDPE pipe to 15mm, 22mm and 28mm Polyplumb in both Polyfast (compression MDPE) x Polyplumb and Push-fit (Push-fit MDPE) x Polyplumb. All include a MDPE 12 bar plastic Stiffener, alternatively a range of valves (MDPE x Polyplumb) is available.

Recommendations for Gas, Oil, Compressed Air, Solid Fuel and Solar Heating systems

The Polyplumb system is suitable for domestic plumbing and heating systems. Polyplumb pipes and fittings must not be used for gas and oil supply pipework or compressed air pipework.

Polyplumb pipes and fittings must not be used for solar heating systems. Polyplumb pipes and fittings must not be used for primary or gravity circuits from solid fuel back boilers.

In all the above instances metallic pipework should be installed.

Connections to Other Equipment

BOILERS. Polyplumb pipe should only be connected to gas boilers where the pipe connection is outside the boiler casing and where the boiler incorporates a high limit thermostat and pump over-run facility. The pipe connections should be 350mm from the heat source. In all other situations, a section of metal pipe should be at least 1m in length.

CYLINDERS. Polyplumb pipe can be connected directly to cylinders using the cylinder union PB4122. All Polyplumb pipework in the cylinder cupboard should be from cut lengths rather than coils and should be clipped to a pipe board rather than the wall using screw clips at 300mm centres. Pipe clip spacers (PB24**) should be used to achieve crossovers where necessary.

SANITARY APPLIANCES. A full range of tap connectors is available to connect Polyplumb to sanitary appliances. As the Polyplumb system does not require heat to make a joint, the tap connectors can be connected to the sanitary appliance prior to installation of the sanitary ware itself. Installers need only make a push fit connection, which can be advantageous in tight locations. Spigot elbows (PB10**) can be used to connect directly into shower mixers where the pipework is concealed.

RADIATORS. The Radiator Connector Bend "RCB" provides installers with an attractive method of connecting 10mm or 15mm Polyplumb pipe from walls or floors to radiators. The rigid white 100mm x 150mm bend can be cut to length and connects directly to Polyplumb fittings and radiator valves and requires pipe stiffeners in each end.



Quick Fixes and Helpful Hints

With well over 200 products in the range the Polyplumb system has a fitting for almost every eventuality. Innovative products such as the Radiator Connector Bend (PB39**), Hand Tighten Tap Connectors (PB27**) and Flexible Hose Tap Connectors (PB68**) provide the installer with cost effective, quick and easy to fit solutions which allow hassle free maintenance. Recent additions to the range include the 1/2" x 3/8" Reducing Bush (Product Code PB3415) which adapts a 3/8" thread used on taps and cistern valves to 1/2" threaded tap connector to give a neat unobtrusive connection without the need for excess fittings and Swivel Service Valves (PB6515 and PB6615) which are ideal for connecting to taps and cisterns where a method of isolation is required.

Pipe Selection

Cut length or "Plumb straight"

Although "Plumb Straight" Coiled pipe is designed to effectively straighten when un-coiled, where the visual appearance of pipe is important, i.e. short visible sections of 22mm pipe or cylinder cupboards, straight pipe may be preferred. Note: Polyplumb pipe is not recommended for long permanently exposed runs of pipe where appearance is important. Both straight and coiled pipes are flexible.

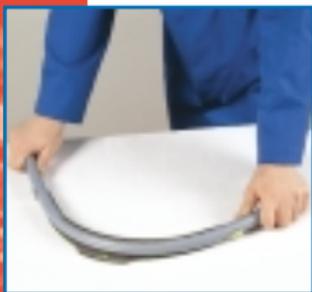
Standard or Barrier

Barrier pipe is a requirement of British Gas and must therefore be used for heating services which may be adopted for their 3 star warranty. Standard pipe can be used for all domestic water and heating installations which are not to be adopted by British Gas. Polypipe however recommend that corrosion inhibitors are introduced to and maintained in all heating systems whether they be installed in standard or barrier pipe.

Pipework Installation

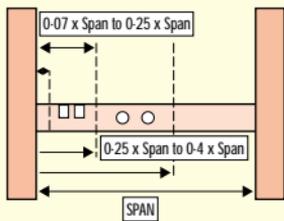
Minimum bending radius

The minimum bending radius of unsupported Polyplumb pipe is 12 times the pipe diameter. Bends can either be supported at each end of the bends using pipe clips where possible. Alternatively, bends can be supported by a bend former (PB6315 or PB6322) where only one screw hole is required, and the minimum bend radius is 8 times the diameter. (see table below)



Pipe diameter (mm)	10	15	22	28
Unsupported Minimum Bend Radius	120	180	264	336
Supported Minimum Bend Radius	80	120	176	224

Position of Notches & Holes



Pipe Cabling

The main benefit of using Polyplumb is that the pipe flexibility allows pipe to be cabled through the fabric of the building offering the following advantages.

New Build

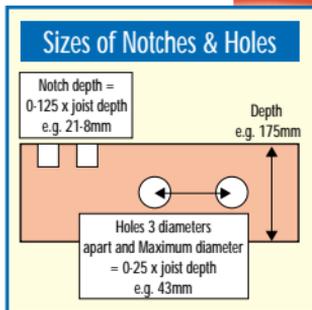
1. Allows 1st floors to be laid before plumbing is installed. Plumbing can be installed through holes drilled in joists.
2. Site safety is enhanced as pipework can therefore be installed from below.

- Post installation repair work is reduced, as expansion noise due to trapped pipes does not occur, and leaks due to nailed pipes are avoided.

Alterations to existing systems

- Less disruption to property as floors and carpets may not have to be removed in some rooms.
- Kinder to building structure, as existing joists may not allow further notching.
- Pipes can be cabled around existing obstructions.
- Safety is enhanced as no naked flames are required.

Polyplumb pipe provides installers with the flexibility of installing pipes through both holes and notches in joists, choosing the most appropriate method. Building Regulations provide instructions on the drilling and notching of floor joists. These requirements are shown above.



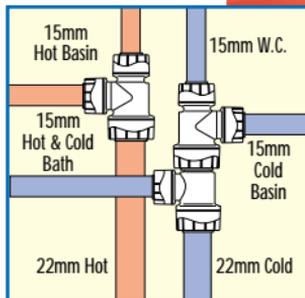
Pipe Supports

All Polyplumb pipes should be correctly supported using either nail-in (PB22**), snap-fit (PB23**) or bulldog (PB21**) clips. Where required spacer pieces are available for the snap-fit clips (PB24**). All valves should also be correctly supported to prevent unnecessary strain on the pipework.

	Minimum support centres	
	Horizontal pipes	Vertical pipes
10mm & 15mm	0.3 mtrs	0.5 mtrs
22mm	0.5 mtrs	0.8 mtrs
28mm	0.8 mtrs	1.0 mtrs

System Design

Although Polyplumb can be used in exactly the same way as rigid systems, the flexibility of the pipe allows more design options which may benefit the installer, the building, or during future maintenance. The general theory of designing water systems in Polyplumb is to use the flexibility of the pipe to its best advantage and therefore using fewer fittings. This not only ensures the most cost-effective use of the Polyplumb system but also allows fewer joints and hence improved flow around changes of direction. The flexibility of the pipe allows jointing to be made in fewer locations and joint locations can more easily be made accessible.





Polybutylene Single sided Manifolds



Polybutylene Double sided Manifolds



Ball Valve to convert above to Valved Manifold



Brass Valved Manifold



Brass Unvalved Manifold

A complete new range of Manifold and Accessories have been added to the Polyplumb System to further enhance it's user flexibility



- ... Economical,*
Fewer Fittings
- ... Quicker,*
Less Jointing of Pipes
- ... Control,*
Easy isolation of each service
- ... Simple,*
Fittings all in one place
- ... Easier,*
Fittings easily accessible

Use of 10mm pipe for heating applications

As 10mm Polyplumb pipe is so flexible and can easily be positioned behind dry lining, its use offers many installation advantages. As it is the smallest of the pipe diameters offered in the Polyplumb range, restrictions on the use of 10mm pipe should be considered.

Example: 10m of pipe prior to 10mm connection (5m flow, 5m return) used with 1.25 Kw Radiator.

Maximum length of 10mm = 13m (6.5m flow, 6.5m return).

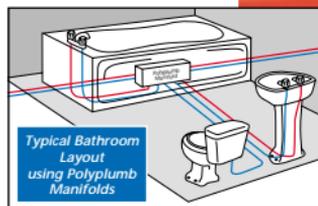
Max length of pipe prior to 10mm connection e.g. 10m = 5m flow and 5m return	Max length of 10mm pipe total, e.g. 14m = 7m flow and 7m return		
	1 KW Rad	1.25 KW Rad	1.5 KW Rad
5	24	15	11
6	23	15	11
7	22	15	10
8	22	14	10
9	21	14	10
10	20	13	10
11	20	13	9
12	19	13	9
13	19	12	9
14	18	12	8
15	17	11	8
16	17	11	8
17	16	10	8
18	15	10	7
19	15	10	7
20	14	9	7

Polyplumb Manifold System

For use in most domestic and commercial hot and cold water supply and radiator heating projects, the Polyplumb Manifold System provides a central connection point for water distribution.

Available in resilient easy to use lightweight Polybutylene or traditional brass finish.

Manifold plumbing which is ideally suited for use with Polyplumb "pipe-in-pipe" technology, (where screed embedded pipework is used with minimal joints) is employed in a similar way to simple electrical circuits, in that all services are supplied from an easily accessible central distribution unit that



can be either wall mounted, placed in an unobtrusive void or housed within an inspection box and subsequent supply pipework cabled through wall, floor or ceiling voids. Although Polyplumb Manifolds are available in various port configurations they can be close coupled together to create manifolds with any number of outlets.

Specific Features

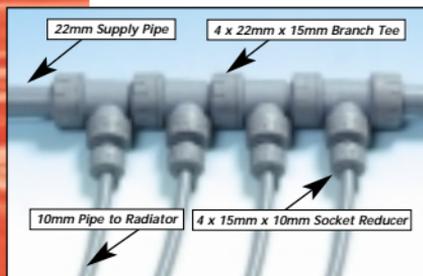
The lightweight Polybutylene manifolds are available both double socketed and socket/spigot ended with double sided or single sided Polyplumb push fit ports, which readily accepts specially designed manifold ball valves.

The brass manifold comes with 3/4" male and female BSP ends and are available both valved and unvalved.

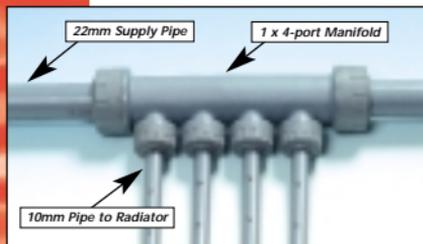
Valve head wheels incorporate twin disc identification indices, the lower disc displays the appliance or room supplied and the top disc displays the hot and cold blue and red symbols. A benefit of the valve manifold facility is each pipe can be traced independently and isolated at one central point.

The Polyplumb manifold range is ideal for "in-wall" applications such as special accommodation, Hotels and public houses where services are virtually inaccessible or minimal joint use is demanded.

Application of Manifolds for Central Heating Systems



Conventional radiator supply using multiple fittings



Radiator supply using Polyplumb 4-port manifold

Why use a Manifold?

When employing normal accepted plumbing technology for central heating systems, many fittings are used to divert the water flow to the various radiators needed to heat the home.

For example, if you were supplying four radiators with 10mm pipe from a 22mm flow and return supply, it would require 16 fittings (8 x 22mm x 15mm Branch Tees and 8 x 15mm x 10mm Socket Reducers) to complete the job which would make 26 joints in all, conversely if you were to use the new Polyplumb 22mm x 10mm 4-port manifolds you would only need to use 2 fittings and create only 12 joints.

Therefore using a manifold system is both economical, simpler and quicker by using less fittings and creating fewer joints within cavities and voids.

Usage in Joisted Floors

Polyplumb manifolds are dimensionally compact and can be used in joisted floors or ceiling voids for in-line distribution. They are normally used unvalved, as each radiator has valves on for isolation purposes.

There are both single and double sided versions with 10mm ports and in-line side versions with 15mm ports. Being lightweight they can be simply used in-line without bracketed support as long as the pipework is adequately supported.

Screeded Floors with Pipe-in-Pipe

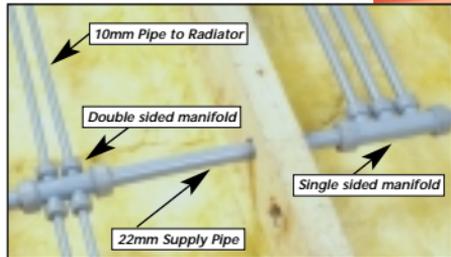
When heating supply is to be used with a screeded floor, (where no joints are allowed below the floor surface) a 22mm pipe-in-pipe main supply is used. This supply would exit the floor, pass through the manifold system above the floor surface, and re-enter the floor to the next manifold supply point elsewhere in the building.

The supply to each radiator would then be taken off the manifold, these single sided unvalved manifolds are available in both brass or plastic with 10mm or 15mm ports (10mm pipe for small radiators or short runs and 15mm for longer runs or larger radiators).

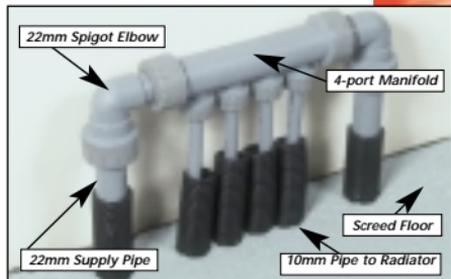
Application of Manifolds for Hot and Cold Water Supply

Using a Manifold?

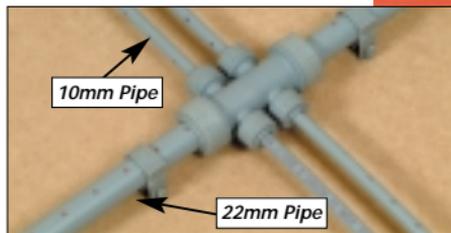
There are two ways that the manifold system can be employed in hot and cold water supply, the benefits of which are that all pipework is concealed but fittings are above floor level and can be hidden away in cupboards and voids. Services can be isolated where needed using the valved manifolds.



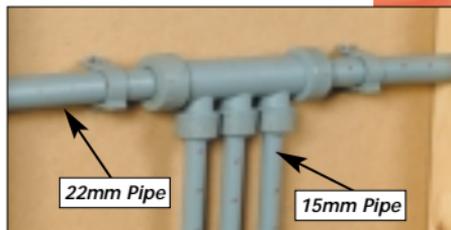
Double and Single sided manifolds



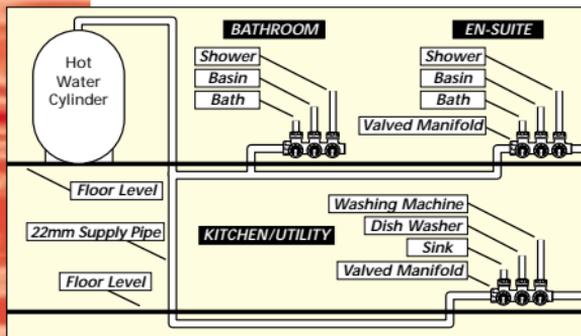
Manifold used above a screeded floor



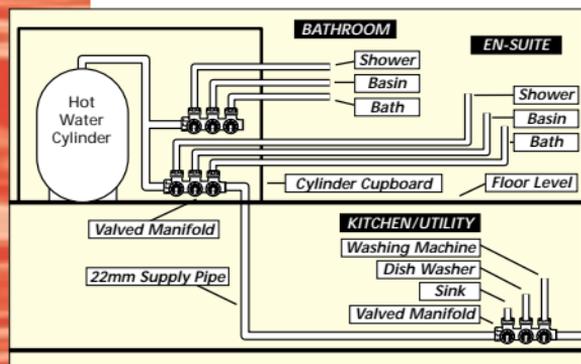
Double sided Port version



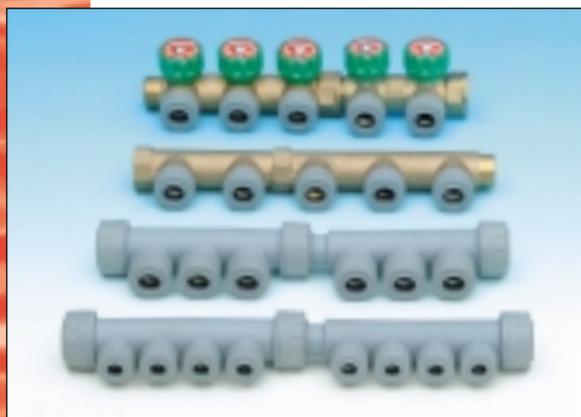
In-line Single sided Port version



Localised supply design layout



Centralised supply design layout



Joining together of manifolds increases port outlets

Localised Manifold Supply

Localised supply is where the manifold is placed unobtrusively within a void or cupboard or under the bath in the area supplied, i.e. bathroom, en-suite or kitchen area. The 22mm Supply pipe is fed through the house to the manifold and then secondary supply pipes are taken out of the ports to feed each appliance, e.g. basin, bath or shower.

Centralised Manifold Supply

Centralised manifold supply is where the manifold distributes water to each appliance directly from a central cylinder cupboard, where a series of valved manifold are dedicated to each area, i.e. bathroom, en-suite, kitchen or utility room.

Using Manifold to create extra Ports

One clever design feature of the new Polyplumb Manifold Range is that both polybutylene and brass manifolds will join together to create extra Port facilities to accommodate any number of multiple service needs.

What Manifolds would you use?

There are three distinct variations of manifold arrangement that can be employed in the supply of hot and cold water. Both brass and plastic non-valved with separate push-fit ball valves or brass integrally valved manifolds can be used.

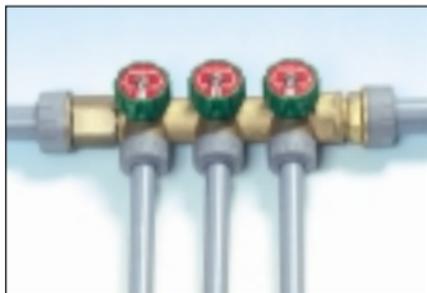
The separate ball valve can also be used in-line where isolation is required away from the manifold (straight couplers are required to connect to spigot end).



- *22mm Polybutylene Unvalved Manifold*
- *15mm Ports*
- *Single Sided*
- *Separate Spigot Ball Valves*



- *3/4" Brass Unvalved Manifold*
- *15mm Ports*
- *Single Sided*
- *Separate Spigot Ball Valves*



- *3/4" Brass Valved Manifold*
- *15mm Ports*
- *Single Sided*
- *Separate Spigot Ball Valves*



Conduit pipe and Pipe-in-Pipe

The conduit pipe coils (CPC15** and CPC22**) provide a conduit pipe which allows 15mm and 22mm Polyplumb pipe to be laid in a floor screed whilst conforming to Water Regulations. The installation and application of the system is described in the following section. The conduit pipe used in conjunction with the conduit boxes (JIB1 and JIB3) which house fittings, provides a cost effective and practical pipework solution.



Pipe-in-Pipe System

Polyplumb Pipe-in-Pipe consists of a polybutylene barrier pipe encased within a black conduit pipe. The conduit provides protection for the polybutylene pipe in the installation process as well as allowing easy withdrawal for future alteration or maintenance.

The installation procedure for conduit systems is as follows:

1. Loosely position conduit boxes where required.
2. Assemble fittings in boxes
Handy Tip: Where boxes abut a wall, i.e. elbows beneath radiators or sanitary appliances, boxes can be cut in two with the open end abutting the wall, this reduces the number of boxes required.
3. Drill conduit box using fitting assembly to determine hole position.
4. Fix conduit box to floor.
Handy Tip: Use round drilled out sections of conduit box as washers.
5. Make joint at one end of pipe to be installed and cut pipe to length required.
6. Cut conduit to length required before threading conduit over pipe and through hole in box to 2 or 3 corrugations.
7. Push away pipe from end yet to be connected to allow grip onto the pipe and push the pipe into the fitting before allowing conduit to cover pipe. Push conduit through hole in box to 2 or 3 corrugations.

Joints in screeded floors due to accidental damage

Where it is necessary to have joints in screeded floors, these joints must be accessible. For example, where accidental damage to a pipe has occurred, it is recommended that the damaged section of pipe is removed and replaced using Polyplumb straight couplers (PBO**). The section containing the joints must be installed within a Polyplumb Junction Inspection Box. Polyplumb Junction Inspection Boxes are manufactured to suit two screed depths; 65mm (Product Code JIB3) - black in colour and 75mm (Product Code JIB1) - grey in colour. Both accept the 12mm plywood lid (Product Code JIB2) to provide future access should it be required.

Pipe and Fitting Blanking

Polyplumb pipes and fittings may need to be temporarily or permanently blanked for testing, avoidance of construction debris or future extensions. The pipe blanking cap (PB19**) fits on a pipe end and requires a pipe stiffener whilst the fitting blanking cap (PB9**) blanks a fitting socket and is provided complete with a pipe stiffener. Alternatively, pipes can be looped together (e.g. radiator tails) using a section of pipe for temporary blanking during testing.

Painting

Polyplumb pipes and fittings can be painted using emulsion or undercoat and gloss. Cellulose based paints, strippers or thinners must not be used.

Pipe Insulation

Polyplumb has the same insulation requirements as copper. Where pipe insulation is not required by Building or Water Regulations, but is preferred by the client for system efficiency, Polyplumb Pipe Insulation is recommended. Where insulation is required by regulation, the Polyplumb Pipe Insulation Plus should be used. The table below shows the insulation thickness and products required.

Product Lines needed to meet Service or Regulation requirements		Pipe OD (mm)	Water Bye-Law 49 amended Jan 1990 (Cold Water) Required Wall Thickness	Polyplumb Pipe Insulation Plus product required
		15	25mm	APP15251/2
		22	19mm	APP22191/2
		28	19mm	APP28191/2
Pipe OD (mm)	Building Regulations L1-Section 3 1995 (Hot Water) Required Wall Thickness	Polyplumb Pipe Insulation Plus product required	Building Regulations L1-Section 3 1995 (Domestic Heating) Required Wall Thickness	Polyplumb Pipe Insulation Plus product required
15	13mm	APP15191/2	15mm	APP15191/2
22	13mm	APP22191/2	22mm	APP22251/2
28	13mm	APP28191/2	-	-

Note: Polyplumb Pipe Insulation Plus has a thermal conductivity of 0.038W/mK at 40°C.

Electrical safety

Where Polyplumb pipe breaks the continuity of existing metal pipe, which may be used for earthing, or bonding this continuity should be re-instated by affixing permanent earth clips and a section of earth cable between the copper ends on either side of the Polyplumb sections.

Equipotential bonding

Both the IEE and The Institute of Plumbing now give guidance on the Earth Bonding requirements of Plastic Pipe systems. As Polyplumb pipe does not conduct electricity, installations generally require less equipotential bonding than metal systems although if in doubt exact guidance should be sought.

System Testing

Pressure testing of systems is recommended.

1st fix Installations Pipe and fittings only should be tested. The system should be completely filled using water at not more than 20°C at a test pressure of 18 Bar which should be applied for not less than 15 minutes and no longer than 1 hour. Joint security can be checked visually and by tugging at joints. 2nd fix Installations (complete installations including appliances) should be tested with water to the maximum test pressure allowed by manufacturers of the appliances and fittings.

Pressure Testing in sub zero temperatures

Special precautions are necessary if the pressure testing is to take place in sub-zero temperatures.

This applies particularly in under floor central heating systems using the screeded floor system where most of the pipe is encased in concrete. Due to the contact between pipe and floor panel on screeded installations, where the screed does not completely surround the pipe, there may be points where strain is created on the pipe in freezing conditions which is not normally present. Therefore it is advisable to drain the under floor central heating system once testing and screeding has been completed. Precautions should also be taken where installations contain large quantities of fittings which due to the rigidity of their construction may put undue pressure on the pipe.

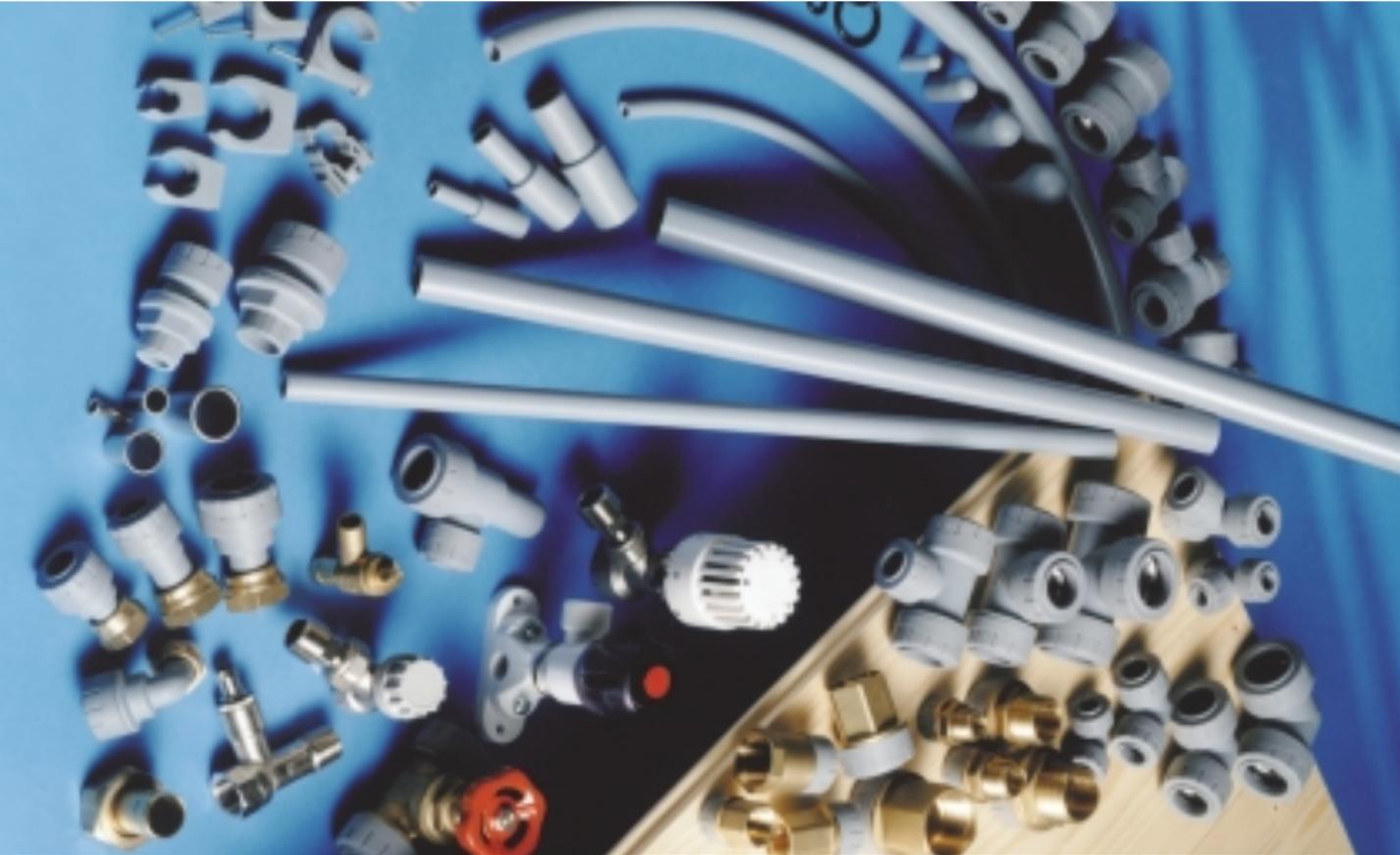
System Chlorination

Short term chlorination for disinfection of supply pipework and normal levels of chlorine in UK domestic water supplies will not have an adverse effect on Polyplumb. Polyplumb is not suitable however for systems that carry a high concentration of chlorine, i.e. supplies to swimming pools etc.

Handling and Storage of Polyplumb products

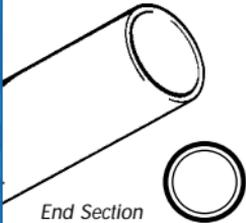
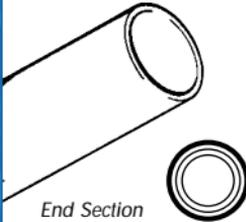
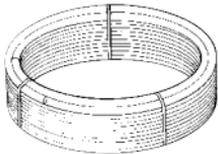
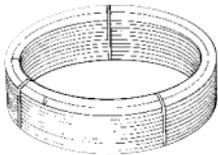
The Packaging of both pipes and fitting is designed to protect from ultraviolet light and environmental contamination. Pipes and fittings should therefore be retained in their packaging as long as possible, and should be stored in a cool dry area.

When on site, fittings should be stored to prevent dust and debris from entering the fitting and sticking to the pre-lubricated "O" ring. Care should be taken to avoid scratching the pipe surface during installation.



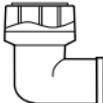
PRODUCT RANGE

Polyplumb Polybutylene Pipe - 10,15,22 & 28mm O.D.

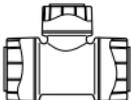
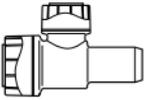
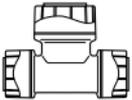
	PRODUCT DESCRIPTION	CODE NO.
 <p>End Section</p>	<p>Standard Pipe Cut Length</p> <p>15mm x 3 metre Cut Length 15mm x 6 metre Cut Length 22mm x 3 metre Cut Length 22mm x 6 metre Cut Length 28mm x 3 metre Cut Length 28mm x 6 metre Cut Length</p>	<p>PB315 PB615 PB322 PB622 PB328 PB628</p>
 <p>End Section</p>	<p>Barrier Pipe Cut Length</p> <p>15mm x 3 metre Cut Length 15mm x 6 metre Cut Length 22mm x 3 metre Cut Length 22mm x 6 metre Cut Length 28mm x 3 metre Cut Length 28mm x 6 metre Cut Length</p>	<p>PB315B PB615B PB322B PB622B PB328B PB628B</p>
 <p>Featuring "Plumb Straight" Coiling Technology</p>	<p>Standard Pipe Coils</p> <p>10mm x 50 metre Coil 10mm x 100 metre Coil 15mm x 25 metre Coil 15mm x 50 metre Coil 15mm x 100 metre Coil 22mm x 25 metre Coil 22mm x 50 metre Coil</p>	<p>PB5010 PB10010 PB2515 PB5015 PB10015 PB2522 PB5022</p>
 <p>Featuring "Plumb Straight" Coiling Technology</p>	<p>Barrier Pipe Coils</p> <p>10mm x 50 metre Coil 10mm x 100 metre Coil 15mm x 25 metre Coil 15mm x 50 metre Coil 15mm x 100 metre Coil 15mm x 150 metre Coil 22mm x 25 metre Coil 22mm x 50 metre Coil 28mm x 25 metre Coil 28mm x 50 metre Coil</p>	<p>PB5010B PB10010B PB2515B PB5015B PB10015B PB15015B PB2522B PB5022B PB2528B PB5028B</p>

Stainless steel pipe stiffeners must be used whenever Polybutylene pipe is jointed into a Polyplumb socketed fitting or a compression fitting.

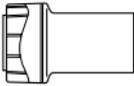
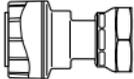
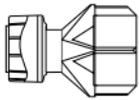
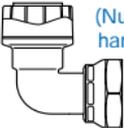
Polyplumb Pipe & Fittings - 10,15,22 & 28mm O.D.

	PRODUCT DESCRIPTION	CODE NO.
	<p>Barrier Pipe-in-Pipe</p> <p>15mm x 25 metre Coil 15mm x 50 metre Coil 22mm x 25 metre Coil</p>	<p>PIP2515B PIP5015B PIP2522B</p>
	<p>Straight Coupler</p> <p>10mm Straight Coupler 15mm Straight Coupler 22mm Straight Coupler 28mm Straight Coupler</p>	<p>PB010 PB015 PB022 PB028</p>
	<p>Elbow</p> <p>10mm Elbow 15mm Elbow 22mm Elbow 28mm Elbow</p>	<p>PB110 PB115 PB122 PB128</p>
 <p>(complete with stainless steel reinforcing sleeve)</p>	<p>Spigot Elbow</p> <p>10mm Spigot Elbow 15mm Spigot Elbow 22mm Spigot Elbow</p>	<p>PB1010 PB1015 PB1022</p>
 <p>Taper BSP threads to BS21. Only use PTFE tape to seal threads</p>	<p>Female Elbow (Brass)</p> <p>15mm x 1/2" Female Elbow 22mm x 1/2" Female Elbow 22mm x 3/4" Female Elbow</p>	<p>PB3015 PB302212 PB3022</p>
	<p>Equal Tee</p> <p>10mm Equal Tee 15mm Equal Tee 22mm Equal Tee 28mm Equal Tee</p>	<p>PB210 PB215 PB222 PB228</p>

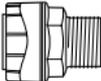
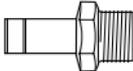
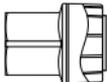
Polyplumb Fittings - 10,15,22 & 28mm O.D.

	PRODUCT DESCRIPTION	CODE NO.
	<p>End Reduced Tee 15mm x 10mm x 15mm End Red. Tee 22mm x 15mm x 22mm End Red. Tee 28mm x 22mm x 28mm End Red. Tee</p>	<p>PB1415 PB1422 PB1428</p>
	<p>Branch Reduced Tee 15 x 15 x 10mm Branch Reduced Tee 22 x 22 x 10mm Branch Reduced Tee 22 x 22 x 15mm Branch Reduced Tee 28 x 28 x 22mm Branch Reduced Tee</p>	<p>PB1115 PB112210 PB1122 PB1128</p>
	<p>Branch Reduced Spigot Tee <i>(complete with stainless steel reinforcing sleeve)</i> 15 x 15 x 10mm Branch Red. Spigot Tee 22 x 22 x 15mm Branch Red. Spigot Tee</p>	<p>PB1215 PB1222</p>
	<p>Branch & One End Reduced Tee 15 x 10 x 10mm Branch End Red. Tee 22 x 15 x 15mm Branch End Red. Tee 28 x 22 x 22mm Branch End Red. Tee</p>	<p>PB1515 PB1522 PB1528</p>
	<p>Two Ends Reduced Tee 15 x 15 x 22mm 2 Ends Red. Tee</p>	<p>PB1622</p>
 <p data-bbox="98 1008 339 1079">Taper BSP threads to BS21. Only use PTFE tape to seal threads</p>	<p>Female Tee (Brass) 15mm x 1/2" Female Tee 22mm x 1/2" Female Tee</p>	<p>PB2915 PB292212</p>
	<p>Reducing Coupling 22mm x 10mm Socket Reducer</p>	<p>PB582210</p>
 <p data-bbox="98 1286 339 1329"><i>(complete with stainless steel reinforcing sleeves)</i></p>	<p>Spigot Reducer 15mm x 10mm Spigot Reducer 22mm x 15mm Spigot Reducer 28mm x 22mm Spigot Reducer</p>	<p>PB815 PB822 PB828</p>

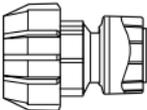
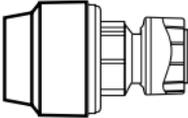
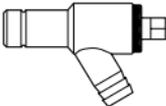
Polyplumb Fittings - 10,15,22 & 28mm O.D.

	PRODUCT DESCRIPTION	CODE NO.
	<p>Socket Reducer (complete with stainless steel reinforcing sleeve) 15mm x 10mm Socket Reducer 22mm x 15mm Socket Reducer 28mm x 22mm Socket Reducer</p>	<p>PB1815 PB1822 PB1828</p>
 <p>DESIGNED TO BE TIGHTENED BY HAND</p>	<p>Tank Connector (cold water only) (complete with rubber sealing washer) 15mm x 1/2" Tank Connector 22mm x 3/4" Tank Connector 28mm x 1" Tank Connector</p>	<p>PB3815 PB3822 PB3828</p>
 <p>(Nuts should be hand tightened plus 1/4 turn with spanner)</p>	<p>Straight Tap Connector (complete with fibre washer) 15mm x 1/2" Straight Tap Connector 15mm x 3/4" Straight Tap Connector 22mm x 3/4" Straight Tap Connector</p>	<p>PB715 PB71534 PB722</p>
 <p>Note: Use Spigot elbow to create 90° tap connector</p>	<p>Hand Tighten Tap Connector Complete with integral EPDM rubber sealing washer 15mm x 1/2" Hand Tighten Connector 15mm x 3/4" Hand Tighten Connector 22mm x 3/4" Hand Tighten Connector</p>	<p>PB2715 PB271534 PB2722</p>
 <p>(Nuts should be hand tightened plus 1/4 turn with spanner)</p>	<p>Bent Tap Connector (complete with fibre washer) 15mm x 1/2" Bent Tap Connector</p>	<p>PB1715</p>
	<p>Flexible Hose Tap Connector 15mm x 1/2" Flexible Tap Connector 15mm x 3/4" Flexible Tap Connector 22mm x 3/4" Flexible Tap Connector</p>	<p>PB6815 PB681534 PB6822</p>

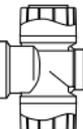
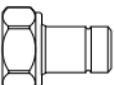
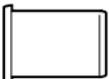
Polyplumb Fittings - 10,15,22 & 28mm O.D.

	PRODUCT DESCRIPTION	CODE NO.
 <p>(DZR Brass Body) Taper BSP threads to BS21. Only use PTFE tape to seal threads.</p>	<p>Reducing Bush (complete with fibre washer) 1/2" x 3/8" Reducing Bush</p>	<p>PB3415</p>
 <p>(DZR Brass Body) Taper BSP threads to BS21. Only use PTFE tape to seal threads.</p>	<p>Male BSP Socket Adaptor 10mm x 1/4" MBSP Adaptor 10mm x 3/8" MBSP Adaptor 15mm x 1/2" MBSP Adaptor 22mm x 3/4" MBSP Adaptor 28mm x 1" MBSP Adaptor</p>	<p>PB4310 PB431038 PB4315 PB4322 PB4328</p>
 <p>(DZR Brass Body) Taper BSP threads to BS21. Only use PTFE tape to seal threads.</p>	<p>Male BSP Spigot Adaptor 10mm x 1/4" MBSP Spigot Adaptor 15mm x 1/2" MBSP Spigot Adaptor 22mm x 3/4" MBSP Spigot Adaptor 28mm x 1" MBSP Spigot Adaptor</p>	<p>PB5410 PB5415 PB5422 PB5428</p>
 <p>(DZR Brass Body) Parallel BSP threads to BS21. Only use PTFE tape to seal threads.</p>	<p>Female BSP Adaptor 10mm x 1/4" Female BSP Adaptor 10mm x 3/8" Female BSP Adaptor 15mm x 1/2" Female BSP Adaptor 15mm x 3/4" Female BSP Adaptor 22mm x 3/4" Female BSP Adaptor 28mm x 1" Female BSP Adaptor</p>	<p>PB4410 PB441038 PB4415 PB441534 PB4422 PB4428</p>
 <p>(DZR Brass Body) Parallel BSP threads to BS21. Only use PTFE tape to seal threads.</p>	<p>Female BSP Spigot Adaptor 10mm x 1/4" FBSP Spigot Adaptor 15mm x 1/2" FBSP Spigot Adaptor 22mm x 3/4" FBSP Spigot Adaptor 28mm x 1" FBSP Spigot Adaptor</p>	<p>PB5510 PB5515 PB5522 PB5528</p>

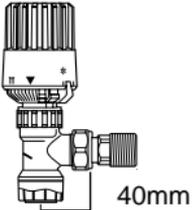
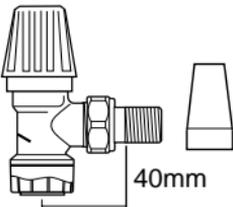
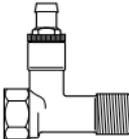
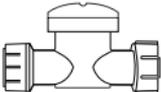
Polyplumb Fittings - 10,15,22 & 28mm O.D.

	PRODUCT DESCRIPTION	CODE NO.
	<p>Compression Adaptors</p> <p>15mm x 15mm Compression Adaptor 22mm x 22mm Compression Adaptor</p>	<p>PB7115 PB7122</p>
	<p>MDPE Polyfast Adaptor (Cold Water only)</p> <p>All include MDPE 12 Bar Plastic Pipe Stiffener</p> <p>15mm x 20mm MDPE Adaptor 15mm x 25mm MDPE Adaptor 22mm x 25mm MDPE Adaptor 22mm x 32mm MDPE Adaptor 28mm x 32mm MDPE Adaptor</p>	<p>PB422015 PB422515 PB422522 PB423222 PB423228</p>
	<p>MDPE Push-Fit Adaptor (Cold Water only)</p> <p>All include MDPE 12 Bar Plastic Pipe Stiffener</p> <p>15mm x 20mm MDPE Adaptor 15mm x 25mm MDPE Adaptor 22mm x 25mm MDPE Adaptor 22mm x 32mm MDPE Adaptor 28mm x 32mm MDPE Adaptor</p>	<p>PB452015 PB452515 PB452522 PB453222 PB453228</p>
	<p>Spigot Draincock (Brass)</p> <p>15mm Spigot Draincock</p>	<p>PB3615</p>
<p>Parallel BSP threads to BS21. Only use PTFE tape to seal threads.</p> 	<p>Wall Plate Elbow (Brass)</p> <p>15mm x 1/2" BSP Wall Plate Elbow 22mm x 1/2" BSP Wall Plate Elbow 28mm x 1/2" BSP Wall Plate Elbow</p>	<p>PB1315 PB132212 PB132812</p>
<p>Parallel BSP threads to BS21. Only use PTFE tape to seal threads.</p> 	<p>Wall Plate Elbow (Plastic)</p> <p>15mm x 1/2" BSP Wall Plate Elbow 22mm x 1/2" BSP Wall Plate Elbow 22mm x 3/4" BSP Wall Plate Elbow</p>	<p>PB5315 PB532212 PB5322</p>

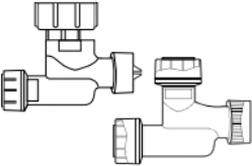
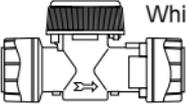
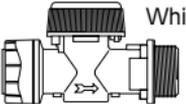
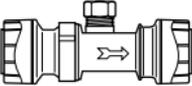
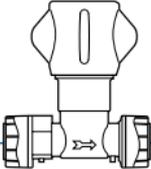
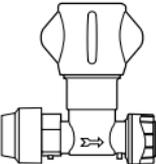
Polyplumb Fittings - 10,15,22 & 28mm O.D.

	PRODUCT DESCRIPTION	CODE NO.
<p>Parallel BSP threads to BS21. Only use PTFE tape to seal threads.</p> 	<p>Wall Plate Tee (Brass) 15mm x 1/2" BSP Wall Plate Tee 22mm x 1/2" BSP Wall Plate Tee</p>	<p>PB5115 PB512212</p>
	<p>Cylinder Connector (Brass) 22mm Cylinder Connector 1" BSP thread to BS2779</p>	<p>PB4122</p>
	<p>Metric Polyb. Welding Adaptor 28 x 32mm Metric Welding Adaptor (can be electrofusion or butt welded)</p>	<p>PB6928</p>
 <p>(complete with stainless steel reinforcing sleeve)</p>	<p>Spigot Blank End 10mm Spigot Blank End 15mm Spigot Blank End 22mm Spigot Blank End 28mm Spigot Blank End</p>	<p>PB910 PB915 PB922 PB928</p>
	<p>Socket Blank End 10mm Socket Blank End 15mm Socket Blank End 22mm Socket Blank End 28mm Socket Blank End</p>	<p>PB1910 PB1915 PB1922 PB1928</p>
 <p>(must be used with Polybutylene pipe)</p>	<p>Pipe Stiffener (Stainless Steel) 10mm Pipe Support Sleeve 15mm Pipe Support Sleeve 22mm Pipe Support Sleeve 28mm Pipe Support Sleeve</p>	<p>PB6410 PB6415 PB6422 PB6428</p>

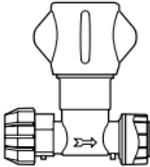
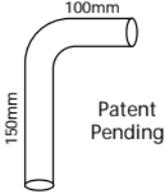
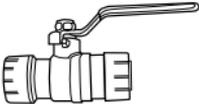
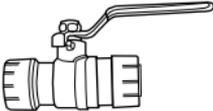
Polyplumb Fittings - 10,15,22 & 28mm O.D.

	PRODUCT DESCRIPTION	CODE NO.
	<p>Gate Valve (Brass) 15mm Gate Valve 22mm Gate Valve</p>	<p>PB3115 PB3122</p>
	<p>Thermostatic Radiator Valve (Plated Brass) 10mm Thermostatic Radiator Valve 15mm Thermostatic Radiator Valve (Note: only use P.T.F.E. tape to seal threads)</p>	<p>PB3310 PB3315</p>
	<p>Radiator/Lockshield Valve (Plated Brass) 10mm Radiator Valve 15mm Radiator Valve (Note: only use P.T.F.E. tape to seal threads)</p>	<p>PB3210 PB3215</p>
	<p>Radiator Draincock (Plated Brass) Radiator Draincock (Note: only use P.T.F.E. tape to seal threads)</p>	<p>PB3515</p>
	<p>Straight Service Valve (not for central heating) 15mm x 1/2" Straight Service Valve</p>	<p>PB6515</p>

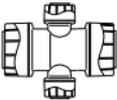
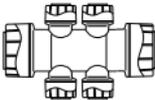
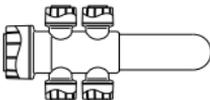
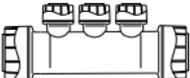
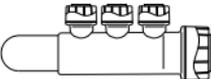
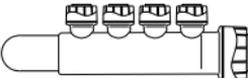
Polyplumb Fittings - 10,15,22 & 28mm O.D.

	PRODUCT DESCRIPTION	CODE NO.
	<p>90° Bent Service Valve (not for central heating)</p> <p>15mm x 1/2" 90° Bent Service Valve 15mm x 15mm 90° Bent Service Valve</p>	<p>PB6615 PB7915</p>
 <p>White</p>	<p>Shut-Off Valve (not for central heating)</p> <p>15mm x 15mm Shut-Off Valve- Warm 15mm x 15mm Shut-Off Valve - Cold</p>	<p>PB5915 PB6015</p>
 <p>White</p>	<p>Appliance Valve (not for central heating)</p> <p>15mm x 3/4" Appliance Valve- Warm 15mm x 3/4" Appliance Valve - Cold</p>	<p>PB6115 PB6215</p>
	<p>Double Check Valve (cold water only)</p> <p>15mm Double Check Valve 22mm Double Check Valve 28mm Double Check Valve</p>	<p>PB3715 PB3722 PB3728</p>
	<p>Stopcock (cold water only)</p> <p>15mm x 15mm Stopcock 22mm x 22mm Stopcock</p>	<p>PB2615 PB2622</p>
	<p>Stopcock MDPE Polyfast (cold water only)</p> <p>20mmx15mm Stopcock MDPE Polyfast 25mmx15mm Stopcock MDPE Polyfast 25mmx22mm Stopcock MDPE Polyfast</p> <p>With MDPE Polyfast Compression Inlet Sockets/Pipe Stiffener see Polyfast Adaptor section for adaptation to other pipe materials.</p>	<p>PB262015 PB262515 PB262522</p>

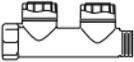
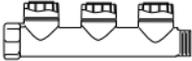
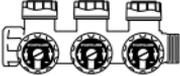
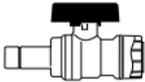
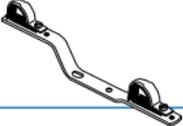
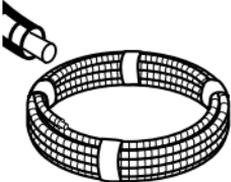
Polyplumb Fittings - 10,15,22 & 28mm O.D.

	PRODUCT DESCRIPTION	CODE NO.
	<p>Stopcock MDPE Push-fit (cold water only)</p> <p>20mm x 15mm Stopcock MDPE Push-fit 25mm x 15mm Stopcock MDPE Push-fit 25mm x 22mm Stopcock MDPE Push-fit</p> <p><i>With MDPE Push-fit Push-fit Inlet Sockets/Pipe Stiffener see Push-fit Adaptor section for adaption to other pipe materials.</i></p>	<p>PB292015 PB292521 PB292522</p>
	<p>Radiator Connector Bend (RCB)</p> <p>10mm Radiator Connector Bend 15mm Radiator Connector Bend (Pipe stiffeners must be used on each end)</p>	<p>PB3910 PB3915</p>
	<p>Quarter Turn Ball Valve (Nickel Plated Brass)</p> <p>15mm Quarter Turn Ball Valve</p>	<p>PB6715</p>
	<p>Quarter Turn Ball Valve (Nickel Plated Brass)</p> <p>22mm Quarter Turn Ball Valve</p>	<p>PB6722</p>
	<p>Quarter Turn Ball Valve (Nickel Plated Brass)</p> <p>28mm Quarter Turn Ball Valve</p>	<p>PB6728</p>

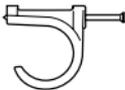
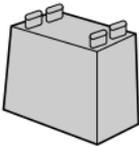
Polyplumb Manifold System

	PRODUCT DESCRIPTION	CODE NO.
	<p>Manifold (Polybutylene) 22mm x 10mm - 2 Port (Socket/Socket)</p>	<p>PB2822</p>
	<p>Manifold (Polybutylene) 22mm x 10mm - 4 Port (Socket/Socket)</p>	<p>PB4822</p>
	<p>Manifold (Polybutylene) 22mm x 10mm - 2 Port (Blanked Spigot/Socket)</p> <p><i>Cut Blank End and fit pipe stiffener to continue run PB582210 can be fitted to spigot to provide a fifth 10mm socket connection.</i></p>	<p>PB4922</p>
	<p>Manifold (Polybutylene) 22mm x 15mm - 3 Port (Socket/Socket)</p>	<p>PB7322153</p>
	<p>Manifold (Polybutylene) 22mm x 15mm - 3 Port (Blanked Spigot/Socket)</p> <p><i>Cut Blank End and fit pipe stiffener to continue run PB582210 can be fitted to spigot to provide a fourth 10mm socket connection.</i></p>	<p>PB7622153</p>
	<p>Manifold (Polybutylene) 22mm x 10mm - 4 Port (Socket/Socket)</p>	<p>PB7322104</p>
	<p>Manifold (Polybutylene Body) 22mm x 10mm - 4 Port (Blanked Spigot/Socket)</p> <p><i>Cut Blank End and fit pipe stiffener to continue run PB582210 can be fitted to spigot to provide a fifth 10mm socket connection.</i></p>	<p>PB4922</p>

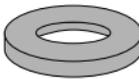
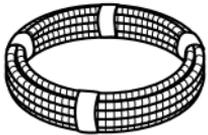
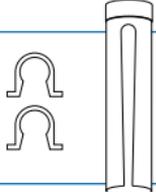
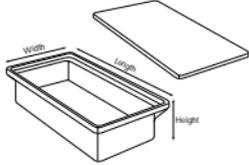
Polyplumb Manifold System

	PRODUCT DESCRIPTION	CODE NO.
	<p>Brass Single Sided Manifold Unvalved 15mm x 3/4" Female/Male BSP 2 Port</p>	<p>PB47152</p>
	<p>Brass Single Sided Manifold Unvalved 15mm x 3/4" Female/Male BSP 3 Port</p>	<p>PB47153</p>
	<p>Brass Single Sided Manifold Valved 15mm x 3/4" Female/Male BSP 2 Port</p>	<p>PB234152</p>
	<p>Brass Single Sided Manifold Valved 15mm x 3/4" Female/Male BSP 3 Port</p>	<p>PB234153</p>
	<p>Ball Valve 15mm 15mm Ball Valve (Socket/Spigot)</p>	<p>PB4015</p>
	<p>Manifold Bracket (Metal) 3/4" Manifold Bracket</p>	<p>PB4634</p>
	<p>Barrier Pipe-in-Pipe 15mm x 25 metre Coil 15mm x 50 metre Coil 22mm x 25 metre Coil</p> <p>Must be used on installations where a British Gas 3 Star Service contract is to be in place</p>	<p>PIP2515B PIP5015B PIP2522B</p>

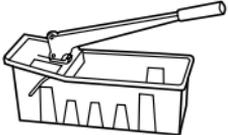
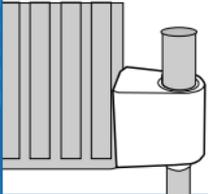
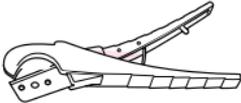
Polyplumb Ancillaries

	PRODUCT DESCRIPTION	CODE NO.
	Bulldog Clips (Polypropylene) 15mm Bulldog Clip 22mm Bulldog Clip 28mm Bulldog Clip	PB2115 PB2122 PB2128
	Nail-In Clips (Polypropylene) 10mm Nail-In Clip 15mm Nail-In Clip 22mm Nail-In Clip 28mm Nail-In Clip	PB2210 PB2215 PB2222 PB2228
	Snap-Fit Clips (Polypropylene) 10mm Snap-Fit Clip 15mm Snap-Fit Clip 22mm Snap-Fit Clip 28mm Snap-Fit Clip	PB2310 PB2315 PB2322 PB2328
 <div data-bbox="246 882 339 1029" style="border: 1px solid black; padding: 5px; display: inline-block;"> For use with Snap-Fit Clips </div>	Pipe Clip Spacer (Polypropylene) 10mm Pipe Clip Spacer 15mm Pipe Clip Spacer 22mm Pipe Clip Spacer 28mm Pipe Clip Spacer	PB2410 PB2415 PB2422 PB2428
 (Bend radius 8 x pipe diameter)	Bend Former 15mm Bend Former 22mm Bend Former	PB6315 PB6322
	'O'-Rings (EPDM Rubber) 3/4" Imperial 'O'-Ring (Note: Must be lubricated before use)	PB9034

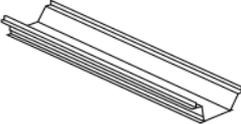
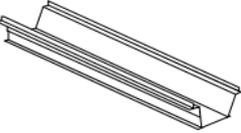
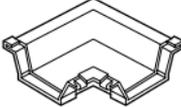
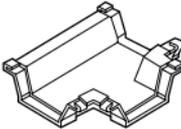
Polyplumb Ancillaries

	PRODUCT DESCRIPTION	CODE NO.
	Spares Component Kit 10mm Spares Component Kit 15mm Spares Component Kit 22mm Spares Component Kit 28mm Spares Component Kit	PB9510 PB9515 PB9522 PB9528
	Irish Copper Adaptor Set 3/4" Irish Copper Adaptor Set 1" Irish Copper Adaptor Set	PB7034 PB701
	Conical EPDM Sealing Washer (For tap connector with brass nut) 1/2" Sealing Washer 3/4" Sealing Washer	PB9312 PB9334
	Flat EPDM Sealing Washer (For hand tighten tap connector) 1/2" Sealing Washer 3/4" Sealing Washer	PB9412 PB9434
	Conduit Pipe Coils (Polypropylene) 15mm x 25 metre Conduit Pipe Coil 15mm x 50 metre Conduit Pipe Coil 22mm x 25 metre Conduit Pipe Coil 22mm x 50 metre Conduit Pipe Coil	CPC1525 CPC1550 CPC2225 CPC2250
	Boiler Overflow Pipe Guard (Comes with x2 Pipe Clips) Boiler Overflow Pipe Guard	BOPG50
	Junction Inspection Box (Polypropylene) Junction Box L 400 x W 210 x H 75mm Junction Box Lid (12mm Plywood) Junction Box L400 x W210 x H65mm	JIB1 JIB2 JIB3

Polyplumb Ancillaries

	PRODUCT DESCRIPTION	CODE NO.
	<p>System Test Kit Polyplumb System Test Kit</p>	<p>PB993</p>
	<p>Valve Tidy Cover (Polypropylene) Radiator Valve Cover (Six Valve Tidy's per pack) Complete with Pipe Adaptors for 10mm/8mm pipe</p>	<p>VT149</p>
	<p>Pipe Cutters Standard Pipe Cutter 10mm to 28mm Standard type Replacement Blades</p>	<p>PB777 PB780</p>
	<p>Pipe Cutters Ratchet type cutters 10mm to 28mm Ratchet type Replacement Blades</p>	<p>PB778 PB779</p>
	<p>Silicone Lubricant 100gm Screw Top Jar</p> <p>Solvent Cement * c/w Brush 125ml (BS6209)</p> <p>Solvent Cement * c/w Brush 250ml (BS6209)</p> <p>Solvent Cement * c/w Brush 500ml (BS6209)</p> <p>Cleaning Fluid * 250ml Tin</p> <p>* Only for use with PVCu floor duct components.</p>	<p>SG100</p> <p>SC125</p> <p>SC250</p> <p>SC500</p> <p>CF250</p>

Polyplumb Ancillaries

	PRODUCT DESCRIPTION	CODE NO.
	Underfloor Pipe Duct (PVCu) 50mm depth x 150mm width x 3m For 10, 15 & 22mm Pipework Requires 12mm thickness Cover Board	FD50
	Underfloor Pipe Duct (PVCu) 70mm x 150mm width x 3m For 28mm Pipework Requires 12mm thickness Cover Board	FD70
	Push-Fit Union (PVCu) Double Socket for 50mm only	FD52
	Push-Fit 90° Angle (PVCu) Double Socket for 50mm only	FD53
	Push-Fit 90° Tee (PVCu) Triple Socket for 50mm only	FD54
	Push-Fit End Cap (PVCu) Single Socket for 50mm only	FD55
	Solvent Weld Pipe Clips For use with PVCu Pipe Duct 15mm (ABS) 22mm (ABS) 28mm (ABS) Pipe Clip Base Plate (PVC)	FDB15 FDB22 FDB28 FDB93

Polyplumb Pipe Insulation Flame retardent cellular polyethylene

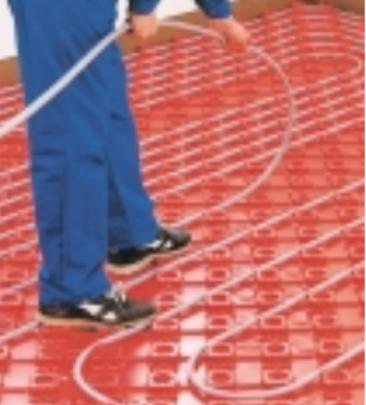
	PRODUCT DESCRIPTION	CODE NO.
 <p>(Bore x Wall x Length)</p>	<p>15mm Polyplumb Insulation</p> <p>15mm x 9mm x 1 metre 15mm x 9mm x 2 metre 15mm x 13mm x 1 metre 15mm x 13mm x 2 metre</p>	<p>APL15091 APL15092 APL15131 APL15132</p>
 <p>(Bore x Wall x Length)</p>	<p>22mm Polyplumb Insulation</p> <p>22mm x 9mm x 1 metre 22mm x 9mm x 2 metre 22mm x 13mm x 1 metre 22mm x 13mm x 2 metre</p>	<p>APL22091 APL22092 APL22131 APL22132</p>
 <p>(Bore x Wall x Length)</p>	<p>28mm Polyplumb Insulation</p> <p>28mm x 9mm x 1 metre 28mm x 9mm x 2 metre 28mm x 13mm x 1 metre 28mm x 13mm x 2 metre</p>	<p>APL28091 APL28092 APL28131 APL28132</p>

<p>Product Lines needed to meet Service or Regulation requirements</p>	Pipe OD (mm)	Water Bye-Law 49 amended Jan 1990 (Cold Water) Required Wall Thickness	Polyplumb Pipe Insulation Plus product required
	15	25mm	APP15251/2
	22	19mm	APP22191/2
	28	19mm	APP28191/2

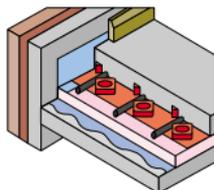
Polyplumb Pipe Insulation Flame retardent cellular polyethylene

	PRODUCT DESCRIPTION	CODE NO.
 <p>(Bore x Wall x Length)</p>	<p>15mm Polyplumb Insulation Plus 15mm x 19mm x 1 metre 15mm x 19mm x 2 metre 15mm x 22mm x 2 metre 15mm x 25mm x 2 metre</p>	<p>APP15191 APP15192 APP15222 APP15252</p>
 <p>(Bore x Wall x Length)</p>	<p>22mm Polyplumb Insulation Plus 22mm x 19mm x 1 metre 22mm x 19mm x 2 metre 22mm x 25mm x 1 metre 22mm x 25mm x 2 metre</p>	<p>APP22191 APP22192 APP22251 APP22252</p>
 <p>(Bore x Wall x Length)</p>	<p>28mm Polyplumb Insulation Plus 28mm x 19mm x 1 metre 28mm x 19mm x 2 metre</p>	<p>APP28191 APP28192</p>

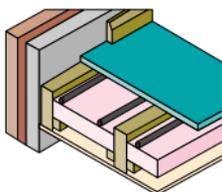
Building Regulations L1-Section 3 1995 (Hot Water) Required Wall Thickness	Polyplumb Pipe Insulation Plus product required	Building Regulations L1-Section 3 1995 (Domestic Heating) Required Wall Thickness	Polyplumb Pipe Insulation Plus product required
13mm	APP15191/2	15mm	APP15191/2
13mm	APP22191/2	22mm	APP22251/2
13mm	APP28191/2	-	-



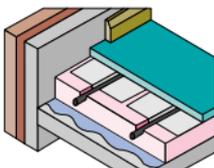
Solid Floor



Suspended Floor



Floating Floor



NEW UNDERFLOOR CENTRAL HEATING SYSTEMS

the Polyplumb system
... it's about time!

quicker - jointing
with Polyplumb Fittings

easier - pipework routing
with PLUMB STRAIGHT Technology

more choice - three easy to apply systems to choose from

Polyplumb Underfloor Central Heating Systems

Polyplumb System

Polyplumb barrier pipe can be used in underfloor central heating systems, which can be used with, or instead of, steel panel radiators. Underfloor central heating (UFCH) gives "invisible" warmth - ideal for modern living, giving clean interior design and maximum usable wall space. UFCH is safer and cleaner than radiator systems as there are no hot surfaces, and dust and air movement are minimised. UFCH also has the benefit of low maintenance with no requirement to paint radiators.

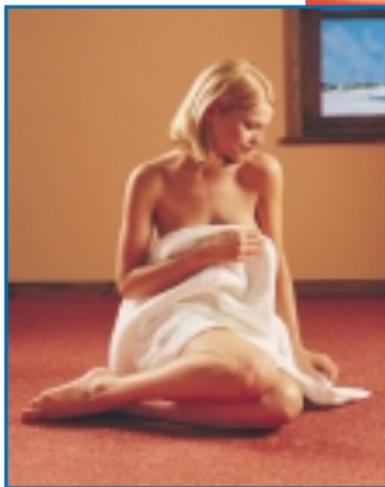
Where radiator central heating systems work primarily by creating convection currents of hot air supplemented by some radiated heat, underfloor central heating systems work primarily by heat radiation supplemented by some convection. As the floor radiates heat uniformly over its surface there is uniform heat distribution - no hot and cold spots - consistent comfort. And best of all, a warm floor - even the best radiator systems can leave you with cold feet.

Polyplumb offers three configurations of underfloor central heating suitable for new build, retrofit, or any type of construction. All are compatible with standard central heating boilers and are especially suitable for use with condensing boilers which give maximum efficiency at low output levels.

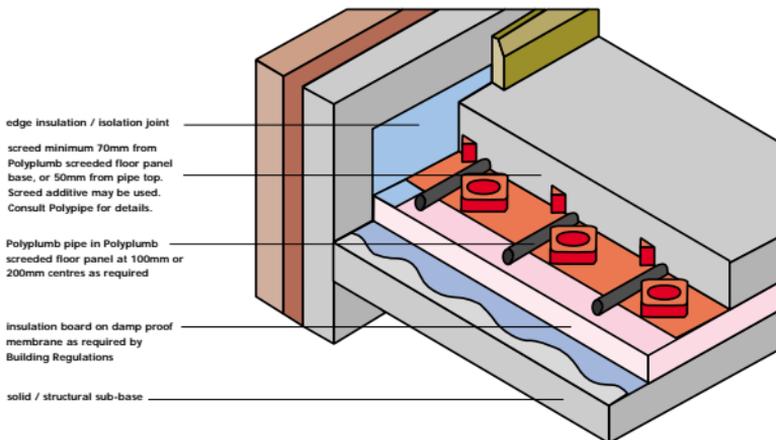
The Polyplumb UFCH systems involves no specialist equipment or "science". Rather it involves simple application of standard Polyplumb piping fittings plus one specialist manifold.

Advisory Service

It is simple to select the appropriate Polyplumb UFCH system, to ensure the system is suitable for a particular building, to size the boiler, and to estimate and purchase. The Polyplumb Advisory Service is available to assist where necessary in products and detailing. Installer training courses are available. Enquirers may request details from our database of trained installers.



Polyplumb Underfloor Central Heating Systems



Solid Floor - System

Polyplumb underfloor central heating in solid or screeded floors incorporates the unique Polyplumb screeded floor panel. The light weight plastic floor panels “nest” for space saving storage and are easily carried. Once in the room they are easily cut to the room shape. They form a simple grid for the quickest possible pipe laying and form a precise guide for minimum bending radius. They set the pipe at exact centres and hold the pipe against movement when screeding. The floor panel holds the pipe above the insulation allowing full screed surround. Optimum screed depth is 70mm from panel base or 40mm from the pipe top.

Insulation below and at the edges of the floor screed is as required by Building Regulations or greater if desired by personal preference. Edge insulation also acts as an expansion joint.

The maximum heat performance from a solid floor with a room temperature of 21°C and a floor temperature of 29.9°C is 99W/m². The maximum pipe length is 100m. At 100mm pipe centres pipe requirement = 8.2m/m² and maximum floor coverage per circuit = 11.1m². At 200mm pipe centres pipe requirement = 4.5m/m² and maximum floor coverage per circuit = 21.2m².

Target Room Temp.	Pipe Centres (mm)	W/m ²		
		at 45°C flow temp	at 50°C flow temp	at 55°C flow temp
18°C	100	75	92	109
	200	62	75	89
21°C	100	65	82	99
	200	53	67	90
22°C	100	62	79	95
	200	51	64	78

Polyplumb Underfloor Central Heating Systems

Solid Floor - System Design

System design is a simple five step process which matches what the UFCH system can deliver to the room requirements in W/m^2 .

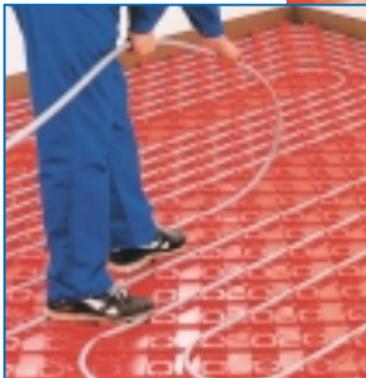
Step one :

Calculate the heat loss for each room by an elemental method, ie separate calculations for wall loss, window loss, ventilation loss etc. Floor loss can be ignored at this stage. Divide total loss by floor area to find heat requirement in W/m^2 . See table on page 40 for heat outputs of UFCH.

Step two :

If a heat input of less than $100W/m^2$ is required, a Polyplumb UFCH solid floor system can be used without the need for additional radiators.

If a heat output of more than $100W/m^2$ is required, a Polyplumb UFCH solid floor system may be used with additional radiators as required.



Step three :

Select the required boiler flow temperature from the table on page 40. Obviously this must be common for all rooms. Select the worst case room first.

Step four :

Determine the pipe spacing from the table on page 40. This is based on a standard 40mm screed above the pipe and an allowance of $0.1 W/mK$ for floor covering.

Step five :

Design piping circuits with maximum pipe circuit length of 100m. If the room is so large that one circuit of 100m is not adequate then two smaller circuits should be designed. The best circuit design is a spiral.

Note : $8.2m/m^2$ pipe required at 100mm spacing. $4.5m/m^2$ pipe required at 200mm spacing

Solid Floor Installation Instructions



1. Lay the floor insulation in accordance with Building Regulations. Lay self adhesive edge insulation with polystyrene closest to wall

2. Lay the interlocking Screeded Floor Panels. Stick down at edges with adhesive strip on edge insulation

3. Install Polyplumb pipe in a spiral configuration.

See System Design section for pipe spacing.

Maximum pipe circuit length = 100m.



4. No single area of screed should exceed 40m². Areas greater than this should be separated by edging strip to form an expansion joint. Where the Polyplumb pipe passes through the insulation strip, ie where pipes enter and leave the room, the pipe should be shielded with protective sleeves for 40cm each side of the strip. Protective sleeves should also be used around the pipe as it exits the screed near the manifold

5. Connect the flow and return ends at each end of the manifold using pipe stiffeners on the pipe end.



Note Push fit joints for 15mm pipes and compression joints for 18mm pipes.

6. Complete the distribution box installation and use valve actuators if required

7. Pressure test the system at 6 bar before flooring screed is poured. Maintain a constant pressure of 3 bar throughout floor screeding and curing. Refer to page 18 for special precautions.

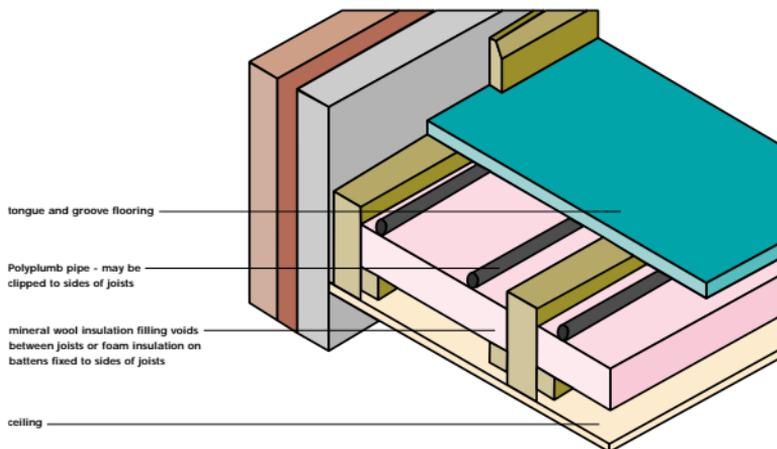


8. Screed to optimum depth of 40mm from pipe top (70mm from panel base).



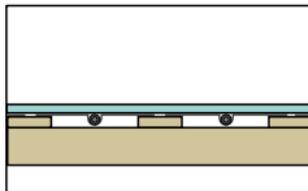
Allow the screed to dry naturally. The heating system should not be used to force dry the screed. When the underfloor heating is switched on it should be allowed to warm up gently over a period of days

Polyplumb Underfloor Central Heating Systems



Suspended Floor - System

Polyplumb underfloor central heating in suspended floors is achieved by laying pipe between the floor joists above mineral wool or foam board insulation. This can be done from above or below. When working from below the Polyplumb pipe is simply clipped in place at the tops of the sides of the joists. Alternatively the Polyplumb pipe may be run between counter battens above the joists. As an option the Polyplumb pipe may be laid into metal Polyplumb heat spreader plates. These plates may be considered to offer advantages in uniform spread of heat and speed of heating from cold.



The maximum heat performance from a suspended floor with a room temperature of 21°C and a floor temperature of 27.2°C is 66W/m². The maximum pipe length is 80m. At 225mm pipe centres pipe requirement = 4m/m² and maximum floor coverage per circuit = 20m². At 300mm pipe centres pipe requirement = 3.1m/m² and maximum floor coverage per circuit = 25.8m².

Target Room Temp.	Pipe Centres (mm)	W/m ²		
		at 50°C flow temp	at 55°C flow temp	at 60°C flow temp
18°C	300	53	63	72
21°C	300	47	57	66
22°C	300	45	55	65

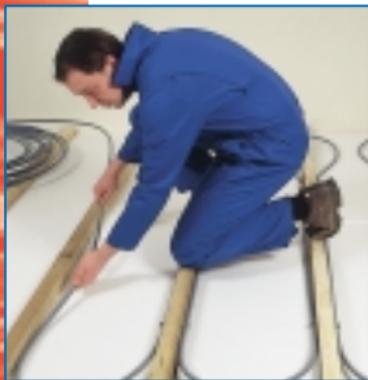
Polyplumb Underfloor Central Heating Systems

Suspended Floor - System Design

System design is a simple five step process which matches what the UFCH system can deliver to the room requirements in W/m^2 .

Step one :

Calculate the heat loss for each room by an elemental method, ie separate calculations for wall loss, window loss, ventilation loss etc. Floor loss can be ignored at this stage. Divide total loss by floor area to find heat requirement in W/m^2 . See table on page 43 for heat outputs of underfloor heating.



Step two :

If a heat input of less than $70W/m^2$ is required, a Polyplumb UFCH suspended floor system can be used without the need for additional radiators.

If a heat output of more than $70W/m^2$ is required a Polyplumb UFCH suspended floor system may be used with additional radiators as required.

Step three :

Select the required boiler flow temperature from the table on page 43. Obviously this must be common for all rooms. Select the worst case room first.

Step four :

Pipe spacing is assumed to be at a maximum of 300mm, ie two pipes between joists at 600mm centres. This is based on a standard 18mm chip board above the pipe and an allowance of $0.1 W/mK$ for floor covering.

Step five :

Design piping circuits with maximum pipe circuit length of 80m. If the room is so large that one circuit of 80m is not adequate then two smaller circuits should be designed. The best circuit design is a zig zag.

Suspended Floor Installation Instructions

All installations must comply with Building Regulations and local authority requirements.

Suspended Floor Option A

1. Fill all the voids between joists with appropriate mineral wool or foam insulation
2. Lay the Polyplumb pipe on top of the insulation. Generally allow the pipe to run and return between each pair of joists giving piping at 225mm to 300mm centres. Notch out the top of the joists where it is necessary to cross them.

Maximum pipe circuit length = 80m. Then go to step 6

Note : This method can also be used in reverse if installing from below. Go to note 5

Suspended Floor Option B (Joists at 450mm centres)

1. Fill all the voids between joists with appropriate mineral wool or foam insulation.
2. Lay Polyplumb double heat spreader plates between the joists and pin in position. Leave 300mm gap at return end for bending pipe to return and trim battens to penultimate joist at opposite ends
3. Lay pipe in heat spreader plates
4. For joist centres other than 450mm counter batten at either 300mm or 450mm and use single or double heat spreader plates as described.

Options A and B

5. Connect the flow and return ends at each end of the manifold using pipe stiffeners on the pipe end.

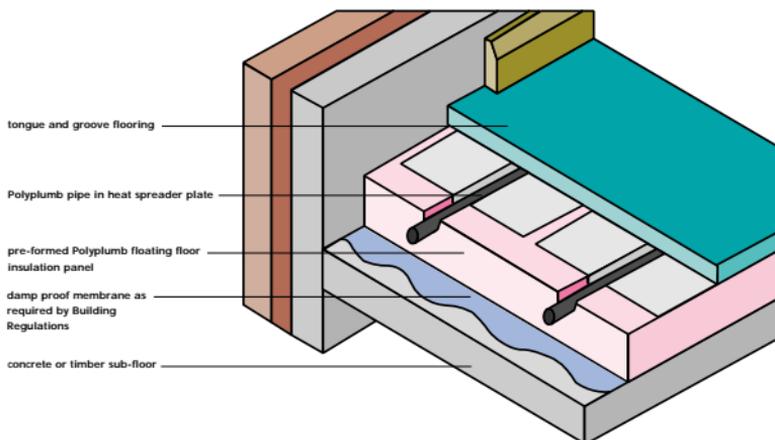
Note these are push fit joints

6. Complete the distribution box installation and use valve actuators if required

7. Pressure test the system at 6 bar before concealing the pipe. Refer to page 18 for special precautions.

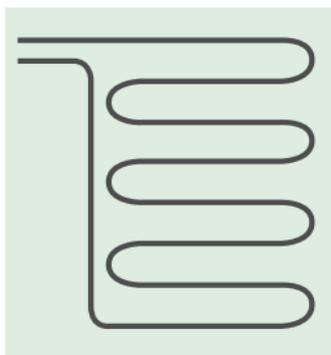


Polyplumb Underfloor Central Heating Systems



Floating Floor - System

Polyplumb underfloor central heating is ideal for floating floors above existing timber or solid sub-base. It incorporates the Polyplumb floating floor panel which is a foam insulation sheet with pre-formed pipe slots at 300mm centres. Each panel includes pipe bending grooves.



The maximum heat performance from a floating floor with a room temperature of 21°C and a floor temperature of 27.2°C is 66W/m². The maximum pipe length is 80m. At 300mm pipe centres pipe requirement = 3.1m/m² and maximum floor coverage per circuit = 25.8m².

Target Room Temp.	Pipe Centres (mm)	W/m ²		
		at 50°C flow temp	at 55°C flow temp	at 60°C flow temp
18°C	300	53	63	72
21°C	300	47	57	66
22°C	300	45	55	65

Polyplumb Underfloor Central Heating Systems

Floating Floor - System Design

System design is a simple five step process which matches what the UFCH system can deliver to the room requirements in W/m^2 .

Step one :

Calculate the heat loss for each room by an elemental method, ie separate calculations for wall loss, window loss, ventilation loss etc. Floor loss can be ignored at this stage. Divide total loss by floor area to find heat requirement in W/m^2 . See table on page 46 for heat outputs of underfloor heating.

Step two :

If a heat input of less than $70W/m^2$ is required, a Polyplumb UFCH floating floor system can be used without the need for additional radiators. If a heat output of more than $70W/m^2$ is required a Polyplumb UFCH floating floor system may be used with additional radiators as required.



Step three :

Select the required boiler flow temperature from the table on page 46. Obviously this must be common for all rooms. Select the worst case room first.

Step four :

Pipe spacing is assumed to be 300mm as determined by the floating floor panel. The calculation is based on a standard 18mm chip board above the pipe and an allowance of $0.1 W/mK$ for floor covering.

Step five :

Design piping circuits with maximum pipe circuit length of 80m. If the room is so large that one circuit of 80m is not adequate then two smaller circuits should be designed. The best circuit design is a zig zag.

Floating Floor Installation Instructions



All installations must comply with Building Regulations and local authority requirements

1. Lay the floating floor insulation panels on top of the existing timber or solid floor.

A polythene membrane may be used as a moisture barrier if required. Where necessary cut the panels so as to retain the pipe turning grooves at appropriate wall edges



2. Lay in the heat spreader plates

3. Lay the Polyplumb pipe into the metal plates in a zig zag configuration. Pipe spacing = 300mm. Maximum pipe circuit length = 80m

4. Connect the flow and return ends of each circuit to the manifold in the distribution box using push-fit joints for 15mm and compression joints for 18mm pipe



5. Complete the distribution box installation with thermostatic valves and heat output gauge if required

6. Pressure test the system at 6 bar before concealing the pipe. Refer to page 18 for special precautions.



7. Lay the floating floor deck directly on to the completed heating system. The deck is generally tongue and groove flooring grade chipboard, minimum 18mm thick. Glue along all tongue and groove joints. Allow a small expansion gap between floor deck and walls. Where carpets are fitted take care when fixing grip-rods and door plate strips

Polyplumb Pipe Dispenser (Product Code PB03111)

The Polyplumb pipe dispenser can be used to assist in pipe laying. Because of its ability to rotate on both the horizontal and vertical axes it can be positioned in the most effective position to enable uncoiling of pipes. Using the pipe dispenser can reduce labour requirements.

Long Radius Bend Former (Product Code PB6325)

Where pipes enter or exit the floor below manifolds they should be encased within Polyplumb conduit pipe (CPC15**) and CPC22**). The long radius bend former can be used to neatly guide the pipes from the floor to the manifold whilst preventing the pipe kinking.

Polyplumb Room Air Temperature Control

Underfloor Heating Controls

There are two basic control options for controlling Polyplumb under floor central heating system both achieved by using the Polyplumb Wiring Centre (Product Code PB23010) and 2 wire actuators (PB00401).

Option 1 allows each room / zone to be individually time and temperature controlled.

Option 2 allows individual room / zone temperature control with a central time clock control.

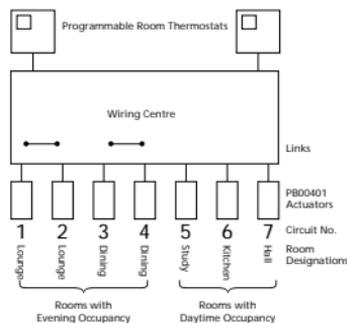
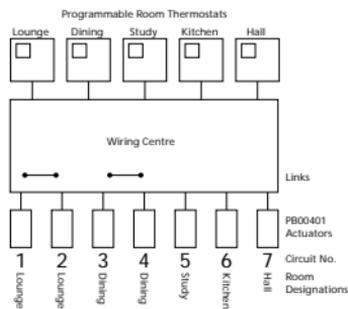
Note: A zone is classed as a collection of two or more rooms. The Polyplumb Wiring Centre, which should be installed directly above the under floor central heating manifold, allows simple wiring of electrical components for both options. Connections are included for the following components:

- Motorised valve
- Main pump
- Valve actuators
- Optional timclock
- Under floor heating pump
- Boiler
- Room thermostats

Option 1 – Individual room / zone temperature and time control.

By using programmable room thermostats in each room or zone the user has total control of the under floor heating system. Each room / zone can be set with its desired temperature and operation time.

By using this method of control the user also has the advantage of a set-back temperature. To gain maximum efficiency from the under floor



Polyplumb Room Air Temperature Control

heating system, particularly in modern well insulated buildings rather than switching the system off completely when not in use, the system will adopt a low level "set-back" state. The heating set-back temperature will be set at approximately 4 deg. C. below the desired room temperature thus avoiding the lengthy warm up time periods associated with under floor heating systems.

Option 2 - Individual room / zone temperature with central time control

All rooms served by a single manifold will operate at the same "on" time and although each room can be set to the desired temperature the central time clock must allow for the warm up time.

Bathrooms and Wet Areas

(Applicable to option 1 and 2)

The Polyplumb under floor heating system uses 240 volt room thermostats, therefore areas such as bathrooms must be carefully considered. Room control for these areas can either be achieved by "slaving" the wet area from another room (See Diagram 1) or by using a room thermostat with a remote sensor (See Diagram 2).

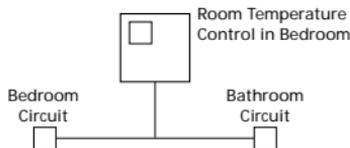
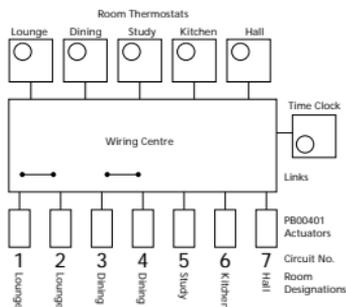


Diagram 1 – Slave bathroom controlled from master bedroom

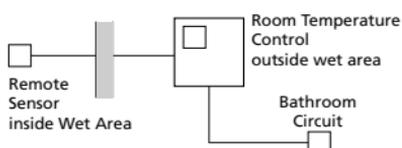


Diagram 2 – Room thermostat with remote sensor

Similar tailored control options are available utilizing the Polyplumb 4-wire actuator (PB00402) and Honeywell control products. To discuss exact control and wiring requirements please telephone the Polyplumb technical services hotline.

Polyplumb Water Temperature Control

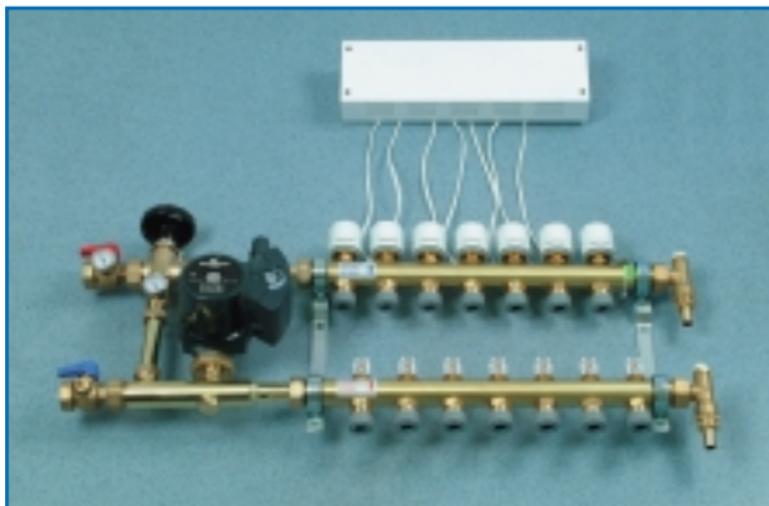
Modulating Pump Unit (Product Code PB970014)

The Polyplumb modulating pump unit is used to maintain the under floor central heating flow temperature at a constant level. The temperature control can be set between 47 and 62 deg. C. Using precision engineered componentry the modulating pump unit continuously monitors the target flow temperature and almost instantaneously alters the volume flow rate to account for any temperature deviations between the boiler primary circuit and the under floor circuit. The flow temperature at works is set at approximately 58 deg. C. This can be altered by simply turning the handwheel on the thermostatic mixing valve unit.

By including a modulating pump the unit is able to deliver the exact water volume flow requirement needed when one, some or all under floor heating zones are requiring heat. Installation of a modulating pump is always recommended. Where a fixed head pump is installed one under floor heating circuit must be installed without an actuator to allow flow whilst all the circuit actuators open.

The modulating pump unit can be bolted directly onto the manifold.

By turning the pump through 180°C the unit can be fixed to either side of the manifold.



Polyplumb Zonal Regulation Unit

Introduction

The Polyplumb Zonal Regulation Unit (ZRU*) allows single rooms and extensions up to 25m² to be connected to an existing heating system without time consuming and expensive hydraulic and electrical alterations. When connected to an existing radiator heating system the ZRU* converts the water flow and temperature to that suitable for underfloor heating

- The ZRU* boosts flow, ensuring that the underfloor system is not reliant on existing pump pressure.
- Water is thermostatically blended to provide the ideal safe flow temperature control.
- Sensors within the unit ensure operation only occurs when heat is available from the existing heating system.
- Room thermostat regulates air temperature in the space being heated.
- Although designed to be surface mounted in the heated area, the ZRU* can be positioned elsewhere within the property.
- The ZRU* can be used in both domestic and commercial buildings.
- As the ZRU* thermostatically controls water temperature the unit can also be used where low surface temperature heating by radiators is required.

Important System Considerations

The Polyplumb ZRU* will only operate when the existing heating system is operating. If, during the "heating on" cycle the boiler is not firing for long periods (over 1 hour) this may effect the performance of the room to be heated. Re-setting of the existing room thermostat controlling the system may have to be considered.

Boiler Considerations

Some boilers are affected by, additional pumps Check that the boiler is compatible with additional pumps prior to installation

Conservatories

Only Solid floor systems are recommended for systems in conservatories as the maximum output is required. The provision of underfloor heating in a conservatory will extend the period of use of the room through the year and greatly enhances comfort conditions within the room. However due to

Polyplumb Zonal Regulation Unit

the high heat loss in conservatories, internal design temperatures cannot be guaranteed. During periods of cold outside temperatures and limited solar gain, complementary heating may be required.

*Installation of ZRU**

The ZRU* can be positioned in either the room to be heated or an adjacent area. When installed in the heated area, the ZRU* should be installed a minimum 300mm from the finished floor level to allow for pipe connections

- 1) Remove front screws and cover from unit
- 2) Mark positions of holes, drill, and screw unit to wall
- 3) Connect heating pipes and underfloor heating pipes to unit via isolation valves (not included on unit). Refer to Design and Installation Guide for Polyplumb jointing procedure.
- 4) Connect wiring for Room thermostat as shown in Wiring Diagram
- 5) Connect mains wiring from fused spur or socket as shown in Wiring Diagram

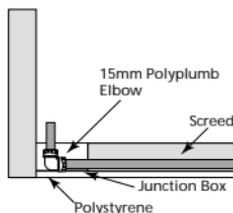
Note: The wiring may enter the unit through the clamps below the unit or through the entry hole in the back panel. Isolation valves to be 1/4 turn "Ball Valves" - compression ends.

- 6) Open Valves to unit
- 7) Bleed Unit through air vents on the top of the unit
- 8) Bleed Pump through central bleed point
- 9) Re fix front cover and turn on power

*Pipe Connections at ZRU**

Two circuit systems should be joined using Polyplumb Tees above floor level (the use of Polyplumb Spigot elbows PB 10 15 into these tee's will save space)

Elbows should be used underneath the ZRU* to exit pipe from the floor and a small section of floor plate or



Polyplumb Zonal Regulation Unit

floating floor panel should be cut away to allow the pipes to exit the floor at the correct position.

These elbows should be covered with Polystyrene prior to, and during screeding to allow for future excavation if required. Alternatively they can be enclosed within a Polyplumb Junction Box.

Pipe Connections to Existing System

The connections to the ZRU* can be made from either the main distribution pipes of a 2 pipe system (preferred method) or via the nearest radiator.

Connection to nearest radiator

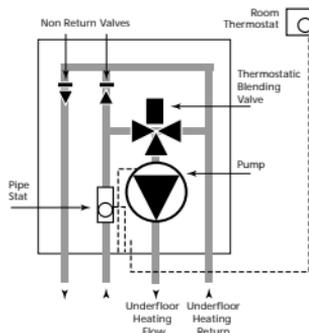
In order to avoid heat being drained from the radiator, the ZRU* must be connected to the radiator pipework in series not in parallel.

This arrangement will allow the ZRU* to pull water through the radiator rather than bypass the radiator.

The radiator valves must be fully open at all times and the radiator must not therefore have thermostatic valves

Operational Sequence

1. Heating Water from the Existing System is pumped through the Heating flow by the existing heating pump and returns through the heating return forming a simple loop.
2. The Pipe stat senses that heating water is available i.e. when the main heating system is on and sends a live signal to the pump
3. If the room thermostat is also calling for heat the pump operates and is indicated by the neon light on the front of the ZRU*.
4. A mixture of heating flow and under-floor heating return water is drawn through the thermostatic blending valve at the correct temperature and pumped into the underfloor heating
5. The non return valves ensure that water is not drawn from the main heating return or the underfloor heating flow



Polyplumb Zonal Regulation Unit

6. As the room reaches temperature, the room thermostat will break the live signal to the pump and stop the pump from operating
7. As the boiler shuts down and the main heating flow cools, the pipe stat will break the live signal to the pump and stop the pump from operating

User Controls

Room Thermostat

Sets the high limit temperature in the room

Thermostatic Blending Valve

Sets the water temperature to the Underfloor heating. This needs to be set at 50 deg C (between setting 4 and 5) for solid floors and at 60 deg C (Max setting for floating and suspended floors)

Pump Speed Control

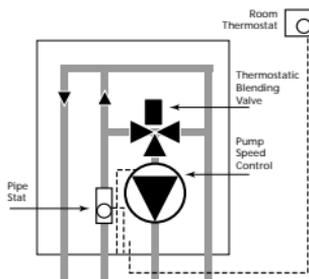
This will only need to be set at the lowest setting (speed 1)

Pipe Stat

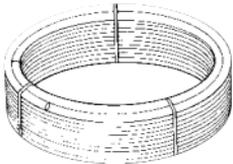
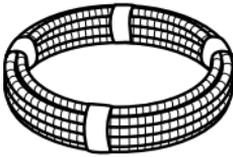
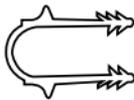
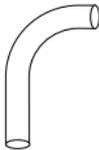
The temperature shown on the dial is the temperature which needs to exist in the main flow pipe from the heating to make the unit operate the pump. This therefore sets the response time for the underfloor heating to operate after the main heating is on.

In some systems where the existing heating pump pressure at the unit is poor this may need to be set as low as 30 to 35 Deg C. Alternatively, where temperature at this control is reached soon after the heating system is switched on, this can be set higher.

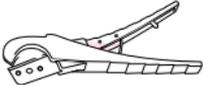
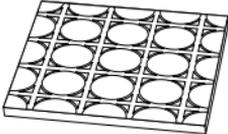
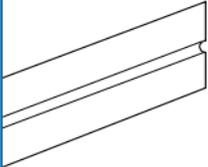
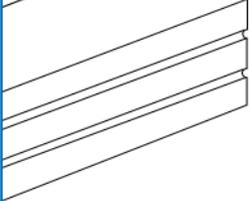
This control will also determine the period of time after the heating system is switched off that the unit stops operating, if initial flow to the pipe stat from the existing heating system is poor, some radiators on the same circuit may need to be balanced to encourage flow to the unit.



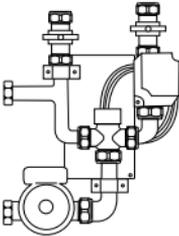
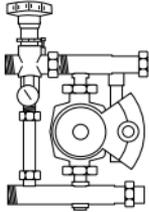
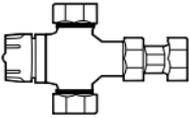
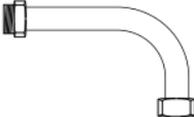
Polyplumb Underfloor Central Heating Systems

	PRODUCT DESCRIPTION	CODE NO.
	<p>Barrier Pipe Coils</p> <p>15mm x 100 metre coil 15mm x 150 metre coil 18mm x 120 metre coil 18mm x 200 metre coil 18mm x 300 metre coil</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p><i>Featuring "Plumb Straight" Coiling Technology</i></p> </div>	<p>PB10015B PB15015B PB12018B PB20018B PB30018B</p>
	<p>Conduit Pipe Coils</p> <p>15mm x 25 metre Coil 15mm x 50 metre Coil 22mm x 25 metre Coil 22mm x 50 metre Coil</p>	<p>CPC1525 CPC1550 CPC2225 CPC2250</p>
	<p>Pipe Dispenser</p>	<p>PB03111</p>
	<p>Pipe Stiffener <i>(Must be used with Polybutylene Pipe)</i> 15mm Pipe Support</p>	<p>PB6415</p>
	<p>Edge Insulation 25 metre Coil Edge Insulation</p>	<p>PB05855</p>
	<p>Standard UFCH Pipe Clip</p>	<p>PB02911</p>
	<p>Long Radius Bend Former For use as pipe guide at bottom of manifold - accepts 15mm conduit pipe</p>	<p>PB6325</p>

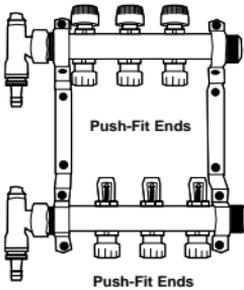
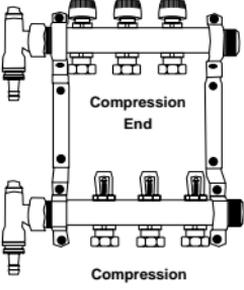
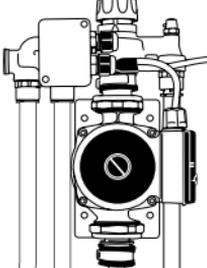
Polyplumb Underfloor Central Heating Systems

	PRODUCT DESCRIPTION	CODE NO.
 	<p>Pipe Cutters Standard Type Cutter 10mm to 28mm Replacement Blades for Standard Cutter</p> <p>Ratchet Type Cutter 10mm to 28mm Replacement Blades for Ratchet Cutter</p>	<p>PB777 PB780</p> <p>PB778 PB779</p>
	<p>Floor Panel (1200mm x 1000mm) Floor Panel for Screeded Floors allow for overlap and waste when ordering</p>	<p>PB08576</p>
	<p>Floor Panel (1.2m x 1.2m x 50mm) 10 Pack = 14.4 square metres (effective floor area)</p> <p>Floating Floor Panel</p>	<p>PB08577</p>
 	<p>Single Heat Spreader Plate (For 15mm and 18mm Pipe) Single Heat Spreader Plate</p> <p>Double Heat Spreader Plate (For 15mm and 18mm Pipe, 450 span double indent. Sets pipes at 300mm centres) Double Heat Spreader Plate</p>	<p>PB207</p> <p>PB209</p>

Polyplumb Manifold and Control Products

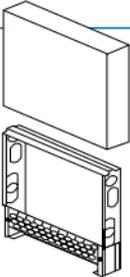
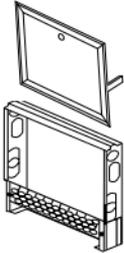
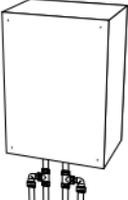
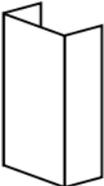
	PRODUCT DESCRIPTION	CODE NO.
	<p>UFCH Control Pack (Includes Pump, Two Port Motorised Valve, UFCH Mixer Valve and Isolating Valve) UFCH Control Pack</p>	<p>PB970015</p>
	<p>Modulating Pump Unit (Includes Modulating Pump, UFCH Mixer Valve and Temperature Gauge) Modulating Pump Unit</p>	<p>PB970014</p>
	<p>UFCH Valve Actuators Valve Actuator (2 Wire) Valve Actuator (4 Wire)</p>	<p>PB00401 PB00402</p>
	<p>Isolation Valves (1 inch) (1 pair) Isolation Valves</p>	<p>PB01732</p>
	<p>UFCH Mixing Valve 22mm UFH Mixing Valve 28mm UFH Mixing Valve</p>	<p>PB219058 PB219059</p>
	<p>UFCH Manifold Bends 90° Allows pump unit and manifold to be corner mounted</p>	<p>PB12735</p>

Polyplumb Manifold and Control Products

	PRODUCT DESCRIPTION	CODE NO.
	<p>15mm Manifold (C/W Mounting Brackets, Drain Cock & Air Bleed)</p> <p>15mm Manifold - 2 Port 15mm Manifold - 3 Port 15mm Manifold - 4 Port 15mm Manifold - 5 Port 15mm Manifold - 6 Port 15mm Manifold - 7 Port 15mm Manifold - 8 Port 15mm Manifold - 9 Port 15mm Manifold - 10 Port 15mm Manifold - 11 Port 15mm Manifold - 12 Port</p>	<p>PB12737 PB12738 PB12739 PB12740 PB12741 PB12742 PB12743 PB12744 PB12745 PB12746 PB12747</p>
	<p>18mm Manifold (C/W Mounting Brackets, Drain Cock & Air Bleed)</p> <p>18mm Manifold - 2 Port 18mm Manifold - 3 Port 18mm Manifold - 4 Port 18mm Manifold - 5 Port 18mm Manifold - 6 Port 18mm Manifold - 7 Port 18mm Manifold - 8 Port 18mm Manifold - 9 Port 18mm Manifold - 10 Port 18mm Manifold - 11 Port 18mm Manifold - 12 Port</p>	<p>PB08351 PB08392 PB08459 PB08462 PB08479 PB08558 PB08563 PB08564 PB08572 PB08588 PB08589</p>
	<p>Zonal Regulation Unit (ZRU) Mark Two</p> <p>New compact unit, supplied without cover, now features new PolyFit demountable connections</p>	<p>PB970018</p>

25 year guarantee does not apply to Manifold and Control products on this page.

Polyplumb Manifold and Control Products

	PRODUCT DESCRIPTION	CODE NO.
	<p>Surface Distribution Box</p> <p>Surface Distribution Box - 4 Port Surface Distribution Box - 7 Port Surface Distribution Box - 10 Port Surface Distribution Box - 12 Port</p>	<p>PB06529 PB06530 PB06531 PB06532</p>
	<p>Flush Distribution Box</p> <p>Flush Distribution Box - 4 Port Flush Distribution Box - 7 Port Flush Distribution Box - 10 Port Flush Distribution Box - 12 Port</p>	<p>PB04401 PB04402 PB04404 PB04408</p>
	<p>Zonal Regulation Unit (ZRU)</p> <p>for single room extensions and conservatories up to 25m²</p>	<p>PB970016</p>
	<p>Zonal Regulation Unit (ZRU)</p> <p>White uPVC, designed to conceal entry and pipework underneath Polyplumb ZRU</p>	<p>PB970016</p>
	<p>Wiring Centre</p> <p>for use with two wire adaptors</p>	<p>PB23010</p>

Installation Guide & Product Handbook



COLD WATER SUPPLY SYSTEMS

incorporating

MDPE Coiled Pipe

Polysure Pipe

Polyfast Compression Fittings

Push-fit Fittings

Polyfast Adaptors

Electrofusion Fittings



MDPE COILED PIPE



Polyethylene Pressure Pipe 20mm to 63mm OD

20mm to 63mm Pipe Applications

Blue MDPE pipes 20mm to 63mm to BS6572 are used for Potable Water Underground as service connections from distribution mains to individual properties and are connected using Polypipe Push-fit push-fit, Polyfast compression fittings or electrofusion fittings. Blue pipes may also be used for above ground services if the pipes are installed within protective ducts.

Black MDPE pipes 20mm to 63mm to BS6730 are used for Potable Water Above Ground and are connected using Push-fit, Polyfast compression fittings or electrofusion fittings.

Black LDPE continues to be manufactured in accordance with the now obsolete BS1972 specification, for replacement pipe requirements, irrigation systems, and other specialised needs including the Export market and are connected using Polyfast compression fittings in conjunction with the appropriate BS 1972 adaptors.



Quality Assurance

Polypipe operates a comprehensive quality assurance system to BS EN ISO 9002:1994 which has been formally approved by the British Standards Institution and has 12 BSI Kitemark Licences. Polypipe is a BSI registered firm of assessed capability for all manufactured products.



BS6572
BS6730

Standards

All MDPE pipes have true metric outside diameters to ISO 161/1 (BS 5556)



Blue MDPE pipes in the diameter range 20mm to 63mm are produced to BS6572:1985 (previously WRC IGN 4-32-02) and are Kitemarked.

Black MDPE pipes in the diameter range 20mm to 63mm are produced to BS6730; 1986 and are Kitemarked.

Black LDPE pipes in the diameter range 3/8" to 2" are manufactured in accordance with former specification BS1972:1967

Push-fit fittings WRAS approved product.
Certificate Number 9503013.

Polyfast Compression fittings WRAS approved product. Certificate No's. 9403041, 9410047, 9504024, 9503014, 9503015.

Polyfast and Push-fit fittings are manufactured to meet the requirements of WRC specification WIS 4.32.11.



Handling and Storage of pipes

Do not use metallic slings as these can cause cuts and gouges.

Ensure that pipes and fittings do not come into contact with oils/solvents or heat sources (The materials are flammable).

Avoid contact with sharp objects and do not drag pipes across the ground.

Ensure that any end caps supplied in pipes or fittings remain in place until jointing commences. For storage periods outdoors longer than 12 months blue products should be stored under cover.

Particular care should be exercised when handling pipes/fittings in wet or frosty conditions as the pipes/fittings will be slippery and difficult to handle.

Installation

Polypipe Polyethylene Pipe systems should be installed in accordance with the Water Industries Manual for PE pipe systems for Water Supply and the Codes of Practice for PE Pipework CP312 Parts 1 and 3.

The normal minimum depth of cover for service pipes is 750mm.

In uniform, soft soils free from sharp stones having a compaction fraction of less than 0.3, the pipes can be laid on the trimmed trench bottom and the as-dug soil can be used for side and backfill.

Thorough compaction by hand should be carried out until 250mm depth of cover is placed above the pipe following which machine compaction can be used. If the as-dug material is not suitable, then the trench should be excavated 100mm below the centre of the pipe and imported granular or similar bedding and fill in accordance with WIS 4.08.01 should be used. Polyethylene pipe systems are not suitable for use as an electrical earth.

Testing

Pressure test to 1.5 times the actual working pressure for one hour maximum before connecting the installation to the mains supply.

Any permissible fall off in pressure after isolating from the pressure source will be determined by the Site Engineer in accordance with the WRC Manual for PE Pipe Systems. Sanitisation of the pipework prior to connection to carry Potable Water should be in accordance with the recommended procedure of the responsible Water Company.

20mm to 63mm Fittings Applications

Polyfast Compression Fittings: an economical compression system for joining MDPE, LDPE, HDPE, normal gauge and heavy gauge polyethylene, copper, lead, PVCu and Galvanized Steel.

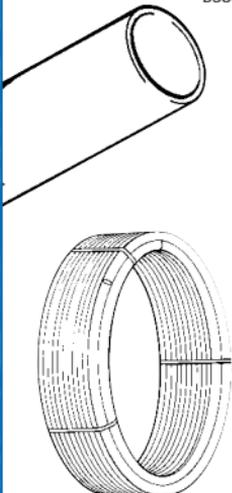
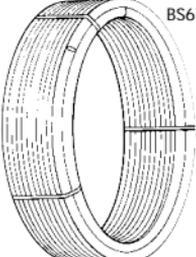
Push-fit fittings: an economical simple push fit tamper proof joint with neat slimline design, for joining MDPE Blue to BS6572 or Black to BS6730

Electrofusion Fittings:

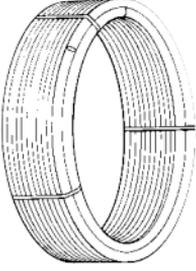
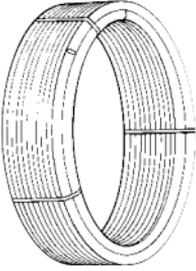
a simple to use fusion system for joining MDPE Blue to BS6572 or Black to BS6730. Requires electrofusion control box with 110v electricity supply.



Blue & Black Polyethylene Pipe 20mm to 63mm OD

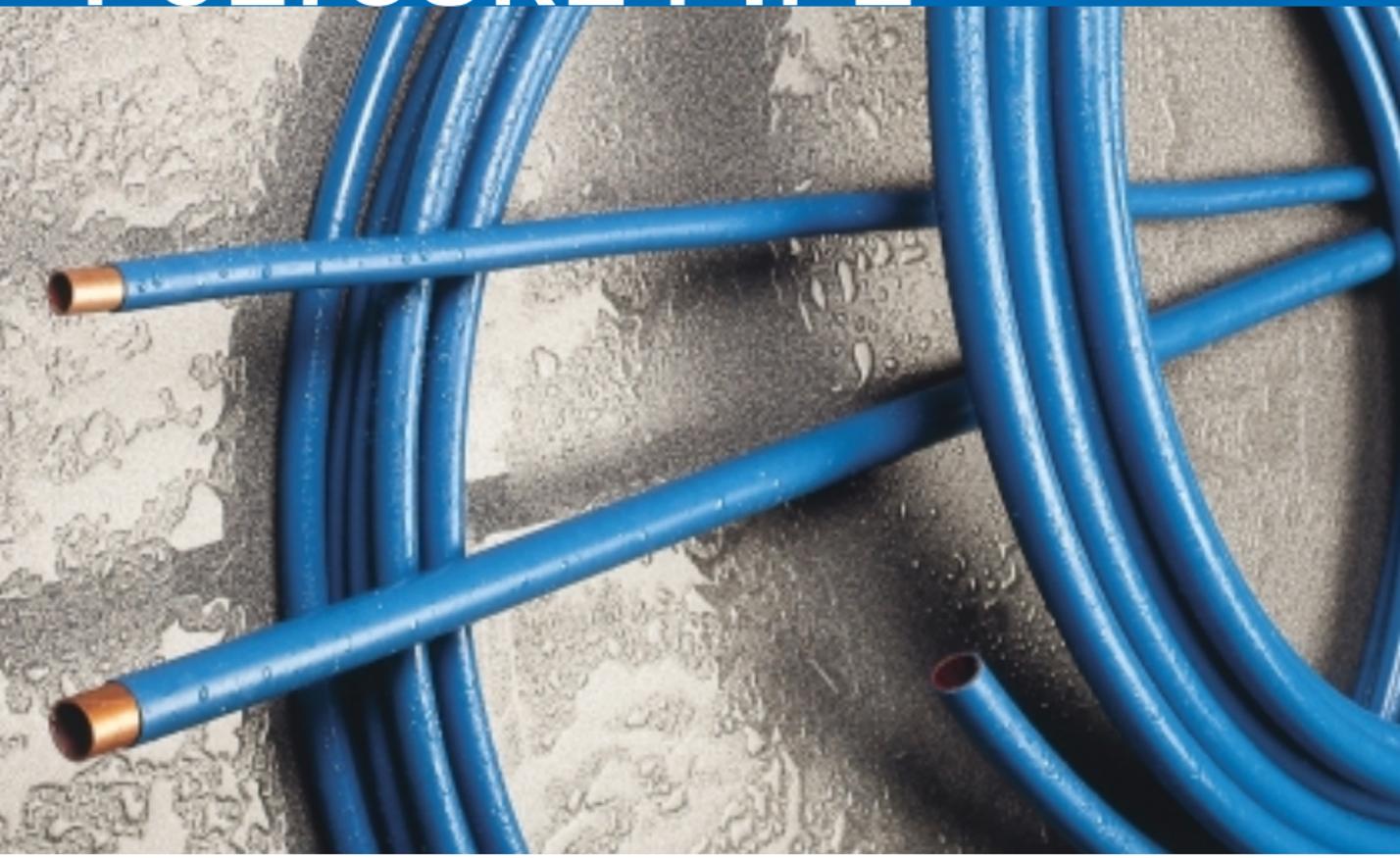
	PRODUCT DESCRIPTION	CODE NO.
 BS6572 	<h3>MDPE Blue PE80 12 Bar Pipe</h3> 20mm x 25 metre Plain End Coil 20mm x 50 metre Plain End Coil 20mm x 100 metre Plain End Coil 20mm x 150 metre Plain End Coil 25mm x 25 metre Plain End Coil 25mm x 50 metre Plain End Coil 25mm x 100 metre Plain End Coil 25mm x 150 metre Plain End Coil 32mm x 25 metre Plain End Coil 32mm x 50 metre Plain End Coil 32mm x 100 metre Plain End Coil 32mm x 150 metre Plain End Coil 50mm x 25 metre Plain End Coil 50mm x 50 metre Plain End Coil 50mm x 100 metre Plain End Coil 50mm x 150 metre Plain End Coil 63mm x 25 metre Plain End Coil 63mm x 50 metre Plain End Coil 63mm x 100 metre Plain End Coil 63mm x 150 metre Plain End Coil	2025BU 2050BU 20100BU 20150BU 2525BU 2550BU 25100BU 25150BU 3225BU 3250BU 32100BU 32150BU 5025BU 5050BU 50100BU 50150BU 6325BU 6350BU 63100BU 63150BU
 BS6730  * 40mm pipes are currently only included in the Draft European Standard. pr EN12201	<h3>MDPE Black PE80 12 Bar Pipe</h3> 20mm x 25 metre Plain End Coil 20mm x 50 metre Plain End Coil 20mm x 100 metre Plain End Coil 20mm x 150 metre Plain End Coil 25mm x 25 metre Plain End Coil 25mm x 50 metre Plain End Coil 25mm x 100 metre Plain End Coil 25mm x 150 metre Plain End Coil 32mm x 25 metre Plain End Coil 32mm x 50 metre Plain End Coil 32mm x 100 metre Plain End Coil 32mm x 150 metre Plain End Coil 40mm x 150 metre Plain End Coil *	2025B 2050B 20100B 20150B 2525B 2550B 25100B 25150B 3225B 3250B 32100B 32150B 40100B

Blue & Black Polyethylene Pipe 20mm to 63mm OD

	PRODUCT DESCRIPTION	CODE NO.
	MDPE Black PE80 12 Bar Pipe 50mm x 25 metre Plain End Coil 50mm x 50 metre Plain End Coil 50mm x 100 metre Plain End Coil 50mm x 150 metre Plain End Coil 63mm x 25 metre Plain End Coil 63mm x 50 metre Plain End Coil 63mm x 100 metre Plain End Coil 63mm x 150 metre Plain End Coil	continued 5025B 5050B 50100B 50150B 6325B 6350B 63100B 63150B
	MDPE Black PE80 6 Bar Pipe 50mm x 100 metre Plain End Coil 63mm x 100 metre Plain End Coil	5006100B 6306100B
	LDPE Black Type 32, 9 Bar Pipe 3/8" x 25 metre Plain End Coil 3/8" x 50 metre Plain End Coil 3/8" x 100 metre Plain End Coil 3/8" x 150 metre Plain End Coil 1/2" x 25 metre Plain End Coil 1/2" x 50 metre Plain End Coil 1/2" x 100 metre Plain End Coil 1/2" x 150 metre Plain End Coil 3/4" x 25 metre Plain End Coil 3/4" x 50 metre Plain End Coil 3/4" x 100 metre Plain End Coil 3/4" x 150 metre Plain End Coil 1" x 25 metre Plain End Coil 1" x 50 metre Plain End Coil 1" x 100 metre Plain End Coil 1" x 150 metre Plain End Coil	3825LC 3850LC 38100LC 38150LC 1225LC 1250LC 12100LC 12150LC 3425LC 3450LC 34100LC 34150LC 10025LC 10050LC 100100LC 100150LC

For sizes 75mm OD to 450 OD MDPE and HPPE Pipes & Fittings
 telephone Polypipe MDPE Sales on: 01709 770000

POLYSURE PIPE

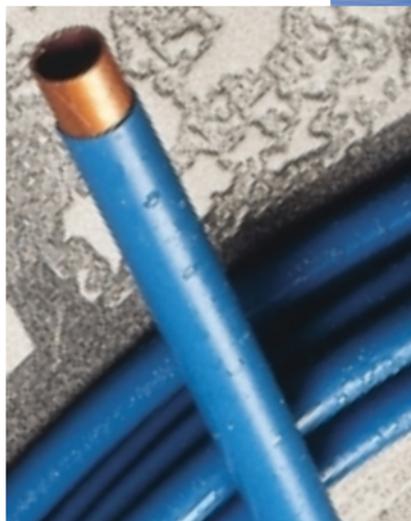


Polysure Pipe 15mm, 22mm and 28mm

Polysure service pipes are copper pipes with an external protective sheath of polyethylene and are used where service pipes have to be installed in contaminated ground as often occurs when former industrial sites are used for house building.

The WRC manual for polyethylene pipe systems and the service pipe manual recommend that polyethylene must not be used in contaminated grounds where organic chemicals through the pipe wall could result in contamination of the potable water within the pipeline. In these circumstances, the manuals recommend that metal pipes should be installed wherever ground contamination is present.

The Copper pipes are produced to EN1057-R220 and the blue polyethylene sheath complies with BS 3412. The external coating of polyethylene protects the copper pipe from external corrosion and improves the resistance of the pipe to mechanical damage. The following dimensions are available.



Pipe diameter OD (mm)			
Plastic outer layer	17	24	32
Copper inner layer	15	22	28

Jointing Instructions

To join adjacent lengths of Polysure pipes, proprietary gunmetal or DZR Brass fittings must be used (not supplied by Polypipe) to connect the Copper pipes to polyethylene pipes to BS6572, Polyfast or Push-fit copper adaptor couplers should be used. (Polyfast code: 478, Push-fit code: 378)



1. Make a circular incision cutting through the plastic outer protective cover.

Remove the cut plastic from the end of the tube. The plastic cover should be cut back sufficiently to permit insertion into the coupling and sufficient copper tube should be exposed to enable the Polysure pipe to enter up to the stop in the body of the fitting.

2. Cut the copper inner pipe using proprietary pipe wheel cutters. **Do not use a hacksaw** unless great care is taken to remove any burrs from both inside and outside the pipe.
3. Re-round the end of the pipe for ease of entry using a re-rounding tool.
4. Fully push home the copper pipe into the Polyplumb socket through both the 'O' ring seal and the stainless steel grabring.
5. Finally wrap each end of the joint created with a suitable



waterproof adhesive plastic tape for the last 25mm or so of plastic covering and a similar length immediately adjacent to the copper tube.

Polysure Pipe 15mm, 22mm and 28mm

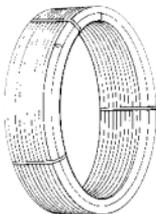
MANUFACTURING QUALITY ASSURANCE



The quality system of the IMI manufacturing plant is in accordance with BS EN ISO 9002 (BSI registered firm Certificate FM00450)

The Copper Tubes are manufactured from phosphorous deoxidised copper (Cu-DHP) and are inspected and tested in full accordance with the appropriate standards defined by BS EN 1057.

The blue polyethylene protective outer cover is in accordance with BS 3412: 1992.

	PRODUCT DESCRIPTION	CODE NO.
	Polysure Pipe Coils 15mm x 20 metre Coil 22mm x 20 metre Coil 28mm x 20 metre Coil Cut lengths to special order only.	15PS20 22PS20 28PS20

POLYFAST FITTINGS



Polyfast Polyethylene Compression Fittings

Compression Fittings in sizes 20mm to 63mm OD, to the requirements of WRC WIS 4.32.11.

ADAPTABLE FOR POLYETHYLENE, LEAD, COPPER, PVC AND GALVANISED IRON

20mm to 63mm. MDPE to BS6572 and BS6730, & 3/8 inch to 2 inch LDPE to BS1972:1967 Class C and D, HDPE to BS3284:1967 Class C and D, LDPE to BS1972:1961 Normal and Heavy Gauge (IS134-1977), Copper to BS2871 Table X and Y BS659, BS1386, Lead to BS602/1085:1970, PVC to BS3505:1986, Galvanised Steel to BS1387:1985.

MATERIALS: Polyfast compression fittings are manufactured with engineering plastic bodies and grab rings with EPDM Rubber seals kitemarked to BS EN681-1 and engineering plastic stiffeners and retaining nuts.

FEATURES: ● **Sound joint integrity** gives reliable trouble free service.

- **Simple and quick** to use for speedy installation.
- **PN16 Pressure Rating** gives increased safety factor.
- **Pipe and fittings** from one British manufacturer.
- **End load resistant** – pull out is prevented by grab ring/pipe stiffener/insert.
- **Body and nut** adaptable to different pipes.
- **Robust** high impact resistance.
- **Tough** to withstand damage even at low temperatures.
- **Seals** are pre-lubricated.



Jointing Instructions

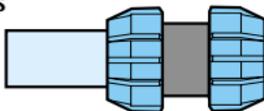
Polyethylene Pipe Jointing Instructions

Note: Always check that the factory applied silicone lubricant grease is present on the rubber seal.

There are 5 Vital stages to successfully join Polyfast Compression fittings to blue (BS6572) and black (BS6730) MDPE pipe.

1. Always use one of the approved pipe cutters (Code 781 or 778).
A slight rotation of the pipe when cutting will help make the operation easier.
Never use a hacksaw. Cut pipe end square and remove any burrs or sharp edges.
2. Insert pipe stiffener in pipe up to the stop.
3. Loosen nut on Polyfast fittings.
4. Insert clean pipe to full socket depth and re-hand tighten the polyfast nut to secure, plus 1/8 of a turn using a strap wrench (Code: 780) **Do not over tighten.**
Polyethylene pipe cannot be used as an electrical earth.

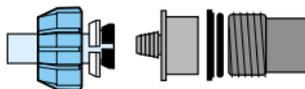
Hand tighten plus 1/8 turn using strap wrench.



Polyfast Adaptor Set Jointing Instructions

MDPE Reducing Set

- Remove nut from fitting and place over pipe end.
- Discard black/grey metric grab ring.
- Place nut reducer and new black grab ring over pipe end (thickest section towards fitting body) Ensure the grab ring is positioned at the end of the pipe.
- Insert barbed end of adaptor into pipe and tap in with wooden mallet up to flange.
- Push black grab ring up to flange, if necessary.
- Push spigot end of adaptor into body of fitting to full socket depth. Engage nut onto fitting.
- Hand tighten plus 1/8 turn using strap wrench.**

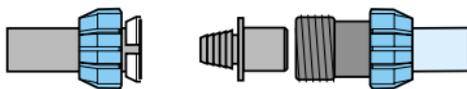


LDPE and HDPE Black

BS1972: 1967 C&D BS3284 C&D

BS1972: 1961 (IS134 NG & HG)

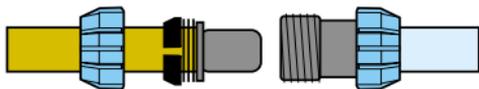
- Remove nut from fitting and place over pipe end.
- Discard black/grey metric grab ring.
- Place white imperial grab ring over pipe (thickest section towards fitting body). Ensure the grab ring is positioned at the end of the pipe.
- Insert barbed end of adaptor into pipe and tap in with wooden mallet up to flange.
- Push spigot end of adaptor into body of fitting to full socket depth. Engage nut onto fitting.
- Hand tighten plus 1/8 turn using strap wrench.**



Polyfast Adaptor Set Jointing Instructions

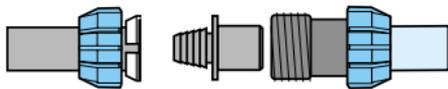
Copper BS2871 Table X & Y (EN1057)

- Remove nut from fitting and place over pipe end.
- Place black or grey metric grab ring over pipe (thickest section towards fitting body).
- Place over pipe stainless steel washer, stainless steel grab ring (taper towards pipe end) and then other stainless steel washer maximum 15mm from end.
- Push rubber bush, flange first onto pipe, maintaining close contact with other components up to stop of rubber bush.
- Push spigot end of rubber bush into body of fitting to full socket depth. Engage nut on fitting.
- Hand tighten plus 1/2 turn using strap wrench.**



Lead BS602, 1085/1970 NB Use 3/8" in 20mm body, 1/2" in 25mm body, 3/4" in 32mm body, and 1" in 40mm body.

- Remove nut from fitting and place over pipe end.
- Discard black/grey metric grab ring.
- Place white grab ring over pipe (thickest section towards fitting body). Ensure the grab ring is positioned at the end of the pipe.
- Insert barbed end of adaptor into pipe and tap in with wooden mallet up to flange.
- Push white grab ring up to flange, if necessary.
- Push spigot end of adaptor into body of fitting to full socket depth. Engage nut on fitting.
- Hand tighten plus 1/2 turn using strap wrench.**



Polyfast Adaptor Set Jointing Instructions

PVCu BS3505/6 1968 *Galvanised Steel* BS1387

- Remove nut from fitting and place over pipe end
- Discard black metric split grab ring
- Push rubber bush onto end of pipe
- Push spigot end of rubber bush into body of fitting to full socket depth. Engage nut onto fitting
- Hand tighten plus 1/2 turn using strap wrench.**



NB: Not end load bearing. Must be anchored to prevent pullout.

Imperial Adaptor Couplers for LDPE/HDPE Pipes

BS 1972: 1967/BS 3284: 1967

- Note that the imperial end of the fitting has a Black nut. Cut the pipe end square with the axis and file a chamfer onto the pipe end.
- Insert the pipe end through the black nut, grab-ring and the rubber seal to full socket depth.
- Hand tighten plus 1/8 turn using strap wrench. (Note: Do not over tighten).**

Wide Tolerance Adaptor Couplers for Lead Pipes

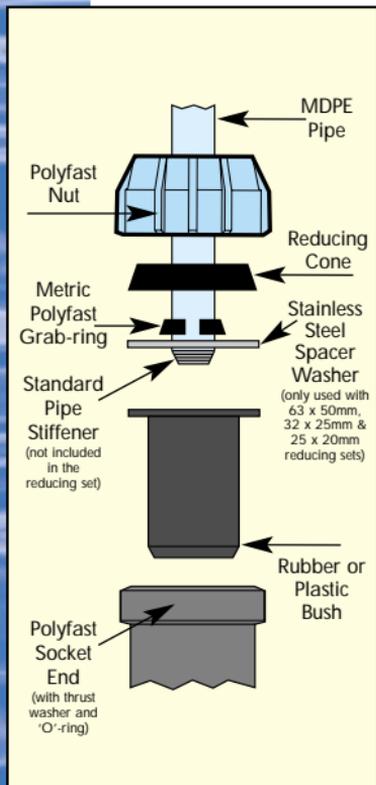
BS 602, 1085: 1970

- Check condition of pipe surface and cut back pipe square to remove any surface grooves or damage using pipe cutters or saw, deburr and chamfer end of pipe to facilitate assembly.
- Remove the nut from the fitting and replace the nut over the pipe end.
- Mark the socket depth on the pipe and push the grab-ring up to the mark (thickest section toward fitting body).
- Push the seal onto the pipe and up to the grab-ring (tapered face towards fitting).
- Position the lead pipe, seal and grab-ring into the fitting body, engage the thread.
- Hand tighten plus 1/4 turn using strap wrench. (Note: Do not over tighten).**

Polyfast Adaptor Set Jointing Instructions

High Flow Reducing Set For MDPE pipes

Plastic reducing bushes 63 x 20mm (Code: 4806320) 63 x 25mm (Code: 4806325) 63mm x 32mm (Code: 4806332) 50 x 20mm (Code: 4805020) 50 x 25mm (Code: 4805025) 32 x 20mm (Code: 4803220)



- (a) Cut pipe square and fit standard Polyfast pipe stiffener.
- (b) Select the appropriate reducing set for the size of polyfast fitting and the smaller pipe to be fitted (eg. 63mm x 20mm reducing set, Code: 4806320).
- (c) Remove the nut from the Polyfast fitting and discard the standard metric grab-ring. Ensure that the seal and thrust washer remain in position in the socket.
- (d) Push the plastic reducing bush into the socket of the polyfast socket until the end of the bush is flush with the end of the socket.
- (e) Place the smaller grab-ring onto the reducing bush (thicker end in contact with the bush) and the reducing cone over the grab-ring and re-fit the Polyfast nut onto the end of the body.
- (f) Push the pipe through the nut into the socket of the reducing bush to contact the register at the bottom of the socket.
- (g) **Hand tighten plus 1/8 turn using strap wrench. (Note: Do not over tighten).**

Polyfast Adaptor Set Jointing Instructions

High Flow Reducing Set For MDPE pipes

Rubber bushes 63 x 50mm (Code: 4806350) 32 x 25mm
(Code: 4803225) 25mm x 20mm (Code: 4802520)

- (a) Cut pipe square and fit standard Polyfast pipe stiffener.
- (b) Select the appropriate reducing set for the size of polyfast fitting and the smaller pipe to be fitted (eg. 63mm x 20mm reducing set, Code: 4806320).
- (c) Remove the nut from the Polyfast fitting and discard the standard metric grab-ring. Ensure that the seal and thrust washer remain in the position in the socket and check that the factory applied silicone lubricant grease is present on the rubber seal.
- (d) Place the nut on the pipe end followed by the reducing cone, grab-ring (thickest section towards the pipe end) and stainless steel support washer.
- (e) Fit the rubber bush over the pipe end and push the stainless steel washer/grab-ring and reducing cone back down the pipe until the pipe is fully inserted into the rubber bush with a stainless steel spacer washer and grab-ring in contact with the flanged end of the rubber bush.
- (f) Push the plain spigot of the rubber reducing bush into the socket of the fitting through the thrust washer and 'O'-ring and engage the nut onto the threads on the body of the fitting.
- (g) **Hand tighten plus 1/8 turn using strap wrench.**
(Note: Do not over tighten).

Polyfast Adaptor Set Jointing Instructions

Copper/Polybutylene Sockets

Polyfast MDPE x Copper/polybutylene adaptors (Code: 478) and Push-fit MDPE x Copper/polybutylene adaptors (Code: 378)

Please refer to the jointing and dismantling instruction section of the Polyplumb Hot and Cold Water Plumbing and Heating Guide earlier in this manual (pages 8, 9 and 10).

Slip Repair Couplers

To replace damaged pipe on straight runs

- (a) Cut out the damaged pipe for a distance of at least the length of 2 slip couplers. Cut a replacement length of pipe, and deburr/chamfer pipe ends.
- (b) Fit pipe stiffeners to pipe ends and mark half the length of the slip couplers from each pipe end with a felt-tipped pen. Remove nuts and grab rings from the 2 slip couplers and place first one nut and one grab ring on the existing pipe ends with the tapers as shown.
- (c) Check that the 'O'-ring seals are lubricated and slide one slip coupler onto each pipe end, holding the thrust washer and 'O'-ring in place until the couplers are fully onto the pipe ends.
- (d) Place the second nut and grab-ring of each slip coupler onto the replacement length of pipe as shown, insert the replacement length of pipe inbetween the 2 existing pipe ends.

Polyfast Adaptor Set Jointing Instructions

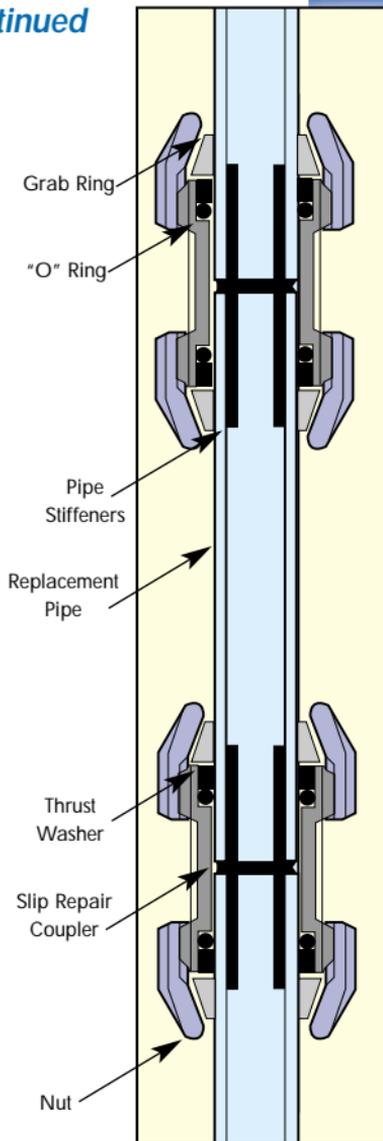
Slip Repair Couplers continued

- (e) Slide the 2 slip couplers onto the replacement pipe so that they are half on the existing pipe and half on the replacement pipe using the previously marked lines for guidance.

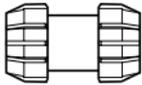
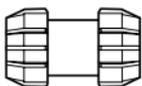
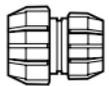
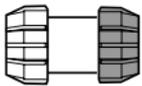
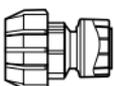
If necessary, ensure that the seals and thrust washers are pushed back into position in each socket.

- (f) Slide the grab-rings back to contact the end of each socket. (It may be necessary to insert the end of a screwdriver or a piece of wood in the grab-ring slot to open the grab-ring out slightly to enable it to be moved backwards).

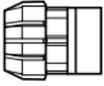
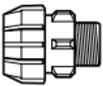
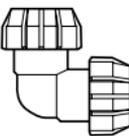
- (g) **Screw the nuts onto each socket end. Hand tighten plus 1/8 of a turn with a strap-wrench.**



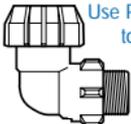
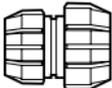
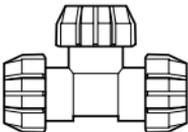
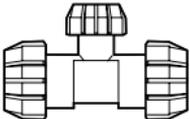
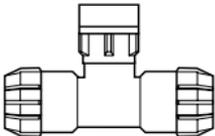
Polyfast Polyethylene Compression Fittings

	PRODUCT DESCRIPTION	CODE NO.
	Straight Coupler 20mm Straight Coupler 25mm Straight Coupler 32mm Straight Coupler 40mm Straight Coupler 50mm Straight Coupler 63mm Straight Coupler	40020 40025 40032 40040 40050 40063
	Slip/Repair Coupler 20mm Slip/Repair Coupler 25mm Slip/Repair Coupler 32mm Slip/Repair Coupler 40mm Slip/Repair Coupler 50mm Slip/Repair Coupler 63mm Slip/Repair Coupler	40020S 40025S 40032S 40040S 40050S 40063S
	Reducing Coupler 25mm x 20mm Reducing Coupler 32mm x 20mm Reducing Coupler 32mm x 25mm Reducing Coupler 40mm x 32mm Reducing Coupler 50mm x 32mm Reducing Coupler 50mm x 40mm Reducing Coupler	40625 4063220 40632 40640 4065032 40650
	Metric to Imperial Coupler 20mm x 1/2" BS1972: 1967 & BS3284 25mm x 1/2" BS1972: 1967 & BS3284 25mm x 3/4" BS1972: 1967 & BS3284	48120 4812512 48125
 The Copper/Polybutylene socket is a Push-fit to BS7291/2: 1990	Copper/Polybutylene Coupler 20mm x 15mm (1/2") Copper Coupler 25mm x 15mm (1/2") Copper Coupler 25mm x 22mm (3/4") Copper Coupler 32mm x 22mm (3/4") Copper Coupler 32mm x 28mm (1") Copper Coupler	47820 4782515 47825 4783222 47832

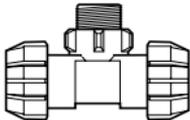
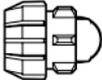
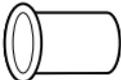
Polyfast Polyethylene Compression Fittings

	PRODUCT DESCRIPTION	CODE NO.
<p>Stainless Steel reinforcing shroud</p>  <p>Parallel BSP thread to BS21- Use PTFE tape to seal the threads</p>	<p>Female Adaptor</p> <p>20mm x 1/2" BSP Female Adaptor 25mm x 1/2" BSP Female Adaptor 25mm x 3/4" BSP Female Adaptor 32mm x 1" BSP Female Adaptor 40mm x 1 1/4" BSP Female Adaptor 50mm x 1 1/2" BSP Female Adaptor 63mm x 2" BSP Female Adaptor</p>	<p>40320 4032515 40325 40332 40340 40350 40363</p>
 <p>Taper BSP thread to BS21- Use PTFE tape to seal the threads</p>	<p>Male Adaptor</p> <p>20mm x 1/2" BSP Female Adaptor 25mm x 1/2" BSP Female Adaptor 25mm x 3/4" BSP Female Adaptor 32mm x 1" BSP Female Adaptor 40mm x 1 1/4" BSP Female Adaptor 50mm x 1 1/2" BSP Female Adaptor 63mm x 2" BSP Female Adaptor</p>	<p>40420 4042515 40425 40432 40440 40450 40463</p>
	<p>Elbow</p> <p>20mm Elbow 25mm Elbow 32mm Elbow 40mm Elbow 50mm Elbow 63mm Elbow</p>	<p>40120 40125 40132 40140 40150 40163</p>
<p>Parallel BSP thread to BS21- Use PTFE tape to seal the threads</p>  <p>Stainless Steel reinforcing shroud</p>	<p>Female Elbow</p> <p>20mm x 1/2" BSP Female Elbow 25mm x 3/4" BSP Female Elbow 32mm x 1" BSP Female Elbow 40mm x 1 1/4" BSP Female Elbow 50mm x 1 1/2" BSP Female Elbow 63mm x 2" BSP Female Elbow</p>	<p>42120 42125 42132 42140 42150 42163</p>

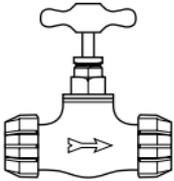
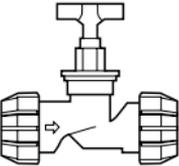
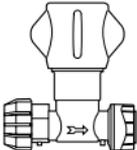
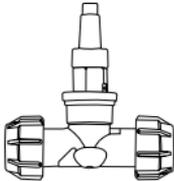
Polyfast Polyethylene Compression Fittings

	PRODUCT DESCRIPTION	CODE NO.
<p>Taper BSP thread to BS21- Use PTFE tape to seal the threads</p> 	<p>Male Elbow 20mm x 1/2" BSP Male Elbow 25mm x 3/4" BSP Male Elbow</p>	<p>42320 42325</p>
	<p>Wider Tolerance Lead Coupler 25mm x 3/8" 5lb Lead 25mm x 1/2" 7lb Lead 25mm x 1/2" 9lb Lead 25mm x 3/4" 9lb Lead 32mm x 3/4" 11lb Lead 25mm x 1" 16lb Lead</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin-left: auto; margin-right: auto;"> <p>PE x Lead (including Stiffener)</p> </div>	<p>479385 479127 479129 479349 4793411 479116</p>
	<p>Equal Tee 20mm Equal Tee 25mm Equal Tee 32mm Equal Tee 40mm Equal Tee 50mm Equal Tee 63mm Equal Tee</p>	<p>40220 40225 40232 40240 40250 40263</p>
	<p>Branch Reducing Tee 25mm x 20mm Branch Reducing Tee 32mm x 25mm Branch Reducing Tee</p>	<p>41125 41132</p>
<p>Stainless Steel reinforcing shroud</p>  <p>Parallel BSP thread to BS21-Use PTFE tape to seal the threads</p>	<p>Female Branch Tee 20mm x 1/2" BSP Female Branch Tee 25mm x 3/4" BSP Female Branch Tee 32mm x 1" BSP Female Branch Tee 40mm x 1 1/4" BSP Female Branch Tee 50mm x 1 1/2" BSP Female Branch Tee 63mm x 2" BSP Female Branch Tee</p>	<p>42220 42225 42232 42240 42250 42263</p>

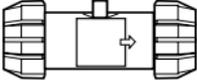
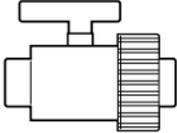
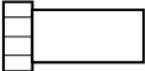
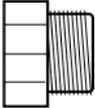
Polyfast Polyethylene Compression Fittings

	PRODUCT DESCRIPTION	CODE NO.
 <p>Taper BSP thread to BS21-Use PTFE tape to seal the threads</p>	<p>Male Branch Tee 20mm x 1/2" BSP Male Branch Tee 25mm x 3/4" BSP Male Branch Tee</p>	<p>42420 42425</p>
	<p>Tank Connector 25mm x 3/4" BSP Tank Connector Includes EPDM rubber washer</p>	<p>42525</p>
	<p>End Plug 20mm End Plug 25mm End Plug 32mm End Plug 40mm End Plug 50mm End Plug 63mm End Plug</p>	<p>40920 40925 40932 40940 40950 40963</p>
	<p>Stop End 20mm Stop End 25mm Stop End 32mm Stop End 40mm Stop End 50mm Stop End 63mm Stop End</p>	<p>30920 30925 30932 30940 30950 30963</p>
 <p>Off White or Grey.</p>	<p>Plastic Pipe Stiffeners 20mm Pipe Stiffener 25mm Pipe Stiffener 32mm Pipe Stiffener 40mm Pipe Stiffener 50mm Pipe Stiffener 63mm Pipe Stiffener</p>	<p>46420 46425 46432 46440 46450 46463</p>
 <p>Red.</p>	<p>6 Bar Plastic Pipe Stiffener 50mm 6 Bar Pipe Stiffener 63mm 6 Bar Pipe Stiffener</p>	<p>47450 47463</p>

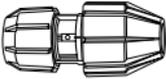
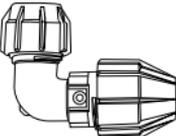
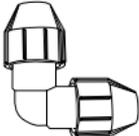
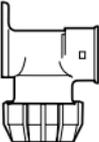
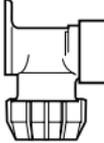
Polyfast Polyethylene Compression Fittings

	PRODUCT DESCRIPTION	CODE NO.
	<p>Double Spigot Reducer</p> <p>50mm x 20mm Double Spigot Reducer 50mm x 25mm Double Spigot Reducer 50mm x 32mm Double Spigot Reducer 63mm x 20mm Double Spigot Reducer 63mm x 25mm Double Spigot Reducer 63mm x 32mm Double Spigot Reducer 63mm x 50mm Double Spigot Reducer</p>	<p>3085020 3085025 3085032 3086320 3086325 3086332 3086350</p>
	<p>Underground Stop Cock</p> <p>20mm Underground Stop Cock 25mm Underground Stop Cock 32mm Underground Stop Cock 1½" F.I. Underground Stop Cock 2" F.I. Underground Stop Cock</p>	<p>41020 41025 41032 31050 31063</p>
	<p>Stop Cock (Engineering Plastic)</p> <p>20mm Stop Cock 25mm Stop Cock 32mm Stop Cock</p>	<p>42620 42625 42632</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>Note: Handle includes torque limitation.</p> </div>
	<p>Stop Cock (PE x Copper/Polybutylene)</p> <p>20mmx15mm (½") S.Cock 25mmx15mm (½") S.Cock 25mmx22mm (¾") S.Cock</p>	<p>47720 4772515 47725</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>Copper/Polyb. socket is Push-fit to BS7291/2</p> </div>
	<p>Square Drive Stopcock (Engineering Plastic)</p> <p>20mm Square Drive Stopcock 25mm Square Drive Stopcock</p>	<p>49120 49125</p>

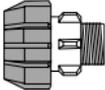
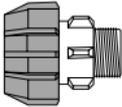
Polyfast Polyethylene Compression Fittings

	PRODUCT DESCRIPTION	CODE NO.
	<p>Double Check Valve 20mm Double Check Valve 25mm Double Check Valve 32mm Double Check Valve</p>	<p>47620 47625 47632</p>
	<p>Single Union Ball Valve ½" F.I. Single Union Ball Valve ½" F.I. Single Union Ball Valve 1" F.I. Single Union Ball Valve 1½" F.I. Single Union Ball Valve 2" F.I. Single Union Ball Valve</p>	<p>47312 47334 4731 473112 4732</p>
 <p>Can also be used with Push-fit fittings</p>	<p>Swivel Adaptor 20mm x ½" Swivel Adaptor 25mm x ½" Swivel Adaptor 25mm x ¾" Swivel Adaptor 25mm x 1" Swivel Adaptor 32mm x 1" Swivel Adaptor 32mm x 1¼" Swivel Adaptor</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin-left: auto; margin-right: auto;"> <p>To adapt Polyfast Socket to Female BSP Swivel</p> </div>	<p>47520 4752512 47525 475251 47532 47532114</p>
	<p>Threaded Reducing Bush ¾" x ½" BSP Threaded Reducing Bush 1" x ½" BSP Threaded Reducing Bush 1" x ¾" BSP Threaded Reducing Bush 1¼" x 1" BSP Threaded Reducing Bush 1½" x ½" BSP Threaded Reducing Bush 1½" x ¾" BSP Threaded Reducing Bush 1½" x 1" BSP Threaded Reducing Bush 1½" x ¼" BSP Threaded Reducing Bush 2" x ½" BSP Threaded Reducing Bush 2" x ¾" BSP Threaded Reducing Bush 2" x 1" BSP Threaded Reducing Bush 2" x 1½" BSP Threaded Reducing Bush 3" x 2" BSP Threaded Reducing Bush 4" x 3" BSP Threaded Reducing Bush</p>	<p>4703412 470112 470134 4701141 47011212 47011234 4701121 47112114 470212 470234 47021 4702112 47032 47043</p>

Polyfast Polyethylene Compression Fittings

	PRODUCT DESCRIPTION	CODE NO.
 <p data-bbox="146 382 280 436">Comes with Pipe Stiffener</p>	<p data-bbox="370 258 767 332">“Polylink” Straight Universal Transition Coupler</p> <p data-bbox="370 339 767 465">25mm x 15/22mm Transition Coupler 25mm x 21/27mm Transition Coupler 25mm x 27/35mm Transition Coupler 32mm x 27/35mm Transition Coupler</p>	<p data-bbox="816 339 917 465">4841522 4842127 4842735 4882735</p>
 <p data-bbox="146 644 280 698">Comes with Pipe Stiffener</p>	<p data-bbox="370 501 767 575">“Polylink” 90° Bent Universal Transition Coupler</p> <p data-bbox="370 582 767 672">25mm x 15/22mm Transition Coupler 25mm x 21/27mm Transition Coupler 25mm x 27/35mm Transition Coupler</p>	<p data-bbox="816 582 917 672">4851522 4852127 4852735</p>
	<p data-bbox="370 729 653 761">90° Reducing Elbow</p> <p data-bbox="370 775 743 801">25mm x 20mm 90° Reducing Elbow</p>	<p data-bbox="816 775 917 801">4012520</p>
 <p data-bbox="249 918 337 1036">Parallel BSP thread to BS21- Use PTFE tape to seal the threads</p>	<p data-bbox="370 918 774 949">Bibtap Wall Flange (DZR Brass)</p> <p data-bbox="370 956 752 1051">20mm x 1/2" FBSP Bibtap Wall Flange 25mm x 1/2" FBSP Bibtap Wall Flange 25mm x 3/4" FBSP Bibtap Wall Flange</p>	<p data-bbox="816 956 917 1051">41320 41325 4132534</p>
 <p data-bbox="218 1125 337 1265">Parallel BSP thread to BS21 Use PTFE tape to seal the threads, includes stainless steel reinforcing shroud</p>	<p data-bbox="370 1100 736 1132">Bibtap Wall Flange (Plastic)</p> <p data-bbox="370 1139 752 1233">20mm x 1/2" FBSP Bibtap Wall Flange 25mm x 1/2" FBSP Bibtap Wall Flange 25mm x 3/4" FBSP Bibtap Wall Flange</p>	<p data-bbox="816 1139 917 1233">48320 4832512 48325</p>

Polyfast Polyethylene Compression Fittings

	PRODUCT DESCRIPTION	CODE NO.
	Imperial Polyethylene x Male Iron Coupler 1/2" Imperial Polyethylene x Male Iron Coupler	49012
	Imperial Polyethylene x Male Iron Coupler 3/4" Imperial Polyethylene x Male Iron Coupler	49034
	Imperial Polyethylene x Male Iron Coupler 1" Imperial Polyethylene x Male Iron Coupler	4901

OVERLAY SYSTEM



overlay

overlay

FLOOR HEATING SYSTEM

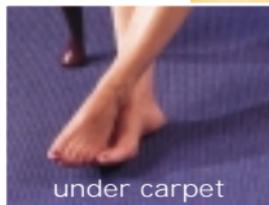
Until now Under Floor Central Heating has been strictly for new homes or as part of a whole-house refurbishment project. Previous ufh Installation techniques caused significant disruption to the home because of the need to re-excavate existing floors, and the time consuming connection to the central heating boiler was often a major headache.

Now with Overlay Floor Heating System from Polypipe you can lay a simple 'low profile' panel system over the existing solid or timber floor in any room. And it can be linked to the existing radiator system via the Polyplumb Zonal Regulation Unit (ZRU) or Distribution Multi-port Manifold.

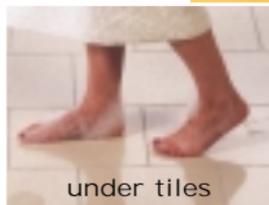
Overlay is quick to heat up to the required temperature and energy efficient to run under any floor covering. Because the overlay panel system is high load bearing and impact resistant (and fire resistant and sound insulating) it is the ideal base for wood or laminate flooring, for ceramic tiles, or for carpet.



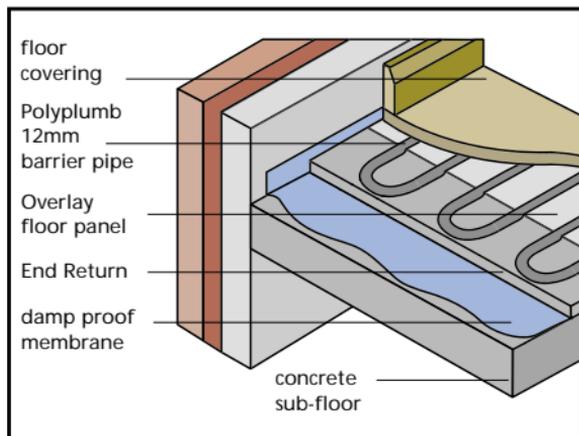
under wood or laminate flooring



under carpet



under tiles



Overlay System Product Range

Installation Instructions

Stage 1 - Design & Planning

To decide the orientation of the boards, the pipe runs are to be made in the direction of the longest edge of the room with the return bends on the shortest walls. This ensures the minimum required amount of return bends. The first end returns and Overlay panel should be laid in the “best” square corner, ie with no obstacles. The positioning of the Zonal Regulation Unit (ZRU) or manifold is determined by the most convenient location of heating supply. On single circuit rooms the pipes can be run in a simplistic route up and down the room and the final return is run along the short edge of the room back to the ZRU / manifold.

When the room floor dictates that more than one circuit is required, the Overlay system flow from the ZRU is taken to the furthest point and “worked back” to the unit to ensure the longest run is the warmest.

Stage 2 - Floor Levelling

The installation of Overlay floor heating must be done on a level surface which contains no dips or bumps. If the sub floor is not level and sound this may result in damage to the Overlay floor panels. Use a self levelling compound to fill any minor dips. Ensure the sub floor (solid concrete or suspended timber) is thoroughly swept and all dirt, dust, grit and any other residue is removed. Failure to do so will result in an uneven surface.

Stage 3 - Floor / Drying and Perimeter Sealing

Before commencing any installation work the sub floor must be dry. Care should be taken around external doors and areas such as bathrooms and kitchens to ensure no damp is present. Check for damp and moisture ingress into room and ensure fully sealed, eg with appropriate silicone sealant. All door thresholds should be checked for moisture ingress and where moisture is breaching the threshold this should be sealed with silicone. Ensure the sub-floor has a DPC/DPM present and that walls are protected by a damp proof course. Where there are alcoves for doorways it is recommended that these are sealed with silicone and filled in up to the line of the wall using a plywood filler piece 18mm in depth. Any gaps can be taken up by a semi-dry concrete screed.

Where there are any other small recesses or indents it is also recommended these are filled in to reduce the cutting of Overlay panels.

Stage 4 - Skirting / Electrical Room Check

All skirting boards should be removed before commencing installation. As the finished floor level will alter after the installation is complete and the skirting board may be at a higher position, electrical sockets should be checked for possible clashes with the new skirting height.

Overlay System Product Range

Stage 5 - Laying Damp Proof Membrane and Creating Expansion Gap

An expansion gap of 5mm to 10mm will be required around the perimeter of the room. To achieve the expansion gap use foam spacer strip. Lay a polythene damp proof membrane of 250 micron thickness over the sub floor. *Handy Tip* - Masking tape the membrane to the wall to avoid it getting in the way whilst working. Leave a 75mm overlap at the sides and edges which will be fixed behind the skirting board. Joints should be overlapped by 200mm and taped using 100mm wide joint tape. Take care to ensure the dpm is not pierced during the entire installation.



Stage 6 - Laying Boards and End Returns

At each end of the room place the first two return bends leaving an expansion gap of 5-10mm at the end and side. Use the self adhesive strip to create the 5-10mm gap next to the wall. The strip can also take up the minor deviations in the squareness of the wall. Brush down board ends to ensure a clean straight edge. Once the first two end returns are in place the Overlay panels can be laid along the longest wall. Take care to ensure the corners of the boards are not broken when moving and glueing. Using an expanding polyurethane building adhesive apply a continuous bead of glue 3mm in diameter to the end of the first panel and lay against the return bends. Ensure the bead is at the centre of the board and that the glue does not flow into the pipe grooves or on top of board surface.



Handy Tip - Use four short pieces of 12 mm pipe to traverse the joints and ensure the boards are lined up correctly to the returns. This will ensure that there are no deviations in the pipe groove runs to avoid pipes being unduly stressed when installed. When the two return bends and the overlay panel are in place the joint can be stapled. Boards must be jointed within ten minutes of applying the glue and must not be walked on for a further 10-15 minutes to ensure joints are not broken.

Staple, using Type 53, 14mm staples, every 150mm across the joints between the panels and return bend to ensure no movement takes place whilst the glue sets. The staples should be central between pipe grooves in the board. Continue laying the panels



Overlay System Product Range

along the length of the room.

Apply glue to the end of each panel only by butting up to each other on the first run. Lay the rest of the end returns along the wall and work back. When nearing the end of the first run of panels allow for the return bends and cut a panel to size to complete the run.



The Overlay panels can also be cut using a handsaw or electric jigsaw set at a slow speed. Use the remainder of the panel to start the next run and stagger joints with the next set of panels. Ensure there is adequate ventilation to the room as laying Overlay floor panels can generate dust.

Cover the area of the room with Overlay boards, ensuring gaps are left for expansion purposes around the perimeter. Use cut boards to start the next run to keep wastage to a minimum. Check for movement when laying boards and where the floor is not completely level use self levelling granules and brush to fill any minor dips.

Do not infill any small gaps in the floor area with Overlay panel off cuts. In these cases use a dry mix screed.

Allow the glue to dry before carefully removing excess with a chisel.

Handy Tip - If there is any dried glue in any of the pipe grooves at panel joints use a short offcut of 12mm pipe to remove any excess glue by scraping out. Use a vacuum cleaner and a small brush to remove all dust and debris from the pipe grooves prior to fitting pipes into the grooves.



Stage 7 - Installing Pipe

Install the 12mm polybutylene barrier pipe into the Overlay panels.

The pipe is a "size-for-size" fit into the grooves and care should be taken to avoid kinking the pipes. A soft head mallet can be used to tap the pipes carefully into the grooves if necessary. Observe all normal procedures associated with the installation of Polyplumb pipes (see Polyplumb Design and Installation Guide). Allow for enough pipe at

the start and end of each circuit to connect to the distribution unit (eg a Polyplumb ZRU). Use the self adhesive pipe clip to clip flow and return pipes at the sides/ends of rooms. Do not use nail down clips to secure pipes as the polythene dpm must not be pierced.

Stage 8 - Connecting Pipe

Connect pipes to Polyplumb ZRU (if used) using a 15mm x 12mm brass adaptor. Multiple circuits can be accommodated by using 15mm

Overlay System Product Range

Polyplumb tees and elbows. Observe all normal installation procedures when installing Polyplumb pipes and fittings. The system can be connected to the ZRU. Fill and pressure test the system in accordance with the Polyplumb Design and Installation Guide. Cover pipes entering and exiting the ZRU using the ZRU Pipe Shroud.

Stage 9 - Finishing Perimeters

Fill in the void containing flow and return pipes with a semi dry screed of concrete which contains a plasticiser to the level of the top Overlay floor panel.

Stage 10 - Covering the Floor

Tiles or wood/laminate floor can be applied directly over the Overlay floor heating system. It is recommended that a 4mm waterproof plywood cover is installed over the Overlay panels and pipes when the finished floor is to be carpeted. Mark on the plywood covering where the pipe runs are. Staple plywood to the Overlay panel ensuring not to staple through pipes. *Handy tip* - Mark a strip of wood with the pipe centres on and use to slide across the plywood, stapling between the marks.

All plywood joints should be taped.

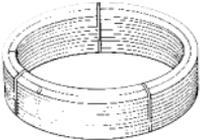
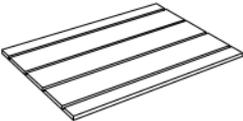
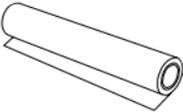
Once the floor covering has been applied the skirting board can be fixed by floating above the finished floor level or an edging quadrant can be used where skirting boards have not been removed. Finally, care should be taken when using carpet gripper strip to ensure pipes are not damaged with nails.



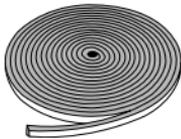
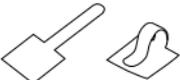
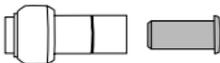
Tools and equipment required to install the Polyplumb Overlay Floor Heating System

- | | |
|--|------------------------------------|
| • Tools and Equipment | • Consumables |
| - Polyplumb pipe cutters | - 250 micron damp proof membrane |
| - Stapler (air/electric) | - Damp proof membrane tape |
| - Handsaw and workbench | - Polyurethane expanding foam glue |
| - Hoover | - Dry mix screed |
| - Builders bucket | - 14mm Type 53 Staples |
| - Hand trowel | |
| • Safety Wear - Dust mask, latex gloves and safety glasses | |

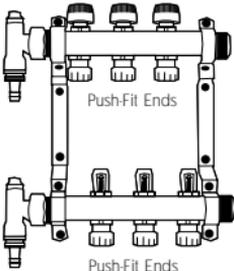
Overlay System Product Range

	PRODUCT DESCRIPTION	CODE NO.
	<p>Barrier Polybutylene Pipe Coils 12mm x 80 metre Coil</p>	<p>PB8012B</p>
	<p>Overlay™ Floor Panel</p> <p>Overlay Floor Panel, Pallet of Ten 800mm long x 600mm wide x 18mm deep (approx. 4.8 sq metres floor coverage)</p> <p>Overlay Floor Panel, Pallet of Thirty 800mm long x 600mm wide x 18mm deep (approx. 14.4 sq metres floor coverage)</p>	<p>PB08570</p> <p>PB08571</p>
	<p>End Returns End Returns</p>	<p>PB08573</p>
	<p>Damp Proof Membrane – 250 micron 25 metre x 4 metre roll</p>	<p>PB05858</p>
	<p>DPM Joint Tape – 33 metre roll DPM Joint Tape x 33 metre roll</p>	<p>PB05858</p>

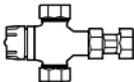
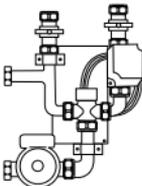
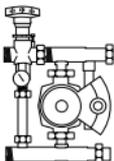
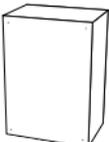
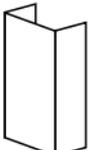
Overlay System Product Range

	PRODUCT DESCRIPTION	CODE NO.
	<p>Foam Spacer Strip – 20 metre roll</p> <p>Foam Spacer Strip x 20 metre roll</p>	PB05856
 <p>Bend over tab to secure pipe</p>	<p>Self Adhesive Pipe Clips</p> <p>Self Adhesive Pipe Clips x 50 pack</p>	PB02912
	<p>Polyurethane Expanding Foam Glue</p> <p>Polyurethane Expanding Foam Glue</p>	PB776
	<p>Jointing Staples</p> <p>Jointing Staples x box of 1000 (approximately 70 square metres usage)</p>	PB02913
	<p>Adaptor Set</p> <p>including 12mm Pipe Stiffeners 15mm x 12mm Adaptor including Pipe Stiffeners</p>	PB181512

Overlay System Product Range

	PRODUCT DESCRIPTION	CODE NO.
<p>(C/W Mounting Brackets, Drain Cock & Air Bleed)</p>  <p>Push-Fit Ends</p> <p>Push-Fit Ends</p>	<p>15mm Manifold</p> <p>15mm Manifold - 2 Port 15mm Manifold - 3 Port 15mm Manifold - 4 Port 15mm Manifold - 5 Port 15mm Manifold - 6 Port 15mm Manifold - 7 Port 15mm Manifold - 8 Port 15mm Manifold - 9 Port 15mm Manifold - 10 Port 15mm Manifold - 11 Port 15mm Manifold - 12 Port</p>	<p>PB12737 PB12738 PB12739 PB12740 PB12741 PB12742 PB12743 PB12744 PB12745 PB12746 PB12747</p>
	<p>UFCH Valve Actuators</p> <p>Valve Actuator (2 wire) Valve Actuator (4 wire)</p>	<p>PB00401 PB00402</p>
	<p>Isolation Valves (1 inch) (1 Pair)</p> <p>Isolation Valves - use to connect manifolds to both UFCH Control Pack and Modulating Unit</p>	<p>PB01732</p>
	<p>Wiring Centre</p> <p>For use with two wire adaptors</p>	<p>PB23010</p>

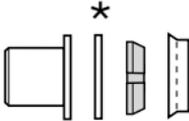
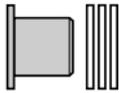
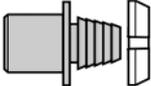
Overlay System Product Range

	PRODUCT DESCRIPTION	CODE NO.
	<p>UFCH Mixing Valve 22mm UFCH Mixing Valve 28mm UFCH Mixing Valve</p>	<p>PB219058 PB219059</p>
	<p>UFCH Control Pack (includes Pump, 2 Port Motorised Valve, UFCH Mixer Valve and Isolating Valve) UFCH Control Pack</p>	<p>PB970015</p>
	<p>Modulating Pump Unit (includes Modulating Pump, UFCH Mixer Valve, Thermometer) Modulating Pump Unit</p>	<p>PB970014</p>
 <p data-bbox="163 1062 270 1082">Patent Pending</p>	<p>Zonal Regulation Unit (ZRU) For single room extension and conservatories up to 25m²</p>	<p>PB970016</p>
	<p>Zonal Regulation Unit Pipe Shroud White uPVC, designed to conceal entry and pipework underneath Polyplumb ZRU</p>	<p>PB970017</p>

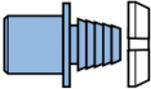
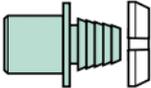
POLYFAST ADAPTORS



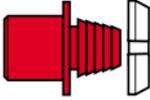
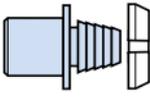
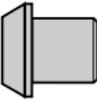
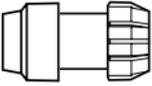
Polyfast Adaptors

	PRODUCT DESCRIPTION	CODE NO.
 <p>* Only used with 25x20mm, 32x25mm and 63x50mm</p>	<p>MDPE Hi-Flow Reducing Set</p> <p>25mm x 20mm Hi-Flow Reducing Set 32mm x 20mm Hi-Flow Reducing Set 32mm x 25mm Hi-Flow Reducing Set 50mm x 20mm Hi-Flow Reducing Set 50mm x 25mm Hi-Flow Reducing Set 50mm x 32mm Hi-Flow Reducing Set 63mm x 20mm Hi-Flow Reducing Set 63mm x 25mm Hi-Flow Reducing Set 63mm x 32mm Hi-Flow Reducing Set 63mm x 50mm Hi-Flow Reducing Set</p>	<p>4802520 4803220 4803225 4805020 4805025 4805032 4806320 4806325 4806332 4806350</p>
	<p>MDPE Reducing Set</p> <p>25mm x 20mm Reducing Set 32mm x 20mm Reducing Set 32mm x 25mm Reducing Set 50mm x 20mm Reducing Set 50mm x 25mm Reducing Set 50mm x 32mm Reducing Set 63mm x 20mm Reducing Set 63mm x 25mm Reducing Set 63mm x 32mm Reducing Set 63mm x 50mm Reducing Set</p>	<p>4712520 4713220 4713225 4715020 4715025 4715032 4716320 4716325 4716332 4716350</p>
	<p>Copper Adaptor Set</p> <p>20mm x 15mm Cu Copper 25mm x 15mm Cu Copper 25mm x 22mm Cu Copper 32mm x 28mm Cu Copper</p>	<p>46820 4682515 46825 46832</p>
 <p>Light Grey</p>	<p>Lead Adaptor Set</p> <p>20mm x 3/8" 5lb Lead 25mm x 1/2" 7lb Lead 25mm x 3/4" 9lb Lead 32mm x 3/4" 11lb Lead 40mm x 1" 16lb Lead</p>	<p>46920 46925 46932 469329 46940</p>

Polyfast Adaptors

	PRODUCT DESCRIPTION	CODE NO.
 <p>Mid Blue</p>	<p>Polyethylene Adaptor Set</p> <p>20mm x $\frac{3}{8}$" Polyethylene 20mm x $\frac{1}{2}$" Polyethylene 25mm x $\frac{3}{4}$" Polyethylene 32mm x 1" Polyethylene 50mm x $1\frac{1}{4}$" Polyethylene 50mm x $1\frac{1}{2}$" Polyethylene 63mm x 2" Polyethylene</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>Low Density BS1972: 1967 Class C To connect $\frac{3}{8}$" use $\frac{1}{2}$" 467NG12 with 20mm Nut and Body</p> </div>	<p>467NG12(Red)</p> <p>465C12 465C34 465C1 465C114 465C112 465C2</p>
 <p>Light Green</p>	<p>Polyethylene Adaptor Set</p> <p>25mm x $\frac{1}{2}$" Polyethylene 25mm x $\frac{3}{4}$" Polyethylene 32mm x 1" Polyethylene 50mm x $1\frac{1}{4}$" Polyethylene 50mm x $1\frac{1}{2}$" Polyethylene</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>Low Density BS1972: 1967 Class D</p> </div>	<p>465D12 465D34 465D1 465D14 465D112</p>
 <p>Dark Blue</p>	<p>Polyethylene Adaptor Set</p> <p>20mm x $\frac{1}{2}$" Polyethylene 25mm x $\frac{3}{4}$" Polyethylene 32mm x 1" Polyethylene 50mm x $1\frac{1}{4}$" Polyethylene 50mm x $1\frac{1}{2}$" Polyethylene 63mm x 2" Polyethylene</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>High Density BS3284: 1967 Class C</p> </div>	<p>466C12 466C34 466C1 466C114 466C112 466C2</p>
 <p>Dark Green</p>	<p>Polyethylene Adaptor Set</p> <p>20mm x $\frac{1}{2}$" Polyethylene 20mm x $\frac{3}{8}$" Polyethylene 25mm x $\frac{3}{4}$" Polyethylene 32mm x 1" Polyethylene 50mm x $1\frac{1}{4}$" Polyethylene 50mm x $1\frac{1}{2}$" Polyethylene 63mm x 2" Polyethylene</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>High Density BS3284: 1967 Class D</p> </div>	<p>466D12 466D38 466D34 466D1 466D14 466D12 466D2</p>

Polyfast Adaptors

	PRODUCT DESCRIPTION	CODE NO.
 <p>Red</p>	<p>Polyethylene Adaptor Set</p> <p>20mm x 1/2" Polyethylene 25mm x 3/4" Polyethylene 32mm x 1" Polyethylene 50mm x 1 1/4" Polyethylene 50mm x 1 1/2" Polyethylene 63mm x 2" Polyethylene</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>Low Density BS1972: 1961 Normal Gauge IS134:1977</p> </div>	<p>467NG12 467NG34 467NG1 467NG114 467NG112 467NG2</p>
 <p>Light Blue</p>	<p>Polyethylene Adaptor Set</p> <p>20mm x 1/2" Polyethylene 25mm x 3/4" Polyethylene 32mm x 1" Polyethylene 50mm x 1 1/4" Polyethylene 50mm x 1 1/2" Polyethylene</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>Low Density BS1972: 1961 Heavy Gauge IS134:1977</p> </div>	<p>467HG12 467HG34 467HG1 467HG114 467HG112</p>
<p>NB: Not end load bearing. Must be anchored or clamped to prevent pullout.</p> 	<p>PVC/Galvanised Steel Adaptor</p> <p>20mm x 3/8" PVC/Galv. Steel 25mm x 1/2" PVC/Galv. Steel 32mm x 3/4" PVC/Galv. Steel 40mm x 1" PVC/Galv. Steel</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>PVC BS3505/6 Galv. Steel BS1387</p> </div>	<p>4722038 4722512 4723234 47240</p>
 <p>Complete with seal</p>	<p>Swivel Adaptor</p> <p>20mm x 1/2" BSP 25mm x 1/2" BSP 25mm x 3/4" BSP 25mm x 1" BSP 32mm x 1" BSP 32mm x 1 1/4" BSP</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>To adapt Polyfast or Push-fit Socket to Female BSP Swivel</p> </div>	<p>47520 4752512 47525 475251 47532 47532114</p>
 <p>Enables Polyfast adaptors to be used</p>	<p>Push-fit and Polyfast Adaptor Couplings</p> <p>20mm Push-fit/Polyfast Adaptor Coupling 25mm Push-fit/Polyfast Adaptor Coupling 32mm Push-fit/Polyfast Adaptor Coupling 50mm Push-fit/Polyfast Adaptor Coupling 63mm Push-fit/Polyfast Adaptor Coupling</p>	<p>40520 40525 40532 40550 40563</p>

Electrofusion 20mm to 63mm OD

Blue and Black, 12 Bar rated to the requirements of WRC. WIS 4-32-14.

20mm to 63mm MDPE to BS6572 and BS6730.

Introduction

Each fitting is marked with the fusion time and cooling time. Available in Blue or Black, please specify when ordering. A simple to follow fusion system.

Socket fittings are used which consist of an injection moulded Polyethylene body with an integral heating element and 2 terminals.

Fusion occurs when fittings are energised by means of a 39.5 Volt electrofusion control box connected to a suitable 110 Volt 4KVA generator.

Jointing Instructions

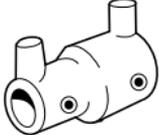
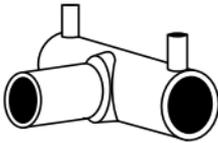
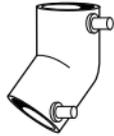
Cut pipe ends square and deburr. Clearly mark depth of entry on pipe. Scrape OD of pipe to remove surface layer. Ensure pipes and fitting are completely clean and dry. Insert pipes into fitting up to pipe stop. Connect control unit leads to fitting terminals. Switch on control unit. Enter and observe the correct fusion and cooling time detailed on each fitting. Do not move fitting assembly until the fusion time and cooling period are complete.

Clamps

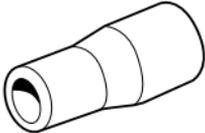
Minimise the risk of accidental movement and assist in correct pipe alignment. Special saddle clamps are needed for tapping tees to provide a constant load between fitting and pipe during the fusion cycle.



Electrofusion Fittings 20mm to 63mm OD

	PRODUCT DESCRIPTION	CODE NO.
	Electrofusion Coupler 20mm Coupler 25mm Coupler 32mm Coupler 50mm Coupler 63mm Coupler	EF20C EF25C EF32C EF50C EF63C
	Electrofusion Reducer 25mm x 20mm Reducer 32mm x 20mm Reducer 32mm x 25mm Reducer 63mm x 50mm Reducer	EF25R EF322OR EF32R EF63R
	Electrofusion Tee 25mm Tee 32mm Tee 50mm Tee 63mm Tee	EF25T EF32T EF50T EF63T
	Electrofusion Tapping Tee 50mm x 32mm Tapping Tee 63mm x 32mm Tapping Tee	EF5032S EF6332S
	Electrofusion 90° Elbow 20mm 90° Elbow 25mm 90° Elbow 32mm 90° Elbow 50mm 90° Elbow 63mm 90° Elbow	EF2090 EF2590 EF3290 EF5090 EF6390
	Electrofusion 45° Elbow 25mm 45° Elbow 32mm 45° Elbow 50mm 45° Elbow 63mm 45° Elbow	EF2545 EF3245 EF5045 EF6345

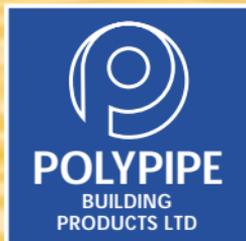
Electrofusion Fittings 20mm to 63mm OD

	PRODUCT DESCRIPTION	CODE NO.
	<p><i>Spigot Fittings for use in Electrofusion Sockets</i></p> <p>Spigot Reducer</p> <p>50mm x 20mm Spigot Reducer 50mm x 25mm Spigot Reducer 50mm x 32mm Spigot Reducer 63mm x 20mm Spigot Reducer 63mm x 25mm Spigot Reducer 63mm x 32mm Spigot Reducer 63mm x 50mm Spigot Reducer</p>	<p>3085020 3085025 3085032 3086320 3086325 3086332 3086350</p>
	<p><i>Spigot Fittings for use in Electrofusion Sockets</i></p> <p>Spigot Stop End</p> <p>20mm Spigot Stop End 25mm Spigot Stop End 32mm Spigot Stop End 50mm Spigot Stop End 63mm Spigot Stop End</p>	<p>30920 30925 30932 30950 30963</p>
	<p><i>Spigot Fittings for use in Electrofusion Sockets</i></p> <p>Spigot Flange Assembly</p> <p>63mm Stub 63mm Backing Ring 63mm Gasket</p>	<p>LS63ST 63NP16 50GASK</p>
	<p>Replacement Grab Rings</p> <p>20mm Replacement Grab Rings 25mm Replacement Grab Rings 32mm Replacement Grab Rings 50mm Replacement Grab Rings 63mm Replacement Grab Rings</p>	<p>39220 39225 39232 39250 39263</p>

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Telephone: (01709) 770000 Fax: (01709) 770001

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and Electrofusion Fittings

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