The complete plumbing system which meets your requirements and exceeds them!!

BSI - License KM52006

25 Year Product Guarantee

BSI REGISTERED BS EN ISO 9001:2000

Jointing

Use only purpose designed pipe cutters and cut the pipe squarely. Ensure the pipe is free from burrs and scratches.

Do not use a hacksaw.

Always use the correct pipe insert.

Ensure all cap nuts are hand tightened. Visually check the interal components. Clearly mark the insertion depth on the pipe using the chevron markings provided. Push the pipe firmly and horizontally into the fitting. A secure joint has been made when the correct insertion marking is reached

After checking the correct insertion depth has been used, pull back on the pipe firmly to ensure the grab ring engages correctly.

Dismantling

Ensure that the system is depressurized. Hold the pipe firmly and push the pipe inward toward the joint. Place the demounting tool against the collet.

Press the demounting tool against the collet and then pull the pipe releasing it from the joint.

Do not pull the pipe prior to applying the correct inward pressure on the collet.

If the pipe is damaged(track marks) after the fitting is dismantled, then cut the pipe behind the grab ring mark to ensure the piece of pipe with the initial insertion is not used again.

√Always

- Use purpose designed cutters when cutting the pipe.
- Cut the pipe at the cheron "A" marks to ensure correct insertion.
- When cutting rotate the pipe whilst maintaining the pressure until the pipe is severed.
- Cut the pipe squarely.
- Ensure pipe is clean, free from burrs & surface damage.
- The correct pipe insert is used.
- Push the pipe and fitting together firmly.
- When dismantling the connection, hold the puller first and then pull the pipe. Do not pull the pipe first.

√Dont's

- Use a hacksaw to cut the pipe.
- Slacken the retaining cap prior to pipe insertion, this will not ease jointing.
- Undo retaining cap after pipe insertion.

WARNING : No pressure test=no guarantee

Low-pressure test = 3 Bar (air or water) for 15 minutes
High-pressure test = 6 Bar (air or water) for 1 hour
or at 1.5 times the pressure relief valve setting (if over 6 bar).

Low and high pressure tests are mandatory
Full details in the Installation Guide

Polybutylene Pipe & Fittings

Polybutylene Pipe

COIL

✓ Flexible Light

PB STANDARD PIPE

Code	Size	Pack Qty
WC15100	15mm x 100m	1
WC1550	15mm x 50m	1
WC2250	22mm x 50m	1
WC2225	22mm x 25m	1

LENGTH

- Other sizes (Inch & ISO dimension class) are available.

PB STANDARD PIPE

Code	Size	Pack Qty
WL1558	15mm x 5.8m	20
WL2258	22mm x 5.8m	10
WL153	15mm x 3m	20
WL223	22mm x 3m	10

Polybutylene Fittings

STRAIGHT CONNECTOR

Code	Size	Pack Qty
WDSC15	15mm	10
WDSC22	22mm	5

REDUCER

Code	Size	Pack Qty
WDSR1510	22 x 15mm	10

ELBOW

Code	Size	Pack Qty
WDE15	15mm	10
WDE22	22mm	10

SPIGOT REDUCER

Code	Size	Pack Qty
WDSR2215	22 x 15mm	10
WDSR2822	28 x 22mm	10

TEE

Code	Size	Pack Qty
WDT15	15mm	10
WDT22	22mm	10

BRT (Unequal tee)

Code	Size	Pack Qty
WDBRT221522	22 x 15 x 22mm	5

ERT (Unequal tee)

Code	Size	Pack Qty
WDERT222215	22 x 22 x 15mm	5

BORT (Unequal tee)

Code	Size	Pack Qty
WDBORT221515	22 x 15 x 15mm	5

STOP END

Code	Size	Pack Qty
WDSE15	15mm	10
WDSE22	22mm	10

STRAIGHT TAP CONNECTOR

Code	Size	Pack Qty
WDSTC1512	15 x 1/2"	10
WDSTC2234	22 x 3/4"	10

TANK CONNECTOR

Code	Size	Pack Qty
WDTC15	15mm	10
WDTC22	22mm	10

BENT TAP CONNECTOR

Code	Size	Pack Qty
WDBTC1512	15mm x 1/2"	10

MALE STRAIGHT ADAPTOR

Code	Size	Pack Qty
WDBMSA1512	15 x 1/2"	10
WDBMSA2212	22 x 1/2"	10
WDBMSA2234	22 x 3/4"	10

FEMALE STRAIGHT ADAPTOR

Code	Size	Pack Qty
WDFS1512	15 x 1/2"	10
WDFS2212	22 x 1/2"	10
WDFS2234	22 x 3/4"	10

FEMALE ELBOW ADAPTOR

Code	Size	Pack Qty
WDWPE15	15mm	5

LEVER VALVE

Code	Size	Pack Qty
WDLV15	15mm	5
WDLV22	22mm	5

INSERT

Code	Size	Pack Qty
WDI15	15mm	50
WDI22	22mm	50

GRAB RING

Code	Size	Pack Qty
WDG15	15mm	50
WDG22	22mm	50

O'RING

Code	Size	Pack Qty
WDO15	15mm	50
WDO22	22mm	50

SPACE WASHER

Code	Size	Pack Qty
WDSW15	15mm	100
WDSW22	22mm	100

BLANK CAP

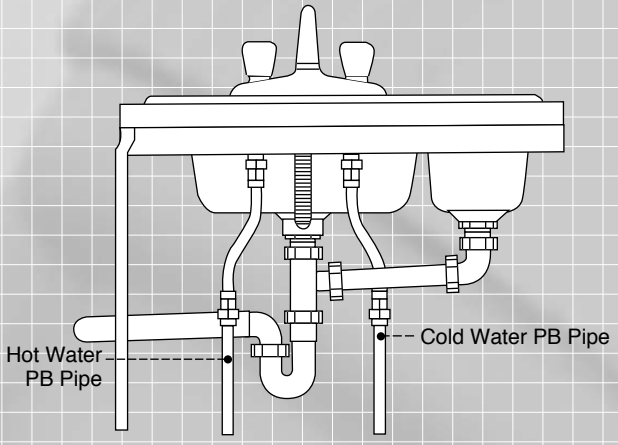
Code	Size	Pack Qty
WDBC	15mm	50
WDBC	22mm	50

PIPE CUTTER

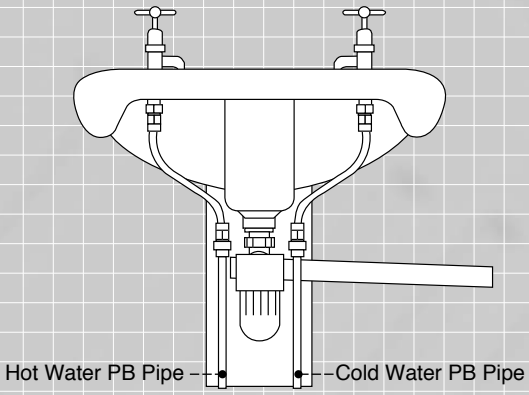
Code	Size	Pack Qty
PEPCUT	10mm ~ 28mm	1

HOT & COLD WATER SUPPLY

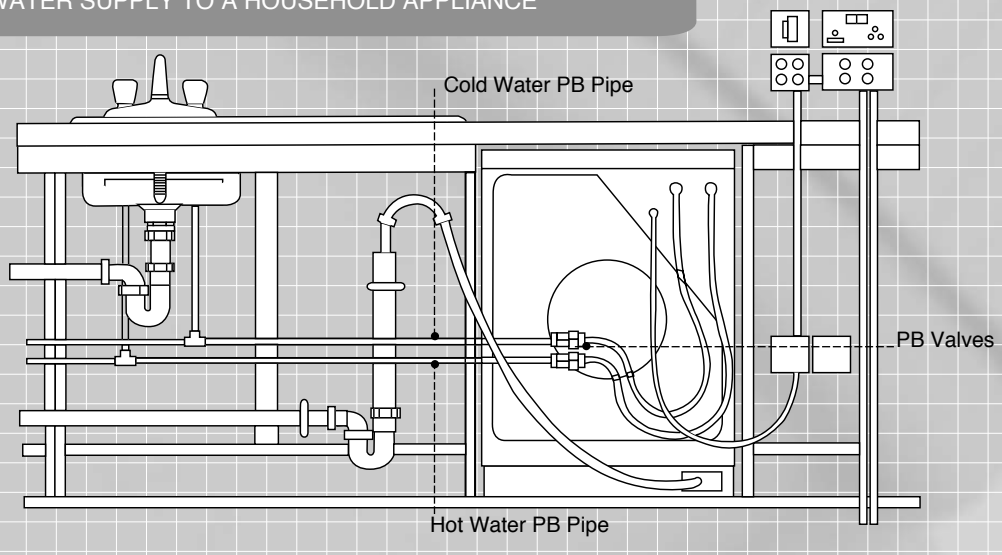
HOT & COLD WATER SUPPLY TO AND FROM THE KITCHEN BASIN



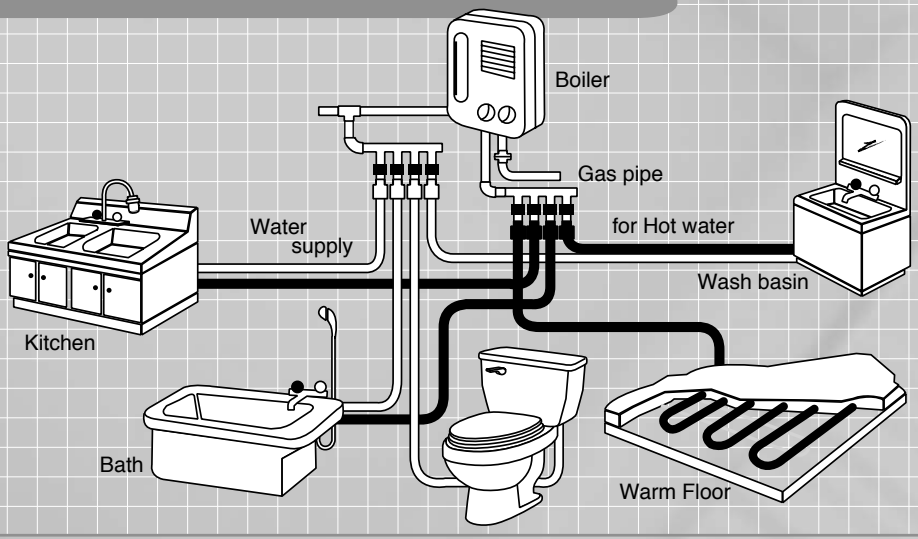
HOT & COLD WATER SUPPLY FROM HOUSEHOLD SINK



HOT & COLD WATER SUPPLY TO A HOUSEHOLD APPLIANCE



HOT & COLD WATER SERVICES AND UNDER-FLOOR HEATING



Technical Information

Advantages and Product physical properties and guidelines

Physical Properties & Guidelines

- ✓ Applications
- ✓ Painting
- ✓ Handling
- ✓ Cabling
- ✓ Storage

Installation Instructions

- ✓ Connecting to Copper
- ✓ Clipping
- ✓ Connecting to Compression Fittings
- ✓ Laying in Concrete and Masonry
- ✓ Connecting to Heating Appliances
- ✓ System Testing
- ✓ Bending the Pipe
- ✓ Corrosion Inhibitors

General Precautions

- ✓ Electric Installations
- ✓ Chlorine
- ✓ Rodents
- ✓ Gases, Fuels and Fuel Oils

INTRODUCTION

PlumbFast PB system offers you a complete and flexible plumbing and heating system manufactured in a BS EN ISO 9001 approved facility. PlumbFast PB pipes and fittings are both manufactured from the same raw material, therefore offering uniform expansion and contraction, with an extensive range of both pipe and fittings available in various sizes.

PlumbFast PB fittings house an 'O' ring, spacer washer and grab ring and employ a simple push-fit technique for joining the fitting to the pipe. It is suitable for both sealed and open vented heating systems. With its low thermal conductivity and high resistance to corrosion, PlumbFast PB system offers you the ideal product for all domestic water supplies and central heating applications. Manufactured to BS 7291 Part 1 and 2 Class S and awarded BSI Kitemark License No. KM52006 for Thermoplastic hot and cold pipe and fittings produced in Polybutylene.

CERTIFICATION

- ✓ U.K BS Kite Mark BS7291
- ✓ U.K BS EN ISO9001
- ✓ Korea KFQ ISO9001
- ✓ Spain AENOR ISO15876
- ✓ Australia Standard Mark & Water Mark AS/NZS 2642
- ✓ Korea KS Mark KS M 3363
- ✓ U.K British Board of Agreement BBA Mark

ADVANTAGES

PlumbFast PB system offers you a quick and simple push-fit installation, with our "straight" coiled pipes of 50m and 100m eliminating the need for several joints on continuous runs. The flexible properties of Polybutylene require fewer fittings to complete the job; installation time can be reduced by as much as 40%.

The pipe is much easier to install than copper due to its flexibility, allowing the installer to cable through joists and around obstructions with ease, even the fittings can be rotated under pressure. Blowtorches, solders and tools are no longer required to make a watertight joint.
The high impact resistance of Polybutylene, due to its flexible properties, means that it is not easily damaged by impact or accidental crushing, resulting in less wastage.

PlumbFast PB system has higher heat retention than copper, (insulation is still recommended) resulting in pipes being cooler to the touch.

PlumbFast pipes and fittings have low thermal conductivity which means that condensation on cold water pipes is greatly reduced having the added benefit of a higher resistance to the pipes freezing.

Using PlumbFast PB pipe and fittings as opposed to copper results in less mechanical noise through the pipework, eliminating the hammer effect, thus, giving a much quieter operating system.

PlumbFast PB pipe and fittings have little monetary scrap value keeping theft from the site of installation to a minimum.

PlumbFast PB pipe and fittings are completely non-toxic offering the safest possible system to guard against water contamination.

PlumbFast PB pipe and fittings are also completely de-mountable aiding the plumber during installation.

Product physical properties and guidelines

Temperature	Pressure	PSI
20°C	12 Bar	174
65°C	6 Bar	87
82°C	3.5 Bar	51

PB Technical Properties

Properties	Unit	Test Method	PF PB pipe
Melt Flow Rate	g/10min	ASTM D 1238	0.5
Density	G/cm	ASTM D 1505	0.920
Tensile Strength at Yield	Kg/cm3	ASTM D 638	175
Tensile Strength at Break	Kg/cm3	ASTM D 638	400
Elongation at Break	%	ASTM D 638	330
Tensile Modulus	Kg/cm3	JIS K 7113	4000
Izod Impact Strength	Kg/cm/cm	ASTM D 256	No Break
Shore Hardness	D Scale	ASTM D 2240	60
Melting Point	°C	DSC	127
Vicat Softening Point	°C	JIS K 7206	119
Brittleness Temp	°C	JIS K 7216	-18Lower than
Coefficient Of Expansion	Cm/cm/°C	ASTM D 696	1.3 x104
Thermal Conductivity	Kcal/mhr°CC	ASTM C 177	0.33

APPLICATIONS

PlumbFast PB pipe and fittings offer excellent performance for long term pressure at high temperatures, coupled with its low thermal conductivity and high resistance to corrosion, making it the ideal product for central heating systems. PlumbFast PB pipe and fittings are also suitable for the installation of indirect and direct mains fed cold water services, vented and unvented hot water systems. PlumbFast PB barrier pipe is highly recommended for use in Under-floor Heating Systems making the complete range of PlumbFast PB pipe and fittings one of the most versatile products available to the plumbing installer to date. PlumbFast PB pipe and fittings can even be installed into caravans and boats where flexibility, low weight and resistance to freezing make them the most versatile products to use.

HANDLING

Care should be taken when handling all Polybutylene products especially pipe, avoid dragging along the ground, rubbing against rough surfaces like walls and concrete floors which could reduce the wall thickness of the pipe. When feeding pipe through holes in brickwork and walls always cover the end of the pipe with tape to avoid debris entering the pipe, this will also help in avoiding damage to the joining surface. Care should also be taken to avoid crushing the pipe walls during bending and the wall of the pipe being punctured by sharp objects.

STORAGE

PlumbFast PB pipe and fittings should always be stored in their protective wrapper, away from sources of ultra violet light, for example direct sunlight. Where installation is unavoidable in areas of direct sunlight and sources of artificial ultra violet light always install the pipework into ducting. When storage of pipe is required for any length of time do not exceed 1.5metre stack heights for coils and 1 meter stack heights for straight lengths.

PAINTING

PlumbFast PB pipe and fittings can be painted using normal household paints; however solvent based products and cellulose paints should not be used. Surfaces to be painted should be free from all deposits of silicone and grease compounds. When required, re-painting may be achieved by gently rubbing down with wet and dry using a grade no coarser than 400, hot air guns and chemical based paint strippers should never be used on any Polybutylene products.

CABLING

PlumbFast PB pipes flexibility enables the installer to thread the pipe through concealed and inaccessible spaces with minimal or no disruption to the surrounding building resulting in major savings to installation time. The flexibility of PlumbFast PB pipe means that pipework can be threaded through dry wall systems, studded partitions and cabled through holes drilled into joists. There are restrictions as to where joists can be drilled and notched, these restrictions can be found in the Building Regulations Approved Document A and BS 6700: 1997.

As a general guide:

- ✓ Holes in roof and floor joists should be no greater than 0.25 times the overall depth.
- ✓ Holes drilled into the joist should be drilled at the neutral axis and should not be less than 3 diameters (centre to centre) apart.
- ✓ Holes should be spaced between 0.25 and 0.4 times the span from the support.
- ✓ Notches in roof and floor joists should be no deeper than 0.125 times the depth of the joist.
- ✓ Notches in roof and floor joists should under no circumstance be cut any closer to the support than 0.07 of the span and no further away than 0.25 times the span.

Installation Instructions

CONNECTING TO METRIC SIZE COPPER

PlumbFast PB fittings are suitable for use with all metric sized copper tube manufactured to BS2871. The copper tube should be cut using a plumber's pipe cutter, remove all sharp edges to avoid damaging the O-ring when inserting into the PlumbFast PB fitting.

CONNECTING TO COMPRESSION FITTINGS

PlumbFast PB pipe can be used with compression fittings manufactured to BS864. A stainless steel insert must always be inserted into the PB pipe before compressing the joint. The olive must be within the length of the support sleeve and PTFE tape over the olive will ensure a watertight seal is achieved.

CONNECTING TO A HEATING APPLIANCE

When connecting to any heating appliance you must ensure that at least 2 meters of copper pipe is firstly connected to the heating appliance on both the flow out and the return before connecting to PB pipe. Care should be taken to ensure that the heating appliance has the appropriate thermostatic cut out controls to ensure that operating temperatures do not exceed the pressure and temperature limits for Class S thermoplastic pipe.

BENDING THE PIPE

PB pipe's immense flexibility enables the installer, by clipping the pipe into place, to cold form bends up to 8 times the pipes diameter, in many cases dispensing with the need to make elbow connections, again reducing installation time.

CLIPPING

PB pipe as with all Polybutylene pipe is not self-supporting like copper, it is therefore recommended that Polybutylene pipe be supported as set out in BS5955: Part 8:1990.

RECOMMENDED CLIPPING DISTANCES

Nominal Diameter	Horizontal Runs	Vertical Runs
10mm	0.3m	0.5m
15mm	0.3m	0.5m
16mm	0.4m	0.6m
20mm	0.5m	0.8m
22mm	0.5m	0.8m
25mm	0.5m	0.8m
28mm	0.8m	1.0m

LAYING INTO CONCRETE AND MASONRY

PlumbFast PB pipe and fittings can be laid into concrete and masonry provided that they are installed into conduit pipe and junction boxes. This is to ensure that access to the pipe and fittings can take place should the need arise to carry out any maintenance.

Insulation is also recommended to protect against frost and heat loss. Please check recommendations as outlined in Byelaw 58.

SYSTEM TESTING

A full scale systems check should be carried out in accordance with BS6700: 1997 and Water Supply Regulations 1999. When the installation is complete the system should be filled and flushed out, refill the system slowly to avoid any air locks. PB blanking caps and stop ends are particularly useful to plug all outlets prior to system testing taking place. We recommend that the system be subjected to a hydraulic pressure test for 30 minutes at 10-bar minimum then reducing to 5-bar for a further 30 minutes. When testing be sure that pressures used do not exceed manufactureer's levels for boilers, cylinders and pumps. Any drop off in pressure over this period should be investigated and any leakages within the system must be repaired or replaced.

CORROSION INHIBITORS

It is recommended that a corrosion inhibitor be used at all times. PlumbFast PB pipe and fittings are in no way affected by the anti-corrosion properties found in compounds such as Sentinel and Fernox. All heating circuits should be protected by an appropriate inhibitor as oxygen may enter the system through a variety of points such as pumps, header tanks and valves. PlumbFast PB barrier pipe has the added advantage of an oxygen barrier incorporated into the pipe to greatly reduce the ingress of oxygen through the pipe wall. It is therefore highly recommended that barrier pipe be used along with an inhibitor on all sealed heating systems.

General Precautions

ELECTRICAL INSTALLATIONS

PlumbFast PB pipe as with all plastic products is non-conductive and should not be used to provide an earth return. Where PlumbFast PB pipe is used to replace a section of existing copper pipe that was previously earthed, electrical continuity should be reinstated by affixing a section of earth cable between the ends of the copper pipe secured to the metal using clamps or clips. No requirements are however needed to bond the pipe work to earth on new installations where no metal pipe is installed. However all electrical requirements for heaters, cylinders and pumps etc. should be taken into account. If in any doubt consult a qualified electrician.

RODENTS

In this day and age it is highly unlikely for properties to be infested with rodents. However, if rodents are present in large numbers and no steps towards extermination have been carried out, it is possible that damage to electrical and plumbing materials, including PlumbFast PB, could occur.

CHLORINE

The PlumbFast PB range of pipe and fittings are suitable for carrying normal levels of chlorine found in domestic water supply systems. It is however not suitable for carrying large quantities, for example, water circulation of swimming pools that use large concentrations of chlorine. Short-term exposure of chlorine used for disinfecting will have no adverse effect on the system provided the maximum permitted level of 5ppm is not exceeded.

GASES, FUEL AND FUEL OILS

PlumbFast PB pipe and fittings are not suitable for the transportation of gases, steam and compressed air; it is also not suitable for the transportation of fuel oils including petroleum.

INSTALLATION CODES AND PRODUCT GUIDELINES

The guides and standards below should be followed during design and installation when using PlumbFast PB pipe and fittings. BS 6700:1997.
Specification for design, installation, testing and maintenance of services supplying water for domestic use within buildings and their curtilages. WSR:1999. Water Supply Regulations 1999. WIA:1991. Water Industry Act 1991. BS 5955 Part 8:1990. Specification for the installation of thermoplastic pipe and fittings for use in domestic hot and cold water services, and heating systems. BS8000. Workmanship on building sites Part 15: 1990 code of practice for hot and cold water services. BS 5499: 1990. Specification for forced circulation hot water central heating systems for domestic premises. The Institute of Plumbing's. - Plumbing Engineering Services Design Guide. Guide to the use of plastic pipework. TR11, HVCA, 1992. Mechanical and electrical standard specification for heating, hot and cold water installations for dwellings. Published by the former PSA.

PRODUCT GUARANTEE

25 Year Product Guarantee. PlumbFast PB pipe and fittings are guaranteed for 25 years against defects in materials or manufacture from date of purchase. This guarantee only applies if the system is installed to the recommendations within this Technical and Installation guide, and is used in a normal domestic operation.