

Talbot *Pushfit*

Service and Mains fittings for Water Pipe

Benefits

- *Pushfit fittings are quick and easy to use, with no nuts to lose or leave undone*
- *The connections grip and seal on the pipe increases with water pressure and tensile load so that the pipe will burst or neck before the connection will fail*
- *Pushfit connects to metric PE pipes and their imperial equivalents including heavy gauge and most normal gauge sizes as well as lead pipe*
- *Pushfit fittings are manufactured from high performance materials for resistance to distortion and corrosion and for strong threaded connections*



Technical help

For further technical data, product specifications and general information please contact our Customer Service Department at the telephone number shown below.

Talbot Pushfit fittings are quick and easy to use, with no nuts to lose or leave undone. Simply push the pipe into the fitting, The grip and seal on the pipe increases with pressure and tensile load so that the pipe will burst or neck before the fitting will fail.

Pushfit for Metric PE (16mm - 180mm)

Pushfit for Imperial PE (3/8" - 2")

Pushfit for Lead (3/8" 5lb, 1/2" 7lb, 3/4" 9lb and 1" 16lb)



Technical data

Pressures: Working: 16 bar Test: 24 bar
The pressures stated above apply with water temperatures up to 20°C

Temperature: Up to 40°

For further information relating to operating temperatures please contact our customer service department at the telephone number shown below.

Talbot Pushfit fittings can be supplied to meet the applicable performance requirements of:

ISO 3458, 3459, 3501, 3503
DIN 8076
WIS 4-23-04, WIS 4-32-11
KIWA BRL 534/03
Australian Standard AS/NZS 4129
BS EN 1254-3-1998

All materials used with the Talbot Pushfit fitting that come into contact with potable water are WRAS listed.

The Talbot Pushfit connection can be used with PE pipe of the following specifications:

BS 6572, BS 6730, BS1972, BS 3284
DIN 8072, DIN 8074, all series
ISO 161 Parts I & II
AWWA C901-78 PE tubing
WIS 4-32-03
ASTM - D2737 PE tubing
WIS 4-32-13
AS/NZS 4130

General application

Pushfit uses a common body and only two sets of interchangeable components to connect to metric PE pipes and their imperial equivalents including heavy gauge and most normal gauge sizes.

Service Fittings: 16mm (3/8") to 63mm (2")

Connectors:

Equal and reducing connectors, tees and 90° bends.

Adaptors:

PE x male and female thread, PE x lead, PE x copper, PE x female threaded swivel adaptors (meter couplings), Grippa - Universal service adaptor for lead, copper and galvanised iron.

Male threaded:

BSP BS 21:1985 male taper thread or
BS 2779:1986 male parallel thread

Female threaded:

BSP BS 21:1985 female taper thread or
BS 2779:1986 female parallel thread

Ferrule Assemblies:

Standard ferrules, screwdown ferrules, ferrule straps, and self tapping ferrule straps.

Valves:

BS 5433, BS 2580, WIS 4-32-04 stopcocks (plastic), check-valves, stopcock manifolds and meter boxes.

Mains Fittings: (63mm/2" to 180mm)

Flange Adaptors (DN80 - DN150)

90° Duckfoot Bends (DN80)

Flanged branch Tees (DN80 and DN100)

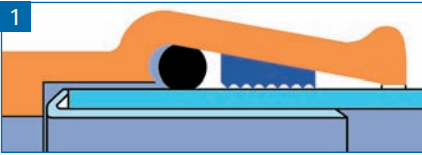
Connectors:

45° bends and equal and reducing connectors.

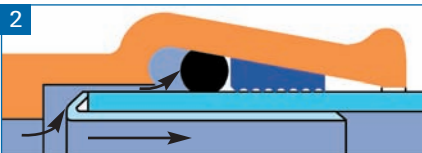
Talbot *Pushfit* - Fittings for Water Pipe

2

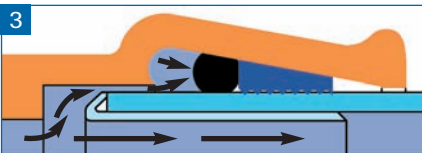
How Pushfit Works



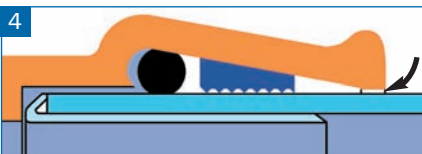
After insertion of the pipe, with the components at rest, the 'O' ring provides the water seal and the grip ring is ready to resist any pull out.



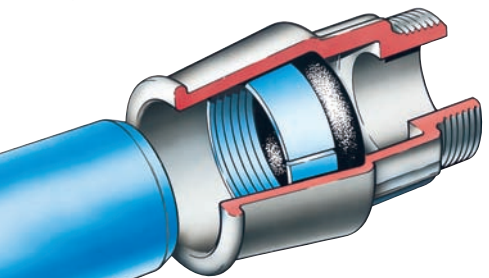
Water pressure forces the 'O' ring against the grip ring, pushing both components down the taper of the fitting creating an excellent pressure seal on the pipe.



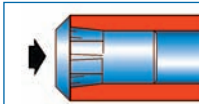
As the water pressure rises the 'O' ring is forced further down the tapered body towards the grip ring, increasing the sealing pressure against the pipe and body.



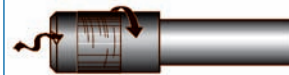
In negative pressure conditions the 'O' ring remains in its original seating position and provides an effective vacuum seal.



Pushfit Assembly Instructions



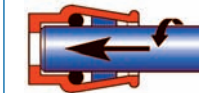
- 1a. For metric British Standard pipe only.
Push the correct liner fully into the pipe.



- 1b. For other pipes:
Bevel the pipe, no liner is required.



- 1c. When using Leadfit for lead pipe ensure the pipe is round and free from deep scores or scratches. Bevel the pipe slightly to take any off sharp edges.



2. Push the pipe fully into the fitting with a slight twist.



3. Ensure that the pipe passes **two points of resistance** and is fully seated.

Pushfit Dismantling Instructions



1. Slide the extractor tools home and withdraw the pipe.



2. Extract the grip ring with a screwdriver.
Do not re-use the grip ring.



3. Extract and inspect the 'O' ring.
Replace it if damaged.

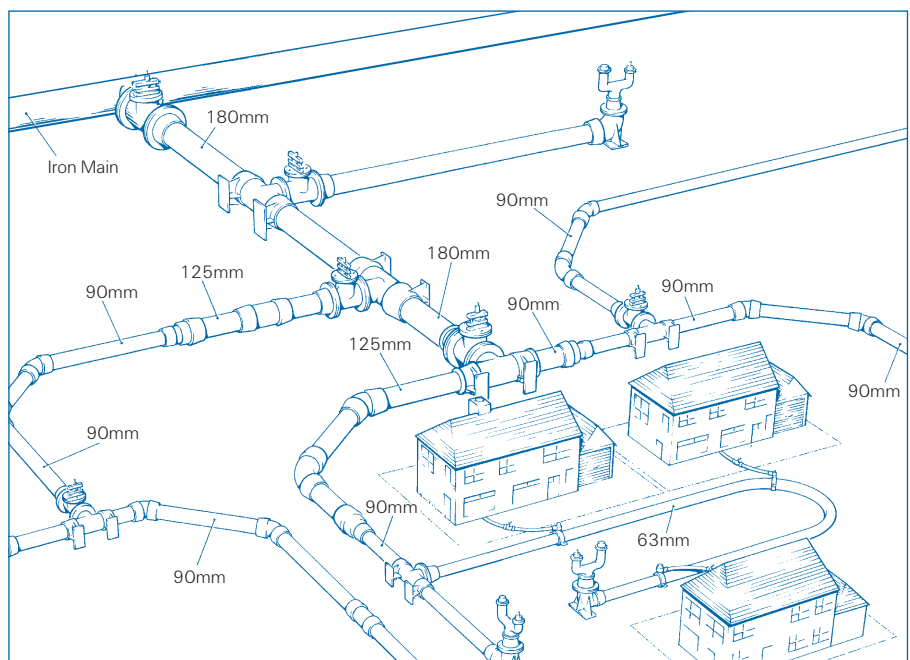


4. Insert a new grip ring by forming a figure '6' and pressing it in.

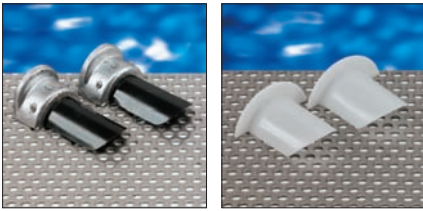


5. Insure that the grip ring is inserted the **correct way round**.

PE Distribution Network



Tools



Extractors

Available in either metal or plastic for removing the Pushfit fitting from the pipe. The same size tool is used for both metric and imperial pipe, with between 2 and 4 per set depending on the size of the fitting. When ordering please state number of sets required. Plastic extractors are supplied in bags of 10 sets and are available in sizes 20mm to 32mm, whilst metal extractors are available in sizes 20mm to 180mm.

Bevellers

For imperial, DIN and ISO pipe only when liners are not being used. Bevellers are available in sizes from 3/8" (16mm) to 2" (63mm).



Packaging and Marking

Service sized connectors and adaptors are bagged individually or in bags of 5 depending on size and configuration. Mains fittings are bagged individually. All fitting bodies are clearly marked with size for both metric and imperial pipe as service fitting bodies are common for both imperial and metric pipe.

Products supplied to certain specific markets may have additional markings.

Coping with Site Conditions

User experience indicates that these fittings cope better with adverse site conditions than compression fittings. However, if a connection failure occurs please check that:

- The pipe has been pushed fully home past two points of resistance.
- The correct components have been used.
- Neither the 'O' ring nor the grip ring are damaged.
- There are no excessively deep cuts in the pipe at the sealing area.

Components

Liner or Insert

For use with metric pipe to BS 6572 and WIS 4-32-03. The liner has a chamfered nose cone eliminating the need to bevel the pipe, and longitudinal ribs to ensure a secure fit inside the pipe. For metric pipe only. Marked with size and class.

Metric:

20, 25, 32, 50, 63, 90, 125 & 180mm.



Grip and 'O' Ring

Metric: 20, 25, 32, 40, 50, 63, 90, 125, 180mm.

Imperial: 1/2", 3/4", 1", 1 1/4", 1 1/2" & 2".

Also 16mm, 3/8" and 1/2" NG.

Grip rings also available to suit lead pipe.



Leadfit - Pushfit for Lead Pipe

The tried and tested Talbot Pushfit connection has now been developed to suit lead pipe. Leadfit offers the same high levels of performance associated with the Talbot Pushfit fitting and are just as quick and easy to assemble. As with the Pushfit connection for PE pipe the fitting is simply pushed fully home onto the lead pipe, past both the grip and 'O' ring, no further tightening is needed. The Pushfit principle ensures that the pipe is held securely within the fitting sealing against pressures up to the strength of the pipe wall.

The Leadfit fitting utilises a standard Talbot Pushfit body with a set of specially designed interchangeable components that enable the Talbot Leadfit fitting to grip and seal on lead pipe. The Talbot Leadfit fitting is available in two forms:

- Firstly as range of pre assembled fittings. Lead to PE adaptors, lead to female or male threaded adaptors and lead to copper adaptors are all available.
- An alternative to the pre assembled fitting and in order to give users full advantage of the flexibility and extensive range of the Talbot Pushfit connection, Talbot Leadfit components are also supplied separately and can quickly and easily convert any Talbot Pushfit fitting into a fitting for lead pipe.

The lead pipe to be connected should be free from excessive scoring or scratches and should be round at the sealing area. The end of the pipe should also be bevelled slightly to assist insertion into the fitting.

Leadfit is a dedicated size connector and has been designed to work on specific sizes of lead pipe. Make sure that the Talbot Leadfit fitting is used only on pipes of the correct size.

- 1/2" 7lb lead (23.5mm OD)
Using 25mm Pushfit bodies
- 3/4" 9lb lead (29.4mm OD)
Using 32mm Pushfit bodies
- 1" 16lb lead (39.2mm OD)
Using 40mm Pushfit bodies

Service size grip rings and 'O' rings are identified as follows:

Metric Pipe:	Grip ring	Dark blue
	'O' ring	Black
Imperial Pipe:	Grip ring	Black
	'O' ring	Black
Heavy Gauge Pipe:	Grip ring	Light blue
	'O' ring	Black
Normal Gauge Pipe:	Grip ring	Red
	'O' ring	Black
Lead Pipe:	Grip ring	Grey
	'O' ring	Black

Performance Specification

With reasonable care the simple Talbot Pushfit design minimises the risk of error during assembly. Talbot Pushfit fittings have excellent mechanical strength and can tolerate normal pipe imperfections as well as unsquare cut ends of pipe.

To meet the requirements of the Water Regulations Advisory Scheme (WRAS) it is necessary to use an insert or liner with metric MDPE service pipe to BS 6572:1985, BS 6730 and HPPE to WIS 4-32-13 for below ground use in the UK.

The liner is not an integral part of the Pushfit joint and for polyethylene pipe other than the PE pipe material shown above use of the liner is optional. If a liner is not used the connection will still substantially exceed most international performance requirements.

Talbot recommend the use of a liner with all mains fittings for PE pipe of 63mm and above, although they are WRAS listed without liners.

Suggested tightening torques for threaded ends of plastic fittings:

- 1/2" BSP - 25 Nm (18 lb ft)
- 3/4" BSP - 30 Nm (22 lb ft)
- 1" BSP - 35 Nm (26 lb ft)
- 1 1/2" BSP - 40 Nm (33 lb ft)
- 2" BSP - 50 Nm (36 lb ft)

There will be no adverse effect if threads are tightened at the torques normally used on metal fittings (i.e double the above levels). It is recommended that PTFE tape should be used on all tapered thread connections.

Material Specification

Description	Material	Specification
Bodies		
Plastic Fittings	Acetal or Polypropylene	
Gunmetal Fittings	Cast Gunmetal	BS1400 LG2 (BS EN 1982 Grade CC491K)
Brass Fittings	DZR Brass	BS 2784 CZ 132 M (BS EN 1982 Grade CW602N)
Aluminium Fittings	Cast Aluminium coated with Rilsan Nylon II	BS1490:LM6 or LM20
Components		
Grip Ring	Acetal	
'O' Ring	EPDM	BS EN 681
Liner	Polypropylene/Acetal	
Reinforcing Ring	Stainless Steel	Grade 304



Safety

As with all industrial products it is important to take adequate safety precautions such as the use of adequate protective clothing like gloves, overalls, eye protection and safety footwear during installation, use and maintenance of this product.

Tyco Waterworks

Edison Road
 Hams Hall Distribution Park
 Coleshill, Birmingham
 B46 1AB United Kingdom
 Telephone: +44 (0)1675 437 900
 Facsimile: +44 (0)1675 437 909
 e-mail: wwinfo@tyco-valves.com
 web: www.tycowaterworks.com



How to Order

Talbot Pushfit service fittings have common bodies for both imperial and metric pipe. All fittings are supplied with grip ring and 'O' ring assembled inside the body. Metric pipes require different grip rings and 'O' rings from imperial pipes.

When ordering, please indicate the size and specification or standard of your pipe and whether liners are required, to enable the correct components to be supplied. Liners will be supplied with all UK orders for metric fittings, unless otherwise specified.

Order extractor tools for each of your operators and bevelling tools if liners are not required. Order standard and self-tapping ferrule straps and stopcocks in the usual way, specifying 'Talbot Pushfit Ends'.

Tendering Specification

Pushfit fittings for external underground polyethylene as manufactured by Talbot. The fitting is to consist of a body with internal taper, grip ring for end load resistance, 'O' ring for watertight seal and liner(s) (if required). All components to be manufactured from materials listed by the WRAS.

The seal of the pushfit joint is obtained using water pressure as a thrust medium and therefore no tool is used to obtain a watertight connection.

The supplier is to be certified to ISO 9001 for Supplier Quality Management Systems.

These fittings are designed for the conveyance of cold potable water. Save with the express written approval of Talbot, no warranty is given that the fittings are suitable for any other purpose.

We reserve the right to change the design and specification without notice.

© Tyco 2007 2K (06/07) TTAL/100.3