

# UPE

## Engineered Couplings and Flange Adaptors

Dedicated Size Couplings, Stepped Couplings and Flange Adaptors

### Benefits

- Available in a range of flange adaptors and stepped and equal couplings from 80mm to 2,200mm and suits all common rigid pipe materials
- Manufactured to customers exact specification and offers up to 11mm of fitting tolerance to allow for variations in pipe outside diameter
- Installation time is reduced due to the dedicated design
- Fittings are supplied fully assembled allowing quick and efficient installation without prior disassembly or any loose components
- Prolonged life of fitting due to the high quality corrosion protective coating used



UPE Engineered fittings offer an effective method of connecting any rigid pipe material from 80mm to 2,200mm. Engineered Couplings connect pipe materials of the same or different outside diameter in any combination. Engineered Flange Adaptors connect pipes to a wide range of flange specifications. Engineered fittings are made to the customers exact requirements and have a fitting tolerance of up to 11mm.



### Technical data

Pressures	Working	Test
Water:	16 bar	24 bar
Gas:	7 bar	11 bar
Higher pressure options are available on request. For further details please contact our customer service department at the telephone number shown below.		
Temperature:	Up to 50°C	
Higher temperatures may affect the installed life of the product. For further information relating to operating temperatures please contact our customer service department at the telephone number shown below.		
Sizes:	80mm - 2,200mm	
Flange type :	Various	
UPE Engineered Flange Adaptors can be manufactured to suit any BS10, BS4504, EN 1902-2 or ASA flanged drilling specification.		
Material:		
Body:	Ductile Iron or Steel	
Gland ring:	Ductile Iron or Steel	
Coating:		
Fusion bonded epoxy to WIS 4-52-01		
Blue for EPDM service, black for Nitrile service. (Alternative coatings available on request)		
Fasteners:		
Bolts & Nuts:	Mild Steel to BS 4190 Coated to WIS 4-52-03.	
Sealing Gaskets:	Water EPDM (EN 681) Gas Nitrile EN 682	

### Safety

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

### Technical help

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

### General application

UPE Engineered fittings are available in four basic forms;

- Straight Couplings
- Stepped Couplings
- Straight Flange Adaptors
- Stepped Flange Adaptors

Each fitting is manufactured to the given pipe outside diameter with up to 11mm of fitting tolerance, typically +5mm/-6mm, and will suit Ductile Iron, Cast Iron, Steel, PVC, Asbestos Cement, ABS and GRP pipes.

UPE Engineered fittings are not suitable for use on PE pipes.

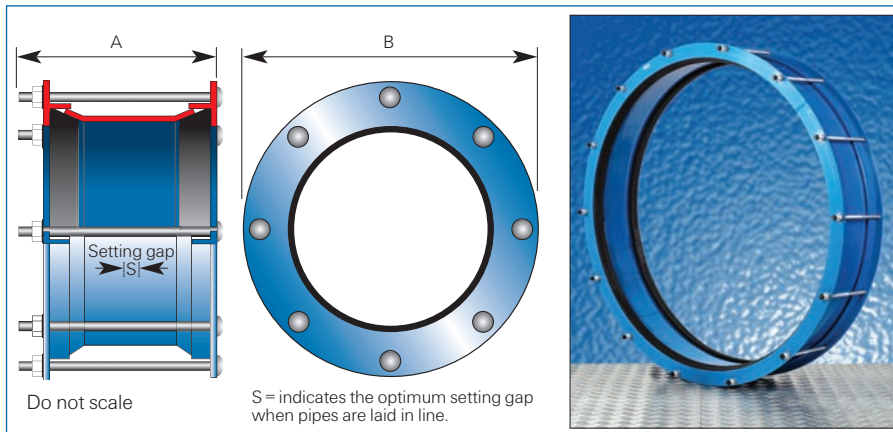
As standard all Engineered fittings are fully protected against corrosion with a fusion bonded epoxy to WIS 4-52-01.

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

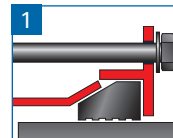
### Product Variations

- Anchor feet
- Earthed connection points
- Tie-bar assemblies can be supplied where required
- Fixed or removable central registers can be supplied for specific applications.
- Higher pressure fittings
- Alternative coatings available on request
- Fittings over 2,200mm are available on request

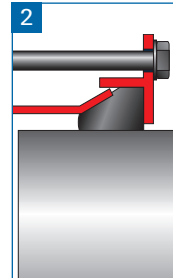
## Technical Specification - Engineered Couplings



## How Engineered fittings work



1 To install the fitting loosen the bolts and slide the fitting over the end of the pipe.



2 Once the fitting has been correctly positioned evenly tighten the end ring bolts in a diametrically opposed sequence to a torque of 61 - 68 Nm (45 - 50 lbf.ft). As the bolts are tightened, the gland ring(s) are drawn in, compressing the rubber gasket seal(s) around the pipe, creating a secure and leak free connection.

## Dimensions and Details - Engineered Couplings

Nominal bore	Pipe OD (mm)				A (mm)	B (mm)	S (mm)	No of bolts	Approx weight (kg)	Angular Deflection	
	1	2	3	4						angle (+ or -)	inclination
80mm/3"	88.9	-	98	-	222	210.5	19	4	4.0*	6°	1 in 10
100mm/4"	114.3	-	118	-	223	240	19	4	4.5*	6°	1 in 10
150mm/6"	168.3	-	170	-	223	290.2	19	4	6*	6°	1 in 10
200mm/8"	219.1	-	222	-	210	336	19	6	9.5*	6°	1 in 10
250mm/10"	273.0	-	274	-	210	405	19	6	18*	6°	1 in 10
300mm/12"	323.9	-	326	-	280	445	19	6	22*	6°	1 in 10
350mm/14"	355.6	387	378	355	275	485	20	8	26*	6°	1 in 10
400mm/16"	406.4	439	429	400	275	540	20	8	30*	6°	1 in 10
450mm/18"	457	492	480	450	275	590	20	10	33*	6°	1 in 10
500mm/20"	508	545	532	500	275	664	20	10	36*	5°	1 in 12
600mm/24"	610	650	635	630	275	745	20	10	40*	5°	1 in 12
700mm/27"	711	729	738	710	275	845	20	12	45*	4°	1 in 15
800mm/30"	813	807	842	800	275	950	20	12	50*	3°	1 in 20
900mm/36"	914	964	945	900	275	1060	20	14	55*	3°	1 in 20
1000mm/39"	1016	-	1048	1000	275	1155	25	14	60*	3°	1 in 20
1200mm/48"	1219	1277	1255	1200	275	1350	25	16	70*	3°	1 in 20
1400mm/54"	1420	-	1462	1400	275	1550	25	18	80*	2°	1 in 30
1600mm/60"	1620	-	1668	1600	275	1750	25	24	90*	2°	1 in 30
1800mm/72"	1820	-	1875	1800	275	1945	25	30	100*	1°	1 in 60

Key: 1: Steel and Imperial PVC pipe 2: Imperial cast iron pipe 3: Ductile iron pipe 4: Metric PVC pipe

\*The above weights are approximate and may differ to those shown depending on the method of manufacture, please contact the UPE customer service department for further details.

Fittings to suit all outside diameters within the nominal sizes shown above are available. Fittings to suit pipe with outside diameters other than those stated above are also available.

If fittings are required for sizes from 1800mm up to 2,200mm please contact the UPE Customer Service Team on the telephone number shown on the back of this data sheet.

## Engineered Coupling Options

- Anchor feet
- Earthed connection points
- Tie-bar assemblies can be supplied where required
- Fixed or removable central registers can also be supplied for specific applications.
- Higher pressure rated fittings
- Alternative coatings available
- Fittings over 2,200mm available on request

## Engineered Stepped Couplings

UPE Engineered Couplings are also available as stepped couplings. These fittings are made to the customers exact specifications in any combination of pipe size or type.

Alternative solutions are also available in the form of either the UPE Universal fitting for 40 - 300mm sizes or the UPE MultiDiameter fitting for up to 800mm pipe diameters.

For further details relating to these products please contact the UPE Customer Service team on the number shown on the back of this data sheet or visit the Tyco Waterworks web site on [www.tycowaterworks.com](http://www.tycowaterworks.com).

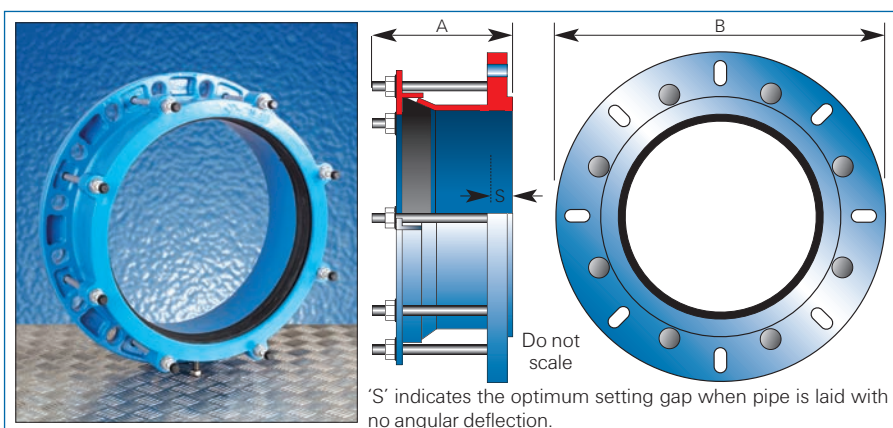


## Fitting Instructions

Full fitting instructions are supplied with each fitting. Copies of these instructions are available from the UPE Customer Service Team at the details shown on the back of this data sheet or alternatively from the Tyco Waterworks web site. [www.tycowaterworks.com](http://www.tycowaterworks.com)

All UPE fittings are supplied ready assembled giving efficient installation on site and all sealing gaskets are lubricated prior to despatch to aid installation. The moulded ribs on the seal take up any minor imperfections in the pipe caused by corrosion, pitting or scoring.

## Technical Specification - Engineered Flange Adaptors



## Dimensions and Details - Engineered Flange Adaptors

Nominal bore	Pipe OD (mm)				A	B	S (mm)	No of bolts	Approx weight (kg)	Angular Deflection	
	1	2	3	4						angle (+ or -)	inclination
80mm/3"	88.9	-	98	-	160	200	19	4	4.0*	3°	1 in 20
100mm/4"	114.3	-	118	-	160	220	19	4	4.5*	3°	1 in 20
150mm/6"	168.3	-	170	-	160	265	19	4	6*	3°	1 in 20
200mm/8"	219.1	-	222	-	160	340	19	6	9.5*	3°	1 in 20
250mm/10"	273.0	-	274	-	175	405	19	6	18*	3°	1 in 20
300mm/12"	323.9	-	326	-	175	460	19	6	22*	3°	1 in 20
350mm/14"	355.6	387	378	355	196	520	20	8	30*	3°	1 in 20
400mm/16"	406.4	439	429	400	198	560	20	8	37*	3°	1 in 20
450mm/18"	457	492	480	450	200	640	20	10	42*	3°	1 in 20
500mm/20"	508	545	532	500	201	715	20	10	63*	2.5°	1 in 24
600mm/24"	610	650	635	630	206	840	20	10	75*	2.5°	1 in 24
700mm/27"	711	729	738	710	206	910	20	12	82*	2°	1 in 30
800mm/30"	813	807	842	800	208	1025	20	12	97*	1.5°	1 in 40
900mm/36"	914	964	945	900	210	1125	20	14	100*	1.5°	1 in 40
1000mm/39"	1016	-	1048	1000	212	1255	25	14	144*	1.5°	1 in 40
1200mm/48"	1219	1277	1255	1200	218	1465	25	16	162*	1.5°	1 in 40
1400mm/54"	1420	-	1462	1400	222	1685	25	18	205*	1°	1 in 60
1600mm/60"	1620	-	1668	1600	228	1930	25	40	261*	1°	1 in 60
1800mm/72"	1820	-	1875	1800	232	2130	25	44	315*	0.5°	1 in 120

Key: 1: Steel and Imperial PVC pipe 2: Imperial cast iron pipe 3: Ductile iron pipe 4: Metric PVC pipe

\*The above weights are approximate and may differ to those shown depending on the method of manufacture, please contact the UPE customer service department for further details.

Fittings to suit all outside diameters within the nominal sizes shown above are available. Fittings to suit pipe with outside diameters other than those stated above are also available.

If fittings are required for sizes from 1800mm up to 2,200mm please contact the UPE Customer Service Team on the telephone number shown on the back of this data sheet.

UPE Engineered Flange Adaptors can be used for pipelines with nominal bores of 80mm (3") to 2,200mm (86") and can be manufactured to suit any BS10, BS4504, EN1092-2 or ASA flanged drilling specifications.

## Engineered Flange Adaptor Options

- Anchor feet
- Earthed connection points
- Tie-bar assemblies can be supplied where required
- Fixed or removable central registers can be supplied for specific site applications.
- Higher pressure rated fittings
- Fittings over 2,200mm available on request
- Alternative coatings available on request

- UPE Dismantling joints are available in a variety of configurations and sizes to facilitate flanged connections.

(For further information please see the UPE data sheet 'Dismantling Joints' -TUPE 6000)

### UPE Dismantling Joints

Dismantling Joints offer a longitudinal adjustment by way of the flanged spigot fitted within a flange adaptor body. Once installed to the required length, the UPE Dismantling Joint offers a fully end load resistant connection.



## General Notes: Engineered Couplings and Flange Adaptors

All UPE Engineered Couplings and Flange Adaptors have a manufactured fitting tolerance of up to 11mm (+5/-6mm) to allow for variations in pipe outside diameter caused by issues such as pipe ovality or extremes of pipe size tolerance,

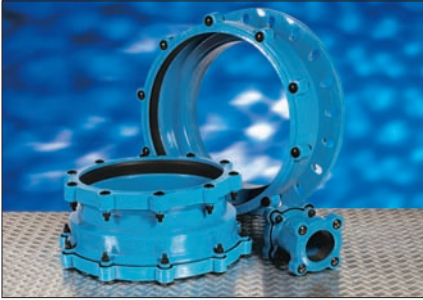
The Fusion Bonded Epoxy coating used on the UPE Engineered Couplings and Flange Adaptors offers excellent impact and abrasion resistance. This durable coating removes the need for further on site protection and gives the fitting an excellent installed life span.

Bolts are fully coated and are approved to WIS 4-52-03 and PVC end caps are fitted on the bolt thread tips for additional protection during transit. Alternative fitting coatings as well as bolt materials and coatings are available on request.

## Associated Products



*The UPE Universal range of wide tolerance couplings, stepped couplings, flange adaptors and end caps can be used on almost any plain-ended rigid pipe material from 40mm to 300mm pipe nominals. This flexibility combined with each fittings ability to accommodate a wide variety of pipe sizes makes the UPE Universal fitting a versatile and economical product to use.*



*The UPE MultiDiameter range of wide tolerance couplings and flange adaptors can be used for almost any plain-ended rigid pipe material from 32mm to 800mm pipe nominals.*

*This flexibility combined with each fittings ability to accommodate a wide variety of pipe sizes makes the UPE MultiDiameter fitting a versatile and economical product to use.*



*The UPE Dismantling Joint offers benefits for planning, installation and maintenance of all flanged fittings and flanged pipework with a nominal bore of up to 2,200mm.*

*The Dismantling Joint offers a longitudinal adjustment by way of the flanged spigot fitted within a flange adaptor body. Once installed to the required length, the UPE Dismantling Joint offers a fully end load resistant connection.*



*The UPE Converter Slide Valve is an effective, full bore construction valve that will allow underpressure drilling operations to be performed on either water distribution systems under pressures of up to 10 bar or gas distribution systems under pressures of up to 7 bar.*

*Optimum space and weight savings have been made in the valve's design so providing a robust valve that is simple to install and use.*



*The Soft Sealing, Resilient Seated Gate Valve is manufactured to BS 5163 and EN1074 and is one of the lightest valves of its class on the market today. It has been specifically designed and developed with ease of use and length of installed service life in mind. Selection of robust, quality materials combined with engineering experience has enabled the development of a valve that solves many of the problems encountered when installing, operating and servicing gate valves.*

## 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](mailto:wwinfo@tyco-valves.com)  
web: [www.tycowaterworks.com](http://www.tycowaterworks.com)

**tyco** / Flow Control / **Tyco Waterworks**

UPE Engineered couplings and flange adaptors are not fully end load restrained, please ensure adequate restraint is provided. These fittings are not suitable for use on PE pipe.

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

© Tyco 2007 2K (06/07) TUPE/300.4