

Flexible Couplings



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Our history

Established in 1988 in Sheffield, Flexseal's core business is the design and manufacture of flexible couplings for the repair of sewer and drainage systems - over the years, this has become the standard method of repair in the UK, and Flexseal now supply the largest range of flexible couplings in the marketplace.

In 1991 Flexseal increased capacity with the acquisition of a 1022m² factory to meet the increasing demand for our rapidly growing product range. This was then followed by further expansion into an 1858m² factory.

International growth soon became a priority and a new state of the art production facility (2787m²) was commissioned in Wombwell in Barnsley in 1998. This marked our tenth anniversary, a period in which the number of employees increased from two to over sixty.

In 2002, Flexseal was acquired by the US owned Fernco Group, and a global group was created that supplied the most extensive range of flexible couplings throughout the world.

Manufacturing technologies, injection moulding capabilities, process improvements and distribution and manufacturing facilities have evolved year-on-year at Flexseal. Several new pipe connection technologies and a nationwide support network of sales managers have helped Flexseal become synonymous with the highest quality of product and service in the industry.

This connection with the needs of the marketplace, and a need to evolve and develop, will continue in years to come.

We've come a long way...



“ **Customer service is at the centre of everything that Flexseal does.**

Our dedicated sales teams build relationships, share knowledge and experience, and provide a service which is second to none. This is why Flexseal continues to be the industry leader. ”

Lee Pashley
Sales Director

lee@flexseal.co.uk



“ **Product quality and workmanship are of paramount importance to Flexseal.** Same day despatch is available on the largest range of couplings in the world, along with a quality management system that insists on dedication and attention to detail. ”

Paul Smith
Production Manager



It has quality written all over it.

A Flexseal coupling is a proven coupling, used globally by experienced professionals.



Flexseal
A Division of Flexseal Ltd
DINUM PLING **MAG 2200** DIAMETER: 2200mm
WIDTH: 370mm
TIGHTEN TO 25Nm
www.flexseal.co.uk

ICON Coupling

Internal Coupling

150-400mm + diameter

For the secure internal connection of two pipes
of irregular or inaccessible external profile



Introduction

In the past there have been several low pressure pipe connections which would challenge any coupling manufacturer. The main examples include:



Connecting with
a flat bottomed
concrete pipe



When a pipe is sheared
close to a surface, with no
stub or spigot



When surface damage
prevents a reliable
external seal



When part of the exterior
of the pipe is buried, or
otherwise inaccessible



Creating a perfect seal
with a spiral reinforced
plastic pipe

These challenges have now been overcome with the launch of the Flexseal Icon Coupling, a unique coupling which securely seals against the internal surface of two pipes. A secure, permanent, watertight and airtight connection is now guaranteed on pipes from DN150 to DN400 with an internal circular profile.

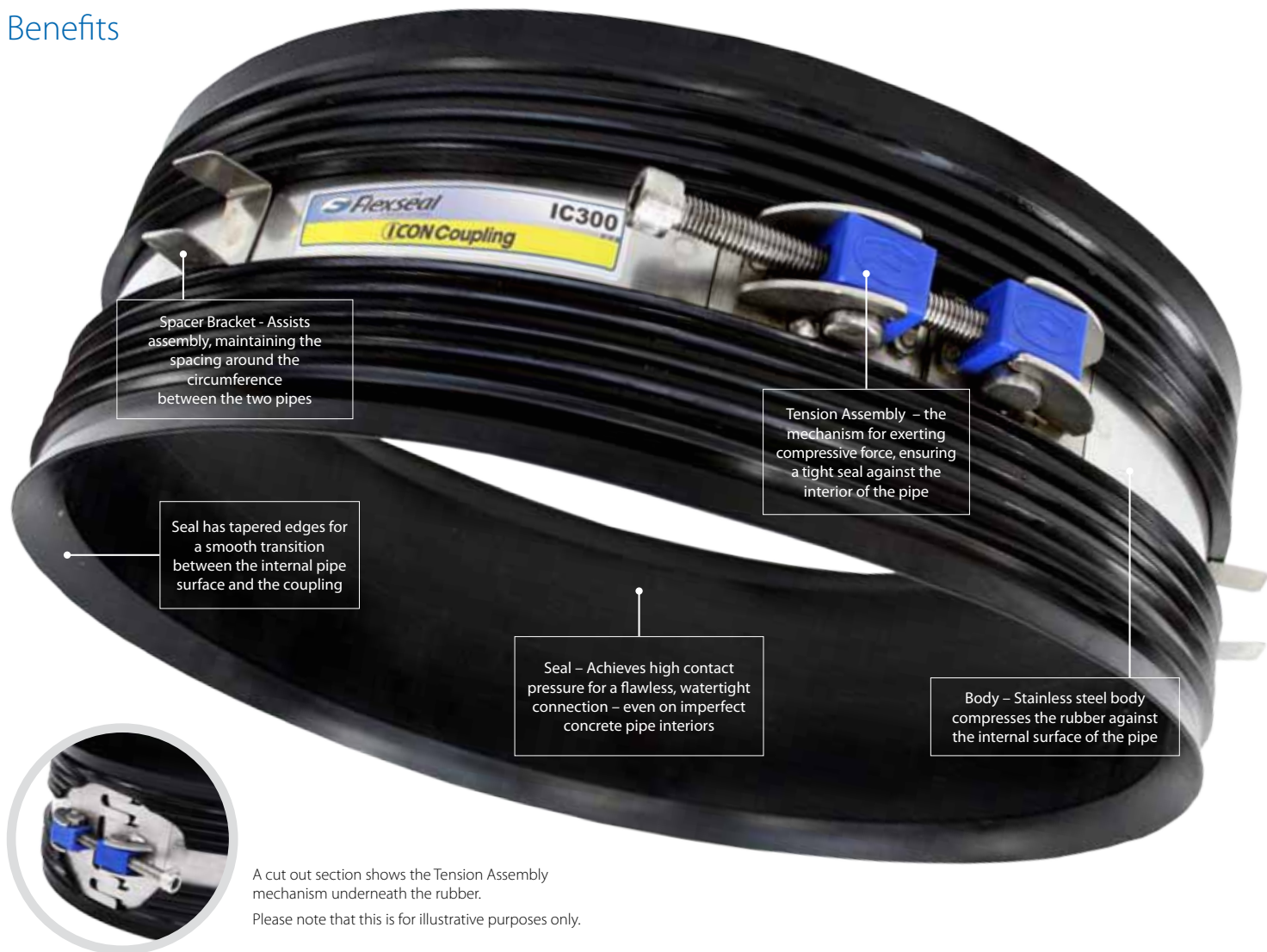
Conceived by Dave Milnes, Technical Manager at Flexseal, the product is a true innovation for our industry, solving several problems encountered on site.

With the same ease as any of our other flexible couplings, two pipes of irregular or inaccessible external profile can now be securely connected.



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demo movie

Benefits



Standard Couplings

50-620mm diameter



See page 38 for full standard details

Designed for sewerage, drainage and all non and low pressure applications up to 2.5 bar



Introduction

The Standard Coupling range Type 2B - SC115 to SC620 is WIS 4-41-01 approved and suitable for private and public sewers.

Flexseal provides the most extensive range of Standard Couplings available in the marketplace and has revolutionised traditional pipe repair methods over the years. Flexseal Standard Couplings are specifically designed to connect and repair pipes of different materials or sizes used in sewerage, drainage and other underground applications.

When excavation work is required to repair a damaged pipe, Flexseal Standard Couplings will reduce the amount of time required and minor differences in pipe diameter can be accommodated. The combination of a durable design and excellent sealing properties when tightened to the correct torque enable the Flexseal Standard Coupling to provide a reliable seal on rough pipe surfaces e.g. concrete, as well as on smooth surfaces e.g. PVC.

Standard Couplings can be combined with Flexseal Bushes in order to act as an adaptor between pipelines of differing outside diameters. Standard Couplings are made from EN681-1 EPDM rubber and have Grade 1.4301 (304) stainless steel clamps and shearbands.

Flexseal can also supply the product with nitrile sleeves for use with effluent which may be contaminated with hydrocarbons. Couplings are also available with Grade 1.4401 (316) stainless steel for improved corrosion protection. Please contact our sales office for further details.

Benefits

- Withstands an internal pressure of up to 2.5 bar
- A proven, tested and durable coupling design ensuring a high performance and a reliable connection
- Stainless steel shear band provides excellent resistance to heavy loads and shear forces
- Reduces excavation work
- Complies with WIS 4-41-01 (all public sewers and sewers for adoption)
- Complies with BS EN 295 Part 4 & EN681-1: 1995 requirements for vitrified clay pipes and fittings
- Shear band ensures joint integrity and pipe alignment under load



**You
Tube**
Scan here for a
demo movie

Applications

When used individually or combined with bushes, Flexseal Standard Couplings have many applications in the construction, repair and maintenance of pipe systems:

- As a joint for plain ended pipes
- Repair and maintenance of existing pipelines
- Connecting short and cut lengths of pipe
- Making post construction connections to an existing pipeline
- Reconnection of laterals on renovated sewers
- Introducing a rocker pipe outside manholes or structures
- When used with bushes can accommodate differing pipe diameters



Product Range

Reference No.	Size (mm)	Width (mm)	Thickness (mm)
SC65	50 - 65	90	6
SC75	60 - 75	108	6.5
SC95	80 - 95	110	7
SC115	100 - 115	120	7
SC120	105 - 121	120	7
SC125	110 - 125	120	7
SC137	120 - 137	120	7
SC150	125 - 150	136	7
SC165	140 - 165	136	7
SC175	150 - 175	136	7
SC185	160 - 185	136	7
SC200	175 - 200	150	7.5
SC215	190 - 215	150	7.5
SC225	200 - 225	150	7.5
SC250	225 - 250	150	7.5
SC265	240 - 265	150	7.5
SC275	250 - 275	150	7.5
SC290	265 - 290	150	7.5
SC310	285 - 310	190	9
SC320	295 - 320	190	9
SC335	310 - 335	190	9
SC345	320 - 345	190	9
SC360	335 - 360	190	9
SC370	345 - 370	190	9
SC385	360 - 385	190	9
SC395	370 - 395	190	9
SC410	385 - 410	190	9
SC425	400 - 425	190	9
SC430	405 - 430	190	9
SC445	420 - 445	190	9
SC450	425 - 450	190	9
SC465	440 - 465	190	9
SC470	445 - 470	190	9
SC490	465 - 490	190	9
SC510	485 - 510	190	9
SC525	500 - 525	190	9
SC540	515 - 540	190	9
SC550	525 - 550	190	9
SC560	535 - 560	190	9
SC570	545 - 570	190	9
SC580	555 - 580	190	9
SC600	575 - 600	190	9
SC620	595 - 620	190	9



Common Applications

SC115	110mm PVCu 110mm ABS 100mm CAST IRON (SMU/ENSIGN/SML) 111mm POLYETHYLENE	SC310	225mm CONCRETE (O.D.-Over 290mm)
SC120	110mm PVCu 100mm CAST IRON (BS416) 100mm STAINLESS STEEL 100mm CAST IRON (BS437) 100mm DUCTILE IRON 100mm SUPERSLEVE (see also SC137)	SC320	315mm PVCu
SC137	100mm (4") SALT GLAZED WARE 100mm VITRIFIED CLAY 100mm SUPERSLEVE 100mm PITCH FIBRE 100mm ASBESTOS CEMENT	SC335	300mm DUCTILE IRON 300mm CAST IRON
SC165	160mm PVCu 150mm CAST IRON (SMU/ENSIGN/SML) 150mm STAINLESS STEEL 160mm POLYETHYLENE	SC345	300mm ASBESTOS CEMENT 300mm ULTRA-RIB 300mm QUANTUM 300mm DUCTILE IRON
SC175	160mm PVCu 150mm DUCTILE IRON 150mm CAST IRON (BS416) 150mm CAST IRON (BS437) 150mm STAINLESS STEEL 150mm ULTRA-RIB 150mm QUANTUM	SC360	300mm Superseal/Supersleve 300mm RidgiDrain (355mm o/d) 300mm Corripipe Twinwall
SC200	150mm (6") SALT GLAZED WARE 150mm VITRIFIED CLAY 150mm SUPERSLEVE 150mm CONCRETE 150mm ASBESTOS CEMENT 150mm PITCH FIBRE 180mm ULTRA-RIB 200mm PVCu	SC385	300mm (12") SALT GLAZED WARE 300mm VITRIFIED CLAY 300mm CONCRETE (O.D.-Up to 385mm)
SC225	200mm DUCTILE IRON 200mm CAST IRON (BS416)	SC410	300mm CONCRETE (O.D.-Over 385mm) 400mm PVCu
SC250	175mm PITCH FIBRE 200mm VITRIFIED CLAY 200mm ASBESTOS CEMENT 225mm ULTRA-RIB 225mm QUANTUM 250mm PVCu	SC425	300mm CONCRETE (O.D.-Over 405mm)
SC265	225mm ASBESTOS CEMENT 225mm DUCTILE IRON 250mm CAST IRON	SC430	400mm DUCTILE IRON 375mm ASBESTOS CEMENT
SC275	250mm DUCTILE IRON 250mm CAST IRON	SC445	375mm ASBESTOS CEMENT 400mm DUCTILE IRON 400mm CAST IRON
SC290	225mm (9") SALT GLAZED WARE 225mm VITRIFIED CLAY 225mm CONCRETE (O.D.-Up to 290mm) 250mm ASBESTOS CEMENT 250mm DUCTILE IRON	SC465	375mm (15") SALT GLAZED WARE 375mm VITRIFIED CLAY 375mm CONCRETE (O.D.-Up to 465mm) 400mm ASBESTOS CEMENT 450mm PVCu
		SC490	375mm CONCRETE (O.D.-Over 456mm Up to 490mm) 450mm DUCTILE IRON 450mm ASBESTOS CEMENT
		SC510	375mm CONCRETE (O.D.-Over 490mm Up to 510mm) SC510 400mm VITRIFIED CLAY
		SC525	375mm CONCRETE (O.D.-Over 510mm Up to 525mm)
		SC540	500mm DUCTILE IRON BSEN595 500mm CAST IRON (SMU/ENSIGN/SML)
		SC560	450mm (18") SALT GLAZED WARE 450mm VITRIFIED CLAY 450mm CONCRETE (O.D.-Up to 560mm) 500mm ASBESTOS CEMENT
		SC580	450mm CONCRETE (O.D.-Over 555mm Up to 580mm)
		SC600	450mm CONCRETE (O.D.-Over 580mm Up to 600mm)

Large Diameter Couplings

601-2100mm diameter



See page 38 for full standard details

Designed for sewerage, drainage and all non and low pressure applications. Manufactured to order to suit the outside diameter of any pipe



Introduction

Flexseal can provide Large Diameter Couplings that are manufactured to order, thereby meeting the specific contractor and site requirements.

Large Diameter Couplings can be manufactured to suit any outside pipe diameter and utilising Flexseal's advanced production capabilities, any size of coupling can be supplied direct to site using our Next Day Delivery Service.

Large Diameter Couplings are made from EN681-1 EPDM rubber and have Grade 1.4301 (304) clamps and shearbands. Flexseal can also supply the product with nitrile sleeves for use with effluent which may be contaminated with hydrocarbons. Couplings are also available with Grade 1.4401 (316) stainless steel for improved corrosion protection.

Please contact our sales office for further details.

Benefits

- Suitable for use on any pipe material
- Custom made to size, easy to install - correct first time
- Available in any size to meet project requirements
- Spanner supplied free of charge with every order, for use with 3/8" square drive ratchet
- EN295-4 applies to Large Diameter Couplings up to 1000mm
- A proven, tested and durable coupling design ensuring a high performance and reliable connection
- Stainless steel shear band provides excellent resistance to heavy loads and shear forces
- Shear band ensures joint integrity and pipe alignment under load

Applications

When used individually or together with Bushes, Flexseal Large Diameter Couplings have many applications in the construction, repair or maintenance of pipelines:

- As a joint for plain ended pipes
- Repair and maintenance of existing pipelines
- Making post construction connections to existing sewers
- As a joint between pipes of different sizes or materials with a Flexseal bush

Product Range

Reference No.	Size (mm)	Width (mm)	Thickness (mm)
LC 600	600 - 699	190	9
LC 700	700 - 799	190	9
LC 800	800 - 899	190	9
LC 900	900 - 999	190	9
LC1000	1000 - 1099	190	9
LC1100	1100 - 1199	190	9
LC1200	1200 - 1299	190	9
LC1300	1300 - 1399	190	9
LC1400	1400 - 1499	190	9
LC1500	1500 - 1599	190	9
LC1600	1600 - 1699	190	9
LC1700	1700 - 1799	190	9
LC1800	1800 - 1899	190	9
LC1900	1900 - 1999	190	9
LC2000	2000 - 2099	190	9

Note: The coupling size range is an indication of size for ordering purposes only. Large Diameter Couplings are manufactured individually to suit customers exact requirements. If you require a connection of over 2100mm, an Extra Wide or Magnum Coupling should be used.



Advanced M8 T-Bolt Clamping Systems

Flexseal uses two types of stainless steel bolt on our large diameter couplings – stronger bolts are required as the coupling diameter increases.



The M8 bolt is used on smaller diameter Magnum couplings. These require higher hydrostatic performance compared to our Standard Couplings, and can be tightened up to 20Nm.



For Flexseal couplings of 600mm and above, a unique M8 T-Bolt mechanism, designed by Flexseal, is used. These are installed at 20Nm and 25Nm.

- The optimised conversion of torque to tension in the band maximises the contact pressure between the seal and the pipe surface.
- The bolt's anchor points are circular so their ability to rotate provides perfect alignment as the clamp band is tightened.
- All clamp components are manufactured from Grade 1.4401 (316) stainless steel.
- The bolt thread is lubricated, both reducing friction in the thread and preventing galling between the nut and the bolt.
- All bolts are subject to Flexseal's strict quality testing and performance guarantee.



Replacing a damaged section of 820mm concrete pipe

Extra Wide Couplings

200-3000+ mm diameter **CE** **ETA** **EN295-4** **EN681-1** See page 38 for full standard details

Designed for connecting large diameter pipes of any material



Introduction

Flexseal Extra Wide Couplings are used principally for connecting large diameter pipes of size DN1000 and greater, however they are available to suit pipes of size DN200 and above.

Flexseal Extra Wide Couplings are 300mm wide, which allows for greater tolerance in the cutting of the ends of the pipe as well as providing for the movement of pipes due to settlement or thermal effects. They are available in sizes ranging from 200mm to over 3000mm in outside diameter, or larger to suit specific requirements.

Flexseal Extra Wide Couplings are manufactured to meet the specific requirements of the contractor onsite and can be produced to suit any pipe outside diameter.

Extra Wide Couplings are made from EN681-1 EPDM rubber and have Grade 1.4301 (304) stainless steel clamps and shearbands.

Flexseal can also supply this Coupling with nitrile sleeves for use with effluent which may be contaminated with hydrocarbons. Couplings are also available with Grade 1.4401 (316) stainless steel for improved corrosion protection.

Please contact our sales office for further details.

Benefits

- Provides a high performance seal on large diameter pipelines
- Offers greater tolerance for pipe movement
- On site pipe cutting is made easier due to the increased tolerance on the pipe ends

Applications

- Extra Wide couplings are suitable for the connection of pipes of any material, and any outside diameter above 200mm
- SC Extra Wide Couplings are suitable for pipes from 200mm to 620mm OD
- LC Extra Wide couplings over 600mm diameter are manufactured to exact customer requirements

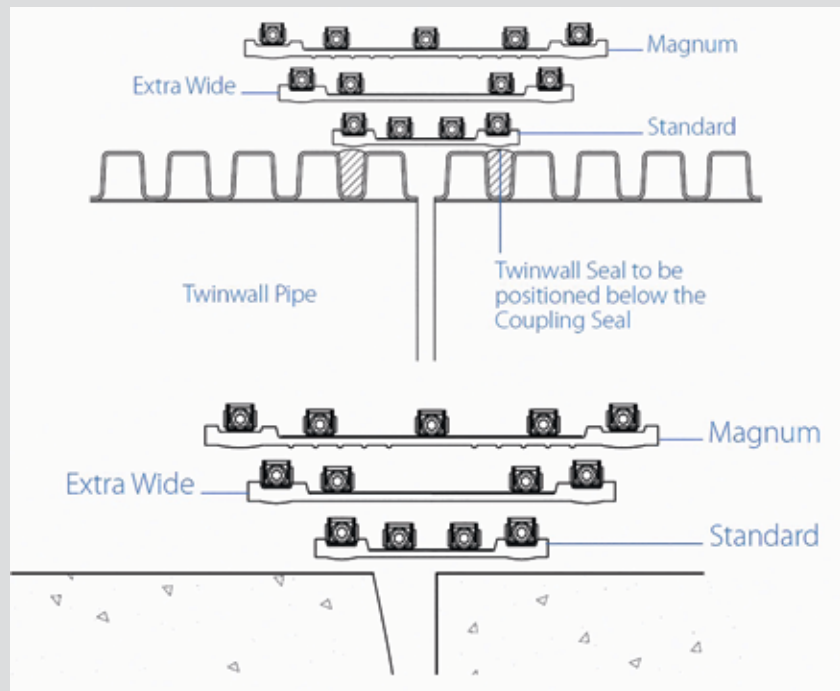
Product Range

Reference No.	Size (mm)	Width (mm)	Thickness (mm)
SC225W	200 - 225	300	7.5
SC290W	265 - 290	300	7.5
SC310W	285 - 310	300	9
SC320W	295 - 320	300	9
SC335W	310 - 335	300	9
SC345W	320 - 345	300	9
SC360W	335 - 360	300	9
SC370W	345 - 370	300	9
SC385W	360 - 385	300	9
SC395W	370 - 395	300	9
SC410W	385 - 410	300	9
SC425W	400 - 425	300	9
SC430W	405 - 430	300	9
SC445W	420 - 445	300	9
SC450W	425 - 450	300	9
SC465W	440 - 465	300	9
SC470W	445 - 470	300	9
SC490W	465 - 490	300	9
SC510W	485 - 510	300	9
SC525W	500 - 525	300	9
SC540W	515 - 540	300	9
SC550W	525 - 550	300	9
SC560W	535 - 560	300	9
SC570W	545 - 570	300	9
SC580W	555 - 580	300	9
SC600W	575 - 600	300	9
SC620W	595 - 620	300	9
LC 600 W	600 - 699	300	9
LC 700 W	700 - 799	300	9
LC 800 W	800 - 899	300	9
LC 900 W	900 - 999	300	9
LC1000 W	1000 - 1099	300	9
LC1100 W	1100 - 1199	300	9
LC1200 W	1200 - 1299	300	9
LC1300 W	1300 - 1399	300	9
LC1400 W	1400 - 1499	300	9
LC1500 W	1500 - 1599	300	9
LC1600 W	1600 - 1699	300	9
LC1700 W	1700 - 1799	300	9
LC1800 W	1800 - 1899	300	9
LC1900 W	1900 - 1999	300	9
LC2000 W	2000 - 2099	300	9



When should I use a wider coupling?

- When a pipe has been badly cut and the end is uneven or not square to the axis of the pipe
- When an unusually large gap has to be bridged between the pipe ends
- For use with larger pipes to bridge gaps created by deflection across the joint
- If the pipe diameter is greater than 1000mm



Extra Wide Coupling connecting a cut length of 670mm concrete

Magnum

300-3000+ mm diameter



See page 38 for full standard details

The widest flexible coupling in our range, at 370mm



Introduction

The unique Flexseal Magnum Couplings are 370mm wide - the widest flexible coupling currently available in the marketplace.

The greater width enables greater tolerance when cutting the pipe ends, and considerably more freedom of movement during any ground settlement.

The coupling will also withstand pressures of up to 4 bar, dependent on the diameter. Refer to Pressure Table on Page 36.

The Flexseal Magnum is available in diameters of between 300mm and 3000+ mm, and, as with the leading Flexseal Standard Coupling range, is suitable for connection of pipes of virtually any material.

Magnum Couplings are made from EN681-1 EPDM rubber and have Grade 1.4301 (304) stainless steel clamps and shearbands.

Please contact our sales office for further details.

Benefits

- Its greater width enables an easier and more efficient on site installation process
- Provides a high performance seal on large diameter pipelines
- Offers greater allowance for pipe movement
- On site pipe cutting is made easier due to the increased tolerance on the pipe ends
- Allows for greater angular deflection at the point of connection
- Provides increased pressure rating on most diameters - please refer to pressure table opposite for more specific information

Pressure Table

Part Number	Size Range (mm)	Max Bar
MAG300	300 - 399	4.0
MAG400 - MAG500	400 - 599	2.5
MAG600 - MAG900	600 - 999	1.5
MAG1000 - MAG1300	1000 - 1399	1.0

The Magnum Coupling is fitted with a high performance clamp band assembly that can exert high contact pressures between the seal and the pipe surface.

For sizes up to and including MAG600 the small version of the M8 bolt clamp is used. Larger sizes use the same M8 T-Bolt system utilised on the Large Diameter Couplings.

Product Range

Part Number	Size Range (mm)	Width
MAG300	300 - 399	370
MAG400	400 - 499	370
MAG500	500 - 599	370
MAG600	600 - 699	370
MAG700	700 - 799	370
MAG800	800 - 899	370
MAG900	900 - 999	370
MAG1000	1000 - 1099	370
MAG1100	1100 - 1199	370
MAG1200	1200 - 1299	370
MAG1300	1300 - 1399	370
MAG1400	1400 - 1499	370
MAG1500	1500 - 1599	370
MAG1600	1600 - 1699	370
MAG1700	1700 - 1799	370
MAG1800	1800 - 1899	370
MAG1900	1900 - 1999	370
MAG2000	2000 - 2099	370

Note: Larger sizes available on request



Advanced 5 clamp M8 bolt system used on Magnum Couplings MAG300 - MAG600



Connection of a 3m diameter concrete pipe into a stormwater attenuation tank using a MAG3030

Wraparound Couplings

200-3000+ mm diameter



See page 38 for full standard details

Designed for the repair of damaged non pressure and low pressure pipelines, without the need to remove and replace a section.
Available in 190mm and 370mm widths



Introduction

Flexseal Wraparound Couplings (Patent No. 2314393) are designed for use in the repair of cracked pipes, or those subject to local damage, thereby eliminating the need for removal and replacement of the damaged section.

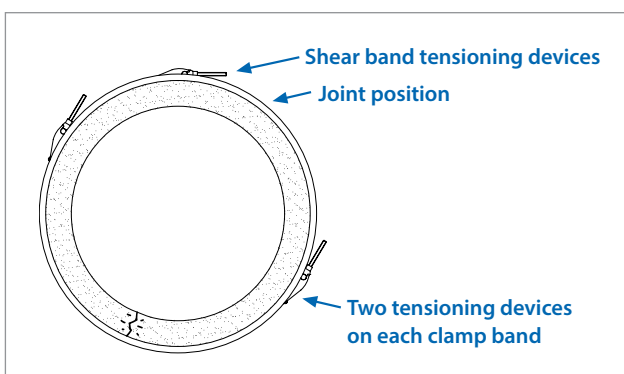
The Wraparound Coupling incorporates a unique pre-formed joint in the EPDM rubber sleeve which provides a reliable watertight connection once the sleeve is joined in accordance with the fitting instructions.

Flexseal can also supply the product with nitrile sleeves for use with effluent which may be contaminated with hydrocarbons. Couplings are available with Grade 1.4301 (304) or Grade 1.4401 (316) stainless steel for improved corrosion protection.

Please contact our sales office for further details.

Benefits

- Manufactured to suit individual requirements
- Repair cracked or damaged pipes without replacing the pipe section
- Used to avoid cutting out sections or dismantling pipe work
- Quick and easy to install
- Reduces cost by cutting time and labour required
- High performance and reliability



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demo movie

Product Range

190mm wide

Reference No.	Size Range (mm)
WRC200	200 - 299
WRC 300	300 - 399
WRC 400	400 - 499
WRC 500	500 - 599
WRC 600	600 - 699
WRC 700	700 - 799
WRC 800	800 - 899
WRC 900	900 - 999
WRC1000	1000 - 1099
WRC1100	1100 - 1199
WRC1200	1200 - 1299
WRC1300	1300 - 1399
WRC1400	1400 - 1499
WRC1500	1500 - 1599
WRC1600	1600 - 1699
WRC1700	1700 - 1799
WRC1800	1800 - 1899
WRC1900	1900 - 1999
WRC2000	2000 - 2099

Note:

The approximate maximum width of the damaged area that can be repaired with a 190mm Wraparound Coupling is 60mm.

370mm wide

Reference No.	Size Range (mm)
MAGWRC300	300 - 399
MAGWRC400	400 - 499
MAGWRC500	500 - 599
MAGWRC600	600 - 699
MAGWRC700	700 - 799
MAGWRC800	800 - 899
MAGWRC900	900 - 999
MAGWRC1000	1000 - 1099
MAGWRC1100	1100 - 1199
MAGWRC1200	1200 - 1299
MAGWRC1300	1300 - 1399
MAGWRC1400	1400 - 1499
MAGWRC1500	1500 - 1599
MAGWRC1600	1600 - 1699
MAGWRC1700	1700 - 1799
MAGWRC1800	1800 - 1899
MAGWRC1900	1900 - 1999
MAGWRC2000	2000 - 2099

Note:

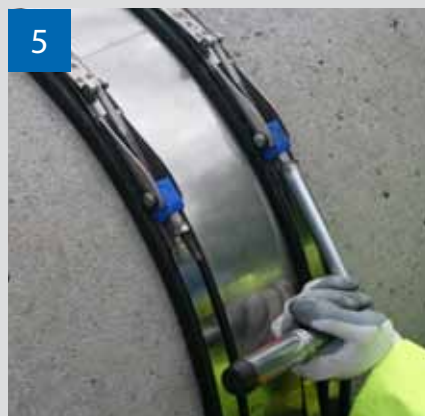
All 370mm wide Wraparound Couplings are supplied with M8 T-Bolt clamps.

The approximate maximum width of the damaged area that can be repaired with a 370mm Wraparound Coupling is 195mm.

Larger sizes are available on request.



Installation Process



Adaptor Couplings

35-420mm diameter



See page 38 for full standard details

Designed for connecting pipes of different materials and outside diameters



Introduction

Flexseal Adaptor Couplings are manufactured to meet and exceed the changing requirements of the drainage marketplace. Adaptor Couplings provide a solution to connecting pipes of different outside diameters. The coupling is a stepped moulded EPDM sleeve that has different diameters at each end. The sleeve is fitted with two 1.4301 (304) stainless steel clamping bands.

Adaptor Couplings can also be used to connect all traditional and new pipe systems including structural walled plastic pipes where pipes of different diameters are to be conjoined.

Flexseal can also supply the product with nitrile sleeves for use with effluent which may be contaminated with hydrocarbons. Couplings are also available with Grade 1.4401 (316) stainless steel for improved corrosion protection.

Like all Adaptor Couplings, Flexseal Adaptor Couplings do not meet with WIS-4-41-01 specifications. For WIS-4-41-01 applications a Flexseal Standard Coupling (SC) and a Bush (BC) should be used.

Please contact our sales office for further details.

Benefits

- Provides a quick and efficient method of connecting pipes of different materials and outside diameters
- Lower cost alternative to using Bushes
- Suitable for use on any pipe material



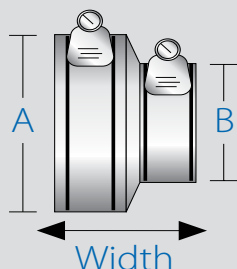
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Product Range

Reference No.	A (mm)	B (mm)	Width (mm)
AC633	53 - 63	40 - 50	90
AC894	75 - 89	53 - 63	90
AC1155	100 - 115	75 - 90	90
AC1201	105 - 120	35 - 45	100
AC1225	110 - 122	48 - 56	100
AC1226	110 - 122	60 - 68	100
AC1221	110 - 122	80 - 95	100
AC5144	110 - 125	100 - 115	100
AC1361	121 - 136	80 - 95	100
AC1362	121 - 136	100 - 115	100
AC4000	121 - 137	110 - 122	100
AC1452	130 - 145	110 - 125	120
AC1552	140 - 155	90 - 105	120
AC1602	144 - 160	110 - 122	120
AC1603	144 - 160	121 - 136	120
AC1603o/s	144 - 160	121 - 136	120
AC1702	155 - 170	110 - 125	120
AC1703	155 - 170	130 - 145	120
AC1922	170 - 192	110 - 122	120
AC1923	170 - 192	121 - 136	120
AC1924	170 - 192	144 - 160	120
AC2000	180 - 200	130 - 145	150
AC6001	180 - 200	144 - 160	150
AC2001	180 - 200	155 - 170	150
AC6000	180 - 200	160 - 180	150
AC2100	185 - 210	100 - 115	150
AC2101	185 - 210	160 - 180	150
AC2152o/s	195 - 215	100 - 115	150
AC2154	190 - 215	150 - 165	150
AC2254	200 - 225	160 - 175	150
AC2352	210 - 235	110 - 122	150
AC2353	210 - 235	121 - 136	150
AC2354	210 - 235	144 - 160	150
AC2355	210 - 235	170 - 192	150
AC2356	210 - 235	190 - 215	150
AC2654	240 - 265	144 - 160	150
AC2655	240 - 265	170 - 192	150
AC2656	240 - 265	190 - 215	150
AC2657	240 - 265	210 - 235	150
AC2754	250 - 275	160 - 175	150
AC2756	250 - 275	200 - 225	150
AC9001	260 - 285	180 - 205	150
AC2904	265 - 290	144 - 160	150
AC2906o/s	265 - 290	185 - 210	150
AC2907	265 - 290	210 - 235	150
AC2908	265 - 290	235 - 260	150
AC2956o/s	270 - 295	185 - 210	150
AC3108W	285 - 310	240 - 265	250
AC3204	295 - 320	144 - 160	150
AC3205	295 - 320	170 - 192	150
AC3207	295 - 320	210 - 235	150
AC3208	295 - 320	240 - 265	150
AC3209	295 - 320	265 - 290	150
AC3351o/s	310 - 335	180 - 205	150
AC3608	335 - 360	240 - 265	165
AC3609	335 - 360	265 - 290	165
AC3600	335 - 360	295 - 320	165
AC3858	360 - 385	240 - 265	165
AC3859	360 - 385	265 - 290	165
AC3850	360 - 385	300 - 325	165
AC4208	395 - 420	240 - 265	165
AC4209	395 - 420	265 - 290	165

o/s = off set

Most sizes available with nitrile sleeves.



When not to use an Adaptor Coupling

In October 2011 the ownership and responsibility of private sewers and lateral drains in England and Wales were transferred from the home owner to the Water Company. Previously any coupling could be used to make a repair under the building regulations but now, following the transfer, repairs have to comply with WIS 4-41-01.

- 1 To comply with the regulations of WIS 4-41-01 an SC Coupling must be used.
- 2 For connections where the pipes to be connected are of different outside diameters a Flexseal Bush or Multibush can be used.
- 3 Adaptor Couplings should not be used when resistance to shear load is required.



WIS-4-41-01



For more information on the Flexseal Multibush, see page 28

Common Applications



AR Adaptor Couplings

For DN150, 225 & 300 Pipe



See page 38 for full standard details

Designed for connecting clay pipe to structural walled and ribbed plastic pipe



Introduction

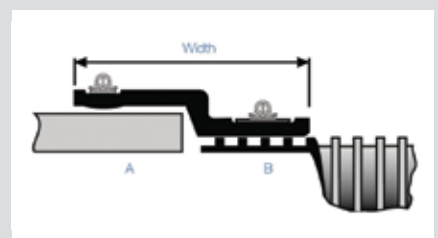
The AR Adaptor Couplings are a special range of Flexseal Adaptor Couplings which incorporate an extra wide clamping band at one end. The clamping band secures against two or more external ribs on the structural walled or ribbed plastic pipe, thereby ensuring a high performance seal is obtained irrespective of the coupling position or movement (See cross section diagram opposite for reference).

Benefits

- Provides a quick and efficient method of connecting pipes of different materials and outside diameters
- Incorporates an extra wide clamping band to ensure a high performance seal against pipe ribs.

Product Range

Reference No.	A (mm)	B(mm)	Width (mm)
For structural walled plastic pipes			
AR1500	170 - 192	160 - 170	100
AR2250	260 - 285	240 - 250	130
AR3000	360 - 385	325 - 335	160



Drain Couplings

40-275mm diameter



See page 38 for full standard details

Designed for drain construction where resistance to earth loadings normally provided by Standard Couplings is not required



Introduction

Flexseal Drain Couplings are used to connect, repair and maintain drainage systems and other small diameter non-pressure pipelines.

Available to suit any pipe material up to 275mm outside diameter, Drain Couplings are designed for use in drainage systems where the resistance to earth loads (usually provided by a Standard Coupling) is not required.

Flexseal Drain Couplings comprise a moulded EPDM sleeve which is attached using Grade 1.4301 (304) wormdrive stainless steel clamping bands at either end.

Flexseal can also supply the product with nitrile sleeves for use with effluent which may be contaminated with hydrocarbons. Couplings are also available with Grade 1.4401 (316) stainless steel for improved corrosion protection.

Like all unshielded couplings, Flexseal Drain Couplings do not meet with WIS-4-41-01 specifications. For WIS-4-41-01 applications a Flexseal Standard Coupling (SC) should be used. Please contact our sales office for further details.

Benefits

- Low cost solution to damaged drainage systems
- Easy to install
- Efficient, airtight and watertight connection



YouTube
Scan here for a
demo movie



Connection of a DN100 Supersleve to a DN100 salt glazed clay pipe

Applications

- Can be used to connect plain ended pipes
- Repair of existing pipe systems by replacing short sections of pipe
- Connects short and cut lengths of pipe
- An inexpensive option when a shielded coupling is not required

Product Range

Reference No.	Size (mm)	Width (mm)	Thickness (mm)
DC 50	40 - 50	90	7
DC 65	50 - 65	90	7
DC 75	60 - 75	108	7
DC 95	80 - 95	110	7
DC115	100 - 115	100	7
DC125	110 - 125	120	7
DC135	120 - 135	120	7
DC150	135 - 150	120	7
DC165	150 - 165	120	7
DC175	160 - 175	120	7
DC185	170 - 185	120	7
DC195	180 - 195	120	7
DC215	200 - 215	150	7
DC225	210 - 225	150	7
DC250	235 - 250	150	7
DC275	260 - 275	150	7

Note: Also available in nitrile rubber



Common Applications

- DC65
 - 50mm (2") POLYPROPYLENE
 - 50mm (2") ABS
 - 50mm (2") CAST IRON (SOIL)
- DC95
 - 82mm (3") PVCu
 - 75mm CAST IRON (SOIL & DRAIN) (SMU)
 - 75mm DUCTILE IRON
 - 75mm GREY IRON
- DC115
 - 110mm PVCu
 - 100mm CAST IRON (SOIL) (SMU/ENSIGN/SML)
 - 100mm STAINLESS STEEL
 - 100mm CORRUGATED PLASTIC
 - 110mm CORRUGATED PLASTIC
- DC125
 - 100mm SUPERSLEVE
 - 100mm CAST IRON (DRAIN)
 - 100mm DUCTILE IRON
 - 100mm GREY IRON
 - 100mm ASBESTOS CEMENT
 - 100mm PITCH FIBRE
 - 100mm TWINWALL PLASTIC
- DC135
 - 100mm SUPERSLEVE
 - 100mm (4") SALT GLAZED WARE
 - 100mm VITRIFIED CLAY
 - 100mm PITCH FIBRE
 - 100mm ASBESTOS CEMENT
- DC150
 - 125mm CAST IRON (SOIL)
 - 125mm TWINWALL PLASTIC
- DC165
 - 160mm PVCu
 - 150mm CAST IRON (SMU/ENSIGN/SML)
 - 150mm STAINLESS STEEL
 - 160mm POLYETHYLENE
- DC175
 - 150mm ULTRA-RIB
 - 150mm QUANTUM
 - 150mm DUCTILE IRON
 - 150mm GREY IRON
 - 150mm TWINWALL PLASTIC (WAVIN/NORFLEX)
 - 150mm CORRUGATED PLASTIC (WAVIN/AQUAPIPE)
- DC185
 - 150mm SUPERSLEVE
 - 150mm PITCH FIBRE
 - 150mm ASBESTOS CEMENT
 - 150mm TWINWALL PLASTIC (B&H/LINFLEX/AQUAPIPE)
 - 150mm CORRUGATED PLASTIC (B&H)
- DC195
 - 150mm SUPERSLEVE
 - 150mm (6") SALT GLAZED WARE
 - 150mm VITRIFIED CLAY
 - 150mm CONCRETE
 - 150mm ASBESTOS CEMENT
 - 150mm PITCH FIBRE

Chemical Couplings

100-1000mm diameter



See page 38 for full standard details

Provide a watertight connection where a chemically inert flexible coupling is required



Introduction

Flexseal Chemical Couplings provide a flexible and watertight connection on underground drainage systems that require a high chemical resistance to a wide range of chemicals.

Manufactured to meet specific site requirements, Flexseal Chemical Couplings are able to withstand the widest possible range of chemicals, due to the shear band and clamping bands encasing a high performance elastomeric sleeve with a chemically resistant one-piece Fluoropolymer (FEP) liner and expanded PTFE seals.

Flexseal Chemical Couplings are available with either Grade 1.4301 (304) or Grade 1.4401 (316) stainless steel clamp and shear bands.

Please contact our sales office for further details.

Benefits

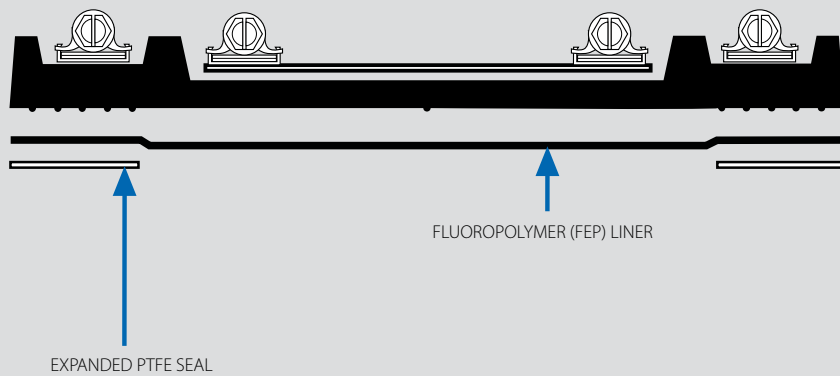
- Meet specific site and contractor requirements
- Watertight connection on chemical drainage systems
- Highly chemical resistant



YouTube
Scan here for a demo movie

Applications

- Used on chemically resistant drainage systems
- Joint flexibility enables pipeline to accommodate settlement during construction, and subsequent differential ground settlement
- Suitable for above ground and underground drainage applications



Installation Process



1 Ensure the pipe ends are free from debris and chamfered to a minimum of 3mm x 45°



2 Slide the sleeve and coupling onto the pipes and butt the pipes together



3 Mark off the positions for the PTFE seals symmetrically, to ensure they are directly underneath the clamp bands



4 Fit the self adhesive seals onto the pipes, overlapping the tape ends



5 Slide the FEP liner over the seals and apply hot air evenly to shrink it onto the pipe



6 Position the coupling centrally over the liner and tighten to the recommended torque

Bushes

11-3000+ mm diameter     See page 38 for full standard details

Designed for use with couplings when connecting pipes of significantly different outside diameters



Introduction

Designed to be used with Flexseal Standard Couplings, Bushes are used when connecting pipes of significantly different outside diameter. Flexseal Bushes can also be used when a reduction or increase in the pipe size is required by the user. The product is available in a range of sizes and thicknesses.

Fabricated Bushes are manufactured from an EN681-1 EPDM rubber strip which is cut and formed into a ring using a vulcanised joint. This extruded strip is stocked in six different thicknesses and can be manufactured to suit specific pipe sizes.

Utilising Flexseal's advanced production processes and techniques, thicker Bushes can be manufactured with a profiled cross section which enhances the seal on rough pipe surfaces and provides a high performance seal on low pressure pipes due to an increase in the effective sealing pressure.

Moulded Bushes are produced using a rubber moulding technique, and are used when there is a significant difference in the outside diameter of the pipes to be connected or if an Adaptor Coupling is not suitable. Flexseal can also supply the product with nitrile sleeves for use with effluent which may be contaminated with hydrocarbons.

Benefits

- Can be manufactured to suit specific site and contractor requirements
- Provide a high performance connection on low pressure pipes
- Versatility of application enables the Bush to be used where a reduction or an increase in pipe size is required
- Meets the WIS standard when used with Flexseal Standard and Shielded Couplings on adoptable sewers
- The use of bushes simplifies an effective and waterproof connection as it equalises the pipe outside diameters to within 5mm



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Tube**
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demo movie

Product Range

Fabricated

Flexseal Bushes can be fabricated in 6 different thicknesses depending on customer requirements - 4mm, 8mm, 12mm, 16mm, 24mm and 32mm. There are two widths available, 70mm and 85mm.

Bush Size	Bush Thickness (mm)					
I.D. (mm)	4	8	12	16	24	32
135 - 199	•					
200 - 299	•	•	•	•		
300 - 399	•	•	•	•	•	•

Fabricated bushes of 300mm ID and larger are available in all thicknesses.

Note:

Also available in nitrile rubber.

Note: The Fabricated Bush size range is an indication of size for ordering purposes only and not the range of one bush. Bushes are manufactured individually to suit exact customer requirements.

Please consult the Flexseal sales department when ordering Bushes.

Moulded

Bush Ref. No.	Size Range I.D. (mm)	NOM. O.D. (mm)
BC19/17	11 - 16	55
BC17/21	15 - 20	55
BC14/26	20 - 25	55
BC09/37	30 - 37	55
BC06/43	35 - 40	55
BC23/65	55 - 65	110
BC17/76	65 - 76	110
BC08/95	85 - 95	110
BC27/65	55 - 65	120
BC12/95	85 - 95	120
BC06/102	92 - 102	115
BC08/105	95 - 105	120
BC20/105	95 - 105	145
BC08/115	105 - 115	130
BC15/115	105 - 115	145
BC07/132	122 - 132	145
BC12/125	115 - 125	149
BC04/160	150 - 160	168
BC19/132	122 - 132	170
BC13/145	135 - 145	170
BC08/160	150 - 160	176
BC06/178	168 - 178	190
BC12/166	156 - 166	190
BC16/164	154 - 164	196
BC26/168	158 - 168	220
BC08/170	160 - 170	185
BC08/180	170 - 180	196
BC08/200M	190 - 200	215
BC33/205	195 - 205	270
BC08/265	255 - 265	280
BC16/250	240 - 250	282
BC20/335	325 - 335	380
BC358/320E	310 - 320	358

Applications

- Bushes are used when pipe outside diameters are significantly different
- Multiple combinations of Bushes are available
- When ordering a Flexseal Bush, please provide the the OD of both pipes
- When conformity with the WIS standard is necessary



Connection of a 150mm clay pipe to a 150mm ultrarib using a BC08/170 bush



Connection of a 435mm Twinwall pipe into a 390mm stormwater tank using an SC445 and a BC24/390 bush

Multibush

100, 150 & 200mm diameter



See page 38 for
full standard details

For the connection of DN100, DN150 & DN200
pipes of differing outside diameters



Introduction

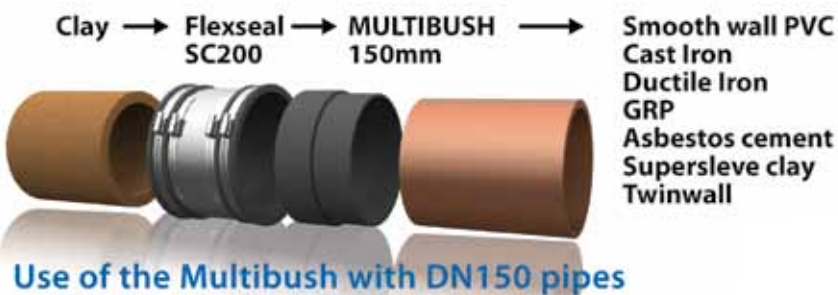
The Flexseal Multibush combines three standard bushes into one product by allowing the user to fold the product into different thicknesses. This is ideal when it's unclear which pipe materials need to be connected as it will connect pipes of any standard wall thickness. For example a 100mm Multibush can act as a 3mm, a 6mm or a 9mm bush and connect a clay to PVC, clay to cast iron, ductile iron to twinwall and many more.

WIS 4-41-01 guidelines specify the use of a shear-banded coupling when connecting sewer pipes, which can present difficulties when connecting pipes of different ODs.

Using a Flexseal Multibush and a Standard Coupling avoids the need to stock different couplings for different connections, and so provides a cost efficient, time efficient and stock efficient pipe connection. No matter which pipe materials you're working with, the Flexseal Multibush will guarantee a secure connection.

Benefits

- Provides a high performance waterproof seal on low pressure pipes
- Versatile - one product, three options
- Avoids the need to stock different couplings for different wall thicknesses
- Ensures compliance with WIS 4-41-01 when used with a Flexseal Standard Coupling on adoptable sewers
- More efficient than alternatives, such as a coupling with an integrated bush
- Manufactured from EN681-1 EPDM Rubber



**You
Tube**
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demo movie

Product Range

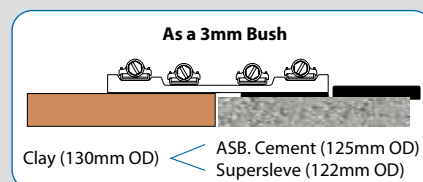
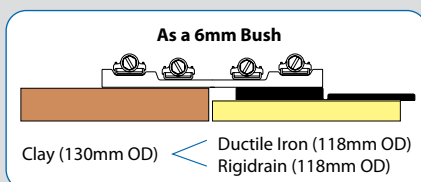
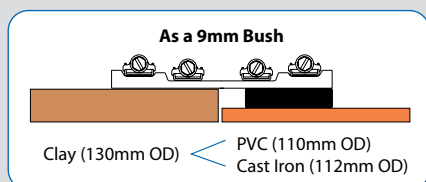
Part No.	Size (mm)
MB100	DN100
MB150	DN150
MB200	DN200



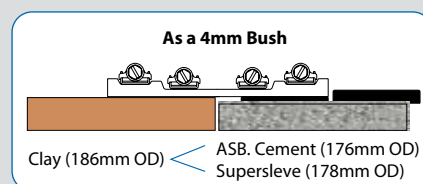
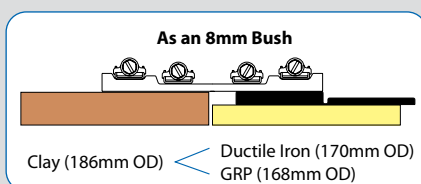
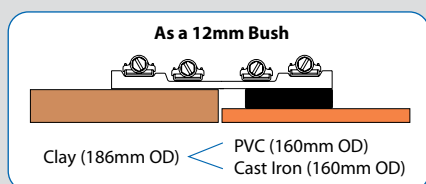
Installation Examples

Using 1x Multibush

Connecting DN100 pipes using SC137

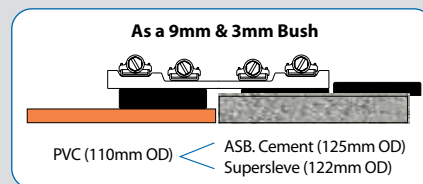
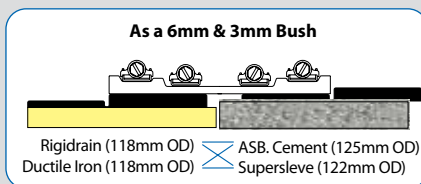
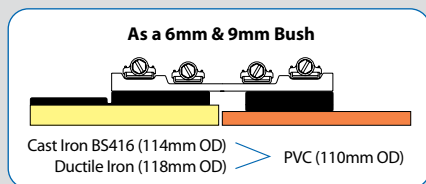


Connecting DN150 pipes using SC200

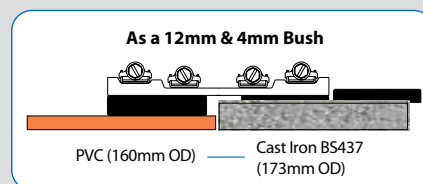
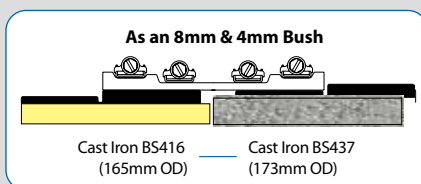
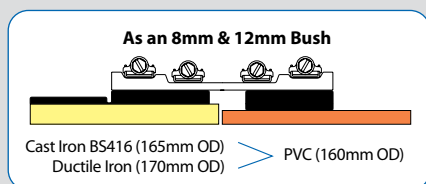


Using 2x Multibush

Connecting DN100 pipes using SC137



Connecting DN150 pipes using SC200



Contact us for details on the full range of pipe connections possible with the Flexseal Multibush

EPDM Plumbing Range

30-118mm diameter



See page 38 for full standard details

Flexible couplings for low pressure plumbing applications



Introduction

The Flexseal Plumbing range is designed and manufactured from high performance EPDM rubber, which provides outstanding product quality. End clamps are provided as standard in Grade 1.4301 (304) stainless steel, and Grade 1.4401 (316) stainless steel end clamps are available upon request.

The range is ideal for the connection of pipes with differing outside diameters whether due to different pipe materials or pipe sizes, and also for use on smaller diameter pipes in most low/non pressure plumbing applications.

The range includes Straight Couplings and Adaptor Couplings from 30-100mm. Elbows, Tees and End Caps can be found on the following page.

Please contact our sales office for further details.

Benefits for Plumbing Applications

- Quick and easy to install
- Provides a reliable flexible seal, watertight and airtight
- Can be used on any pipe material
- Ideal for connecting incompatible pipe systems
- Temperature range - 50°C to 150°C

EPDM Straight Plumbing Couplings



Product Range

Reference No.	Size Range (mm)
PC35	30 - 35
PC43	38 - 43
PC56	48 - 56
PC68	60 - 68
PC76	67 - 76
PC85	76 - 85
PC92	82 - 92
PC100	90 - 100

Common Applications

PC35	35mm COPPER 32mm POLYPROPYLENE	PC76	75mm PVCu
PC43	42mm COPPER 40mm POLYPROPYLENE	PC85	75mm CAST IRON SMU/ENSIGN 76mm COPPER 70mm CAST IRON SML
PC56	50mm POLYPROPYLENE/HDPE 54mm COPPER	PC92	75mm CAST IRON BS416/BS437
PC68	50mm CAST IRON SMU/ENSIGN/SML 50mm CAST IRON BS416/BS437 67mm COPPER 68mm PLASTIC RAINWATER PIPE	PC100	93mm COPPER

EPDM Adaptor Plumbing Couplings



Product Range

Reference No.	Size Range Large End (mm)	Size Range Small End (mm)
PAC0301	30 - 34	24 - 28
PAC0431	38 - 43	30 - 35
PAC0562	48 - 56	38 - 43
PAC0682	60 - 68	38 - 43
PAC0923	82 - 92	48 - 56
PAC0924	82 - 92	60 - 68

Common Applications

COPPER 35mm POLYPROPYLENE 32mm	PAC0301	25mm POLYPROPYLENE
COPPER 35mm POLYPROPYLENE 40mm	PAC0431	40mm POLYPROPYLENE
POLYPROPYLENE 40mm ABS 40mm	PAC0562	54mm COPPER 50mm ABS 50mm POLYPROPYLENE
POLYPROPYLENE 40mm ABS 40mm	PAC0682	50mm CAST IRON BS416/BS437 67mm COPPER 50mm CAST IRON (SMU/ENSIGN/SMU) 50mm ALUMINIUM
COPPER 54mm POLYPROPYLENE 50mm ABS 50mm	PAC0923	82mm PVCu 75mm CAST IRON (BS416/BS437) 75mm CAST IRON (SMU/ENSIGN) 75mm STAINLESS STEEL
CAST IRON (BS416/BS437) 50mm CAST IRON (SMU/ENSIGN/SMU) 50mm ALUMINIUM 50mm COPPER 50mm	PAC0924	82mm PVCu 75mm CAST IRON (BS416/BS437) 75mm CAST IRON (SMU/ENSIGN) 75mm STAINLESS STEEL

EPDM Plumbing Elbow

30-118mm diameter

For low pressure plumbing applications



Product Range

Reference No.	Size Range (mm)
PE38	30 - 38
PE50	40 - 50
PE60	50 - 60
PE90	78 - 90
PE118	106 - 118

Common Applications

PE38 — 32mm PP
35mm copper
32mm ABS
32mm PE

PE50 — 40mm ABS

PE60 — 54mm (2") COPPER
50mm CAST IRON (SMU/ENSGN/SML)
50mm CAST IRON (SOIL)
50mm PVCu
50mm ABS
50mm GALVANISED STEEL
63mm ALUMINIUM

PE90 — 70mm CAST IRON (ENSGN/SML)
75mm CAST IRON (SOIL)
75mm CAST IRON (SMU)
82mm PVCu
75mm GALVANISED STEEL

PE118 — 100mm CAST IRON (SMU/ENSGN/SML)
100mm CAST IRON (SOIL)
110mm PVCu
100mm GALVANISED STEEL
108mm (4") COPPER
100mm POLYETHYLENE

EPDM Plumbing Tee

30-118mm diameter

For low pressure plumbing applications



Product Range

Reference No.	Size Range (mm)
PT38	30 - 38
PT50	40 - 50
PT60	50 - 60
PT90	78 - 90
PT118	106 - 118

Common Applications

PT38 — 32mm PP
35mm copper
32mm ABS
32mm PE

PT50 — 40mm ABS

PT60 — 54mm (2") COPPER
50mm CAST IRON (SMU/ENSGN/SML)
50mm CAST IRON (SOIL)
50mm PVCu
50mm ABS
50mm GALVANISED STEEL
63mm ALUMINIUM

PT90 — 70mm CAST IRON (ENSGN/SML)
75mm CAST IRON (SOIL)
75mm CAST IRON (SMU)
82mm PVCu
75mm GALVANISED STEEL

PT118 — 100mm CAST IRON (SMU/ENSGN/SML)
100mm CAST IRON (SOIL)
110mm PVCu
100mm GALVANISED STEEL
108mm (4") COPPER
100mm POLYETHYLENE

EPDM End Cap

28-360mm diameter

For a watertight cap on a pipe end

Introduction

Flexseal EPDM End Caps are ideal for capping pipe ends, cleanouts and open test pipes. Suitable for both above and below ground applications, Flexseal end caps can be used on any pipe material. The convex face allows the cap to withstand greater pressure for testing purposes and minimises ballooning. Flexseal EPDM End Caps are available as standard with a Grade 1.4301(304) stainless steel clamping system. Grade 1.4401 (316) available on request.

Air and Water Testing

Flexseal End Caps can be used for both air and water testing of pipelines provided the limitations of the product are taken into account.

The pressures used during testing are usually very low and as a result the end cap is able to resist this pressure without ballooning excessively.

However it is important to brace the end cap to minimise the inflation and to prevent the end cap sliding off the end of the pipe which is possible with smooth walled pipes.

The clamp is capable of sealing up to a pressure of 0.6bar. At this pressure, bracing should be used as a precautionary measure.

Flexseal End Caps can be supplied with an Air Test Nipple as pictured.



Product Range

Reference No	Size Range (mm)	Ref No with Test Nipple	Reference No	Size Range (mm)	Ref No with Test Nipple
REC36	28 – 36	REC36T	REC173	163 – 173	REC173T
REC45	37 – 45	REC45T	REC190	180 – 190	REC190T
REC56	48 – 56	REC56T	REC212	200 – 212	REC212T
REC68	60 – 68	REC68T	REC250	235 – 250	REC250T
REC76	67 – 76	REC76T	REC270	255 – 270	REC270T
REC85	76 – 85	REC85T	REC315	300 – 315	REC315T
REC92	82 – 92	REC92T	REC360	345 – 360	REC360T
REC115	105 – 115	REC115T			
REC135	125 – 135	REC135T			
REC165	155 – 165	REC165T			

Materials & Performance

Elastomer Materials

Materials - Flexseal couplings are manufactured using a highly versatile EPDM rubber sleeve with stainless steel clamping bands. The sleeve is used to create an air and watertight seal on the pipe surface and the stainless steel clamping bands produce the compressive force that forms the seal. Stainless steel shear bands are used in some of the product range to resist lateral movement across the joint caused by ground settlement.

Elastomers - An elastomer can be broadly defined as a natural or synthetic elastic material. The elastomer compounds used in our coupling sleeves meet the requirements of BS EN 681:1. This is a requirement of the coupling manufacturing standards and ensures that the EPDM rubber compounds used meet specified physical performance criteria and as such the longevity and performance of the products is assured.

EPDM Rubber (Ethylene Propylene Diene Monomer)

Advantages:

- A high performance synthetic rubber.
- Ethylene Propylene Diene Monomer has excellent resistance to ozone, weathering and sunlight.
- Excellent heat resistance and very good flexibility at low temperature.
- EPDM generic temperature range is -50°C/+150°C.
- Flexseal state a continuous operation at 80°C. Intermittent at 100°C.
- Has a good general chemical resistance and can be used above ground.
- Inherently has good resistance to alkalis, acids and oxygenated solvents.
- Superior resistance to water & steam.

Limitations:

- EPDM has poor resistance to oil, gasoline and hydrocarbon solvents.

Remarks:

Due to its unique combination of physical properties, EPDM can be used in an unusually broad range of products. Aside from applications requiring resistance to oil and hydrocarbon solvents, there is scarcely an application in which EPDM is totally unsuitable. Because of its excellent resistance to ozone, sunlight and severe weather conditions, EPDM is ideal for outdoor service.

SBR Rubber (Styrene Butadiene)

Styrene Butadiene (SBR) is occasionally used by Flexseal as an alternative to EPDM for products with an underground use only.

Advantages:

- Styrene Butadiene has excellent impact strength: very good resilience, tensile strength, abrasion resistance and flexibility at low temperature.
- SBR generic temperature range is -45°C/+100°C.

Limitations:

- Styrene Butadiene is not as suitable for above ground applications and has a lower heat resistance.
- Poor resistance to ozone and sunlight: very little resistance to mineral oil, oil, gasoline and hydrocarbon solvents.

Remarks:

SBR is much like natural rubber in most of its properties. The physical properties meet the requirements of EN681:1 and therefore this elastomer is a good alternative to EPDM but cannot be used above ground. Also the material does not have the same resistance to high temperature as EPDM.

NBR Rubber (Nitrile or Acrylonitrile Butadiene)

Nitrile or Acrylonitrile Butadiene (NBR) can be offered as an alternative material for instances when the drainage effluent is contaminated by hydrocarbons.

Advantages:

- Very good resistance to oils, petrol, diesel and greases.
- NBR generic temperature range is -30°C/+100°C.
- Good resistance to alkalis and acids.

Limitations:

- Poor resistance to ozone and sunlight.

Remarks:

The physical properties of the compound meet the requirements of EN 681:1 NBR is used in specific application for effluent contaminated with hydrocarbons, oils, fats and greases. It should be noted that the nitrile compound is classed as medium grade and is therefore only suitable for drainage applications.

Stainless Steel - Grade 1.4301 (304) and Grade 1.4401 (316)

The term stainless steel is applied to a range of iron based alloys which rely on their chromium content for resistance to corrosion. The stainless steels used with our Flexible Couplings are classed as Austenitic Stainless Steels. The term Austenitic steel refers to the microstructure of the steel caused by the alloying elements. The steels used by Flexseal have 17%-18% Chromium content and 8% -11% Nickel content and are in full compliance with the manufacturing standards of BS EN 295:4 and WIS4-41-01. Such steels offer a good combination of corrosion resistance, formability and weldability.

Product is normally supplied with Grade 1.4301 (304) stainless steel. Grade 1.4401 (316) can be fitted where a higher resistance to corrosive elements is required.

Environmental Resistance Properties

	EPDM	SBR	NBR
Oxidation Resistance	G-E	F-G	F-G
Ozone Resistance	E	P	P
Weathering Resistance	E	F	F-G
Sunlight Resistance	E	F	P-F
Water Resistance	E	G-E	G-E
Flame Resistance	P	P	P
Heat Resistance	G-E	F-G	G

Chemical Resistance Properties

	EPDM	SBR	NBR
Oil and Petrol	P	P	G-E
Animal and Vegetable Oils	G	F	G-E
Alcohols	F-G	G	F-G
Alkalies	G-E	F	G-E
Acids	G	F-G	G

E = Excellent G = Good F = Fair P = Poor

Flexseal Clamping Mechanisms

Flexseal use four types of stainless steel clamp bands throughout the product ranges. Stronger clamps are required as the coupling diameter increases.

Worm Drive Clamps

Worm drive mechanisms are used with two types of clamp and have fully perforated bands to allow self cleaning of any debris present on the clamps. Flexseal class these two types as medium and high duty clamps. Medium duty clamps are used for tightening torques of 6Nm. The high duty clamps are used when higher tightening torques are required and work at 10Nm and 13Nm.

Bolted Clamps

The third type of clamp replaces the worm drive with an M8 bolt and these are used on smaller diameter couplings requiring higher hydrostatic performance. A suitable lubricant is used on the bolt to reduce friction and increase the screw efficiency and also to prevent galling associated with stainless steel. These can be tightened up to 20Nm. These are used on small diameter Magnum Couplings.

The fourth type is a unique M8 T-Bolt mechanism designed by Flexseal for use with larger couplings. This provides a more robust and efficient mechanism that can be easily assembled and tightened on site. These clamping mechanisms are fitted to all Large Diameter Couplings and Magnum Couplings 600mm and above. They are utilised at 20Nm and 25Nm.

This design sets the bolt at a tangent to the coupling; optimising the conversion of the applied torque to tension in the band and so maximising the contact pressure between the seal and the pipe surface.

Both anchor points for the bolt are circular and their ability to rotate gives perfect alignment of the bolt as the clamp band is tightened.

All housing components are manufactured from Grade 1.4401 (316) stainless steel and the bolt thread is lubricated with grease that both reduces friction in the thread and prevents galling between the nut and the bolt. (This phenomenon is a characteristic of stainless materials).

All couplings are supplied with a suitable spanner that can be used with standard 3/8" square drive tools.



Pressure Table

Coupling Type	Coupling Sizes	Maximum Internal Pressure	
		Bar	psi
Standard Couplings	SC65-SC620	2.5	36.26
Wide Standard Couplings	SC225W-SC620W	2.5	36.26
Large Couplings	LC600-LC900	1.5	21.75
	LC1000-LC1300	1.0	14.50
Wide Large Couplings	LC600W-LC900W	1.5	21.75
	LC1000W-LC1300W	1.0	14.50
Magnum Couplings	MAG300	4.0	58.01
	MAG400-MAG500	2.5	36.26
	MAG600-MAG900	1.5	21.75
	MAG1000-MAG1300	1.0	14.50
Wraparound Couplings	All Sizes	0.6	8.70
Drain Couplings	All Sizes	0.6	8.70
Adaptor Couplings	All Sizes	0.6	8.70
Plumbing Couplings	All Sizes	0.6	8.70
Chemical Couplings	All Sizes	0.6	8.70

Torque Table

Coupling Type	Coupling Sizes	Torque (Nm)
Standard Couplings	SC65 – SC200	6Nm
	SC215 – SC385	10Nm
	SC395 – SC620	13Nm
Extra Wide Couplings	SC225W – SC385W	10Nm
	SC395W – SC620W	13Nm
Large Diameter Couplings	LC600 – LC900	20Nm
	LC1000 +	25Nm
Extra Wide Large Diameter Couplings	LC600W – LC900W	20Nm
	LC1000W	25Nm
Magnum Couplings	MAG300 – MAG400	13Nm
	MAG500 – MAG900	20Nm
	MAG1000 +	25Nm
Wraparound Couplings - 190mm Wide	WRC300	10Nm
	WRC400 – WRC500	13Nm
	WRC600 – WRC900	20Nm
	WRC1000 +	25Nm
Wraparound Couplings - 370mm Wide	MAGWRC300 – MAGWRC400	13Nm
	MAGWRC500 – MAGWRC900	20Nm
	MAGWRC1000 +	25Nm
Drain Couplings	DC50 – DC250	6Nm
	DC275	10Nm
Adaptor Couplings	Up to AC2756	6Nm
	AC9001 – AC4209	10Nm
Plumbing Couplings	All Sizes	6Nm

Pipe Diameter Table

Pipe Classification	Nominal Sizes (DN)															
	100	125	150	175	180	200	225	250	300	350	375	400	450	500	525	600
Salt Glazed Ware / Vitrified	130 - 133		186 - 190	220		245 - 248	269 - 278		364 - 380		451	480 - 506	542 - 552	607		730
Old Scottish Clay	139															
Supersleve / Superseal / Hepseal	122		178				263		357			492	542	602		716
Denseal																
Concrete			200				286 - 305		375 - 425		457 - 520		525 - 590		660 - 690	760 - 795
Asbestos Cement (L)	125		182	208		232	260	288						547		
(M)									339		423	437	484	551		
(H)									346		429	440	490	559		
Pitch Fibre	125		181	238												
PVCu	110		160			200		250	315			400	450	500		
A B S	110		160	200		225		280	315							
Polyethylene	111	126	161		181	201	226	251	317	357		402	453	503		
Vulcathene	114		168													
Lightweight Corrugated PVCu	110		170				250									
Ultra-Rib			170		200		250		335	400				560		
Ultra-Fortis			170				250		335							
Twin Wall (Polypipe)	119	150	180			235	260		360			455	490	590		690
Ridgidrain (Polypipe)	118		178			234	267		355		435	457	512	569		674
Ridgisewer (Polypipe)												457	511	568		672
Polysewer (Polypipe)			160				250		330							
Quantum PVC Twin Wall (Sewer)			160 - 175				250 - 275		330 - 340							
Corripipe Twin Wall (JFC)			180				268		355		426		510			675
Twin Wall corrugated HDPE (Wavin)							266		354							
Ductile Iron BSEN598	118		170			222	258	274	326	378	403	429	480	532		635
Cast Iron (SMU/Ensign /SML)	112	137	162			212		277	329			431		534		637
Cast Iron BS437 (Drain)	119		173				256									
Cast Iron BS416 (Soil)	114	140	165			210										
Grey Iron BS4622	118		170			222		274	326			429	480	532		
Stainless Steel	110		160													
Copper	108															
Aluminium	102															

Ensure Pipe Diameters are accurately measured on site prior to ordering. These may be subject to change by the manufacturer.

Standards & Accreditations



Flexseal operates a Quality Management System which complies with the requirements of BS EN 9001:2008 (certificate No: FM91289), and an Environmental Management System which complies with the requirements of ISO 14001:2004 (certificate No. EMS 563613)

The scope for each is 'Design, development, manufacture and supply of pipe connection and water management systems. Repairs of pipes, sewers and water infrastructure'.

The following manufacturing standards are applicable to the Flexseal range of couplings.

Standard: BS EN 295:4 Vitrified clay pipes and fittings and pipe joints for drains and sewers: Requirements for special fittings, adaptors and compatible accessories



- Applicable Market: Europe
- These products are manufactured under Kitemark licence No: KM22943
- Products Covered: All types of pipe couplings and bushes
- Sizes Covered: Nominal sizes 100mm to 1000mm
- Relevant Flexseal products are:-

Type 1 Drain Couplings	DC115 - DC275
Adaptor Couplings	AC1155 - AC4209
Type 2B (Shear Banded Couplings)	SC115 - LC1000
Type 2B Extra Wide Couplings	SC225W - LC1000W
Bushes	Bushes with nominal sizes 100mm to 1000mm

Standard: WIS4-41-01 Specification for flexible couplings for gravity sewerage and drainage pipes



- Applicable Market: UK
- These products are manufactured under Kitemark licence No: KM33192
- Products Covered: Shear banded couplings and bushes
- Sizes Covered: Nominal sizes 100mm to 620mm
- Relevant Flexseal products are:-

Type 2B (Shear Banded Couplings)	SC115 - SC620
Bushes	Bushes with nominal sizes 100mm to 620mm

Standard: AS/NZS 4327 Metal-banded flexible couplings for low pressure applications



- Applicable Market: Australia and New Zealand
- These products are manufactured under Watermark licence No: WMKT22225
- Products Covered: Coupling and bushes supplied with grade 1.4401 stainless steel bands
- Sizes Covered: Nominal sizes up to 600mm
- Relevant Flexseal products are:-

Type 1 Drain Couplings	DC50A - DC275A
Adaptor Couplings	AC633A - AC4209A
Type 2B (Shear Banded Couplings)	SC115A - SC600A
Type 2B Extra Wide Couplings	SC225WA - SC600WA
Bushes	Bushes with nominal sizes up to 600mm

Standard: DIN EN 295:4 Vitrified clay pipes and fittings and pipe joints for drains and sewers: Requirements for special fittings, adaptors and compatible accessories.



- Applicable Market: Europe but through the German market.
- These products are manufactured under the 'U' Mark scheme with product surveillance undertaken by MPA NRW
- Products Covered: All types of pipe couplings and bushes
- Sizes Covered: Nominal sizes 100mm to 1000mm
- Relevant Flexseal products are:-

Type 1 Drain Couplings	DC115 - DC275
Adaptor Couplings	AC1155 - AC4209
Type 2A (Shear Banded Couplings)	TC135 - TC590
Type 2B (Shear Banded Couplings)	SC115 - LC1000
Type 2B Extra Wide Couplings	SC225W - LC1000W
Bushes	Bushes with nominal sizes 100mm to 1000mm

Standard: KIWA BRL 5220 Flexible rubber couplings for non-pressure sewerage systems



- Applicable Market: Netherlands
- These products are manufactured under Kiwa Komo certificate No: K20804
- Products Covered: Couplings and bushes in both EPDM and Nitrile rubbers
- Sizes Covered: Nominal sizes up to 1300mm
- Relevant Flexseal products are:-

Type 1 Drain Couplings	DC65 - DC275
Adaptor Couplings	AC1221 - AC4209
Type 2B (Shear Banded Couplings)	SC115 - SC620
Type 2B Extra Wide Couplings	LC600W - LC1200W
Bushes	Assorted moulded bushes

Standard: Approval of Sanitary Materials Godkendelse VA2.23/18397 and VA2.23/18250



- Applicable Market: Denmark
- Products Covered: Plumbing couplings, shear banded couplings and adaptor couplings supplied with grade 1.4401 stainless steel bands
- Sizes Covered: Nominal sizes 30mm to 300mm
- Relevant Flexseal products are:-

Plumbing Couplings	PC35 - PC100 / PAC0301 - PAC0924
Adaptor Couplings	AC633A - AC2908A
Type 2B (Shear Banded Couplings)	SC135 - TC590

Standard: European Technical Approval (ETA-12/0410)



- Applicable Market: Europe
- Products Covered: All types of pipe couplings and bushes
- Sizes Covered: Nominal sizes 30mm to 1000mm
- Relevant Flexseal products are:-

Type 1 Drain Couplings	DC115 - DC275
Adaptor Couplings	AC1155 - AC4209
Type 2A (Shear Banded Couplings)	TC135 - TC590
Type 2B (Shear Banded Couplings)	SC115 - LC1000
Type 2B Extra Wide Couplings	SC225W - LC1000W
Plumbing Couplings	PC35-PC100
Plumbing Adaptor Couplings	PAC0301-PAC0924
Bushes	Bushes with nominal sizes 100mm to 1000mm

Standard: Approval of Sanitary Materials Norsk Accreditation No: 0425



- Applicable Market: Norway
- Products Covered: All couplings supplied with grade 1.4401 stainless steel bands
- Sizes Covered: Nominal sizes 100mm to 400mm
- Relevant Flexseal products are:-

Type 1 Drain Couplings	DC115A - DC275A
Adaptor Couplings	AC633A - AC4209A
Type 2B (Shear Banded Couplings)	SC115A - SC410A

Standard: BS EN 681:1 Elastomeric seals - Material requirements for pipe joint seals used in water and drainage applications. Vulcanized rubber



- Applicable markets: All
- Certification is held for all the elastomeric compounds used
- Products Covered: All elastomeric products covered by the manufacturing standards listed above

CE Marking



The CE mark is a claim that a construction product can be legally placed on the market of members states of the European Economic Area (EEA) and is based on the principal that the product is fit for purpose.

Flexseal use the CE mark on those couplings which meet the requirements of the harmonised standard BS EN 295. A Declaration of Performance is available to give to customers if required which states the products listed are in conformity with the provisions of the Construction Products Regulation when installed in accordance with the installation instructions contained in the product documentation.

Flexseal Ranges...

Flexible Couplings



Flexseal manufacture the largest range of flexible drainage couplings in the marketplace, supplying UK and International markets. Standard, Extra Wide, Adaptor, Drain plus other drainage coupling ranges are available up to 3m in diameter.

Channel Drainage



Flexseal supply a comprehensive range of domestic and commercial channel drainage systems and accessories. A drainage channel system for any application.

Lateral Connections



Flexseal's range of saddle connections and ancillaries guarantee a secure connection between a lateral pipe and a larger diameter main pipe.

Plumbing Range



Flexseal manufacture a range of pipe / plumbing couplings in PVC and high performance EPDM plus accessories for replacing and repairing plumbing systems with ease and efficiency.

Pipe Seals



The Flexseal Pipe Seal range of products ensures a waterproof seal when a pipe passes through the wall of a tank, pipe or other underground structure. All products will guarantee a secure connection, every time.

Pipe Doctor



The WRC Approved no-dig patch repair kit from Source One Environmental provides a quick and easy solution to repairing damaged drainage and sewer systems, without the need for excavation.

Proud to be a



Drainage Couplings • Plumbing Couplings • Lateral Connections • Pipe Seals • Channel Drainage

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