

WLC Couplings - Spiral Wound Pipe



Our unique coupling profile has been specifically designed to allow penetration into irregular surfaces and weld lines commonly found in spiral wound pipe. This allows even compression around the full peripheral of the pipe and maintains a higher pressure in comparison to standard coupling profiles.

Coupling Design

Couplings for Spiral Wound pipe up to and including 1599mm are usually produced at 300mm wide. Larger couplings are 345mm wide.

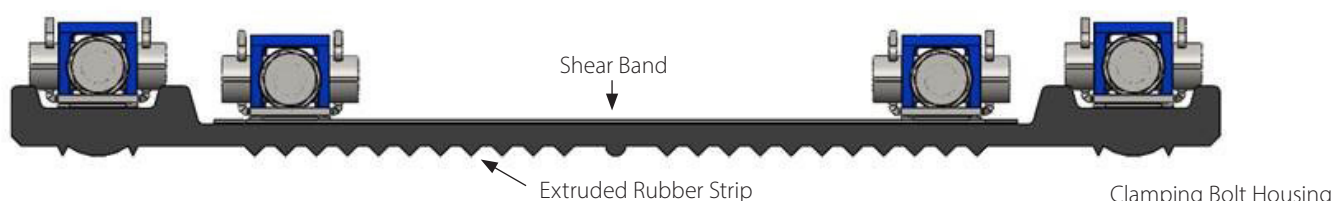
- Sizes 400mm to 699mm use single bolt housings on each clamp band and worm drive adjusters on the shear band.
- Sizes 700mm to 999mm use single bolt housings on the clamp bands and the shear bands.
- Sizes 1000mm+ use double bolt housings on both clamp bands and shear bands.
- Sizes 1600mm+ use double bolt housings on both clamp bands and shear bands, but uses 345mm wide seals.

These arrangements allow the coupling to accommodate the manufacturing tolerances of the pipes. Typically, the single bolt arrangement allows 15mm of diametrical adjustment and this doubles to 30mm for the double bolted couplings over 1000mm.

Size Range (mm)	Coupling Width	Clamp Band		Shearband	
		Type	Torque	Type	Torque
400-699	300mm	Single M8 Bolt	20Nm	Worm Drive Clamps	13Nm
700-999	300mm	Single M8 Bolt	20Nm	M8 Bolts Single Adjustment	20Nm
1000-1599	300mm	Double M8 Bolts	25Nm	M8 Bolts Double Adjustment	25Nm
1600+	345mm	Double M8 Bolts	25Nm	M8 Bolts Double Adjustment	25Nm

Testing

X-Section Through 300mm Sealing Strip



X-Section Through 345mm Sealing Strip



Product Code	WLCXXX
Description	WLC Coupling
Size Range	400mm+
Material	EPDM 1.4301 (304) Stainless Steel
Max Temperature	75°C
Max Pressure	400-1049 - up to 2bar pressure 1050-2399 - up to 1bar pressure 2400+ - up to 0.5bar pressure
Standards	WIS 4-41-01 BS EN 681-1:1996 BS EN 295-4:2013 BS EN 10088-2:1995 BS EN 16397

Material

The rubber seals are manufactured from EPDM and comply with BS EN 681. Stainless Steel Shearbands and Clamps are supplied in Grade 1.4301 (304) Stainless steel. 316 Stainless Steel available on request.

Preparation

- The pipes should be clean and free from dirt and debris where the couplings are positioned.
- Any damage or score marks present in the location of the coupling should be smoothed out.
- The bedding should be removed from the floor of the trench in the location of the coupling.
- Ensure the couplings are kept as clean as possible prior to installation

Installation Tools

- Tape measure
- Marker
- Torque Wrench with a 13mm and 8mm socket for worm drive clamps.



Installation



Easy installation steps

1. To ensure that the coupling is fitted centrally over the joint, use a dimension of half the width of the coupling and mark a pipe to indicate the final position of the coupling.
2. If the coupling has been stored for a long period of time or subjected to the elements it may be necessary to re-lubricate. For this we recommend lubricating underneath both the clamp and shearband using a soap based lubricant. Bolts should be lubricated using copper-slip or similar.
3. Fit the rubber sleeve or coupling over pipe end and slide a short distance along the pipe.
4. Position pipe in the trench.
5. Position next pipe in trench, keep the gap between the pipe ends to a minimum. (Ensure that a coupling has been positioned at the other end of this pipe in preparation for the next joint).
6. Slide the coupling over the joint. This is best achieved by rotating the coupling around the pipe in alternate directions whilst pushing in the direction of the joint. Line the edge of the coupling with the mark previously applied on the pipe.
7. If the steel bands are already fitted on the coupling then ensure they are sitting within the locating ribs and slide them round to ensure all tensioning devices are in accessible positions.
8. If the steel bands are not fitted then slide one end under the pipes, draw both ends together and locate the trunnion in the housing. Ensure they are sitting within the correct locating ribs. Move the tensioning devices to accessible positions.
9. Tighten up all tensioning devices gradually and evenly to the required torque indicated on the coupling label. Ensure that the screw tails slide in the housing during tightening. Check the torque on all tensioning devices prior to backfilling.
10. Replace the granular bedding under the coupling and compact into the void to provide continuous support along the pipe.
11. Because of the relatively high coefficient of thermal expansion of the HDPE pipe material it is important, particularly when installation is carried out during hot weather, that back filling is completed as far as possible and the pipe is allowed to cool to ambient soil temperatures. The tensioning devices should then be tightened to their required torque when the pipe has fully contracted for 24 hours.



Connecting Spiral Wound pipe to a different pipe material

WLC couplings can be used on any pipe combination regardless of which has the largest diameter.

Spiral Wound is the smaller pipe

Fernco have a dedicated bush that is designed to seal onto the surface of Spiral Wound pipe, this bush should be fitted in direct contact with the Spiral Wound pipe. Any other bushes required (fig 2) can be normal Fernco bushes and applied on top of the Spiral Wound bush. The Spiral Wound bushes have been specifically designed to give the same sealing properties as the Spiral Wound profile as sush can allow compression on the undulating surfaces of the Box pipe.

Figure 1
Single bush required



Figure 2
Multiple bushes required



Typical arrangement for bushes when the Spiral Wound pipe has the smallest outside diameter

Spiral Wound is the larger pipe

Standard bushes can be used along with the Spiral Wound coupling when two dissimilar pipes are being jointed and the bush is in contact with the non-Spiral Wound pipe.

Figure 3
Single bush required

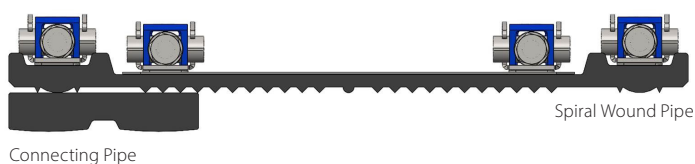


Figure 4
Multiple bushes required



Typical arrangement for bushes when the Spiral Wound pipe has the largest outside diameter

General Information

Quality, Standards and Approvals

Fernco has been certified by the British Standards Institution (BSI) as a company of assessed capability, with a quality management system which meets the requirements of BS EN ISO 9001:2015

Fernco UK, part of a global group of companies, are the leaders in wastewater connection innovation; utilising the most advanced methods and techniques for precision-manufactured products, all of which comply with or exceed relevant British and European standards to ensure reliability and sustainability.

Environment

Fernco operate Environmental Management Systems which are certified to ISO 14001: 2015.

Technical Support

Fernco have a team of product experts on hand to support all customers with technical support and advice.

Contact Fernco Technical Department:

Tel: +44 (0) 1226 344100

Email: technical@fernco.co.uk

Enquiries

UK Sales:

Tel: +44 (0) 1226 340 888

Email: sales@fernco.co.uk

International Sales:

Tel: +44 (0) 1226 344 105

Email: export.dept@fernco.co.uk