

Fernco Shear Band Couplers

Technical Guide D10.4

Fernco Shear Band Couplers provide a robust, easy to install, and long lasting solution for drainage pipe connection and repair.



06.24 | DRAINAGE | D10.4 SHEAR BAND COUPLERS

Applications

- Joint connection
- Repair of pipelines commonly used in sewerage, drainage and other underground low pressure applications
- Can be used with most common pipe materials (clay, concrete, cast and ductile iron, asbestos cement, plastic, fibreglass)

Product Attributes

- The rubber sleeve construction offers joint flexibility and joint alignment
- Extremely good chemical resistance
- Suitable for high temperatures (80°C constant, 100°C intermittent)
- Rubber bushes can be used to increase the outside diameter of the pipe to better suit the shear band

Approvals/Standards

- AS/NZS 4327:1995 Type B approval (Australian Standard 5 ticks)
- Various European Standards and accreditations

Quality

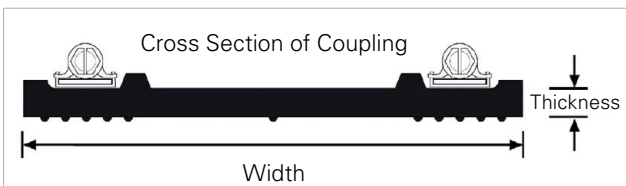
- ISO 9001:2008 Quality Management Systems

We are the supply partner of choice for New Zealand's civil construction industry, specialising in water and infrastructure based solutions.

Shear band couplers save you installation time, while ensuring you have a reliable and long-lasting solution for pipe connection and repair.

Standard Shear Band Couplings

- Standard Shear Band Couplings are specifically designed to connect and repair pipelines of different materials or sizes used in sewerage, drainage and other underground applications.
- When excavation work is required to repair a damaged pipe, Standard Couplings will reduce the amount of time required and minor differences in pipe diameter can be accommodated. Larger diameter differences can be installed using a suitably sized bush.
- Tolerances of up to 25mm on some couplers are available. With accompanying bush tolerances can be taken out to around 75mm.
- The combination of a ductile design and excellent sealing properties enables the Standard Coupling to provide a reliable seal on rough pipe surfaces e.g. concrete, and a high performance seal on smooth surfaces.
- The available sizes are listed in Table 1.
- The body is made from EPDM rubber and the bands are made using type 316 stainless steel.
- Standard Shear Band Couplers can be tailor-made up to 2.4m - refer to Technical Guide PF5.2: Shear Band Large Pipe Couplers.
- Couplers up to 600mm rated up to 2.5bar pressure. Couplers 620mm to 865mm rated 1.5bar pressure.



Bushes

- Standard Shear Band Couplings can be combined with bushes in order to act as an adaptor between pipelines with widely differing outside diameters. A bush will be required by the contractor when connecting pipes of different materials or sizes i.e. when outside diameters of the joints exceeds 12mm or if an adaptor coupling is not available.
- Bushes can be provided in two types: **Fabricated or Moulded.**

Site Fabricated:

- Fabricated from an elastomeric strip, Fernco's Fabricated Bushes are manufactured to suit specific on site dimensions
- Material for Fabricated Bushes is available in 6, 8 and 32mm thicknesses and are shown with PM (per metre) next to the code in Table 6.

Moulded:

- Moulded bushes are available in a range of sizes for common applications. See Table 5.

Installation - Refer to page 4

TABLE 1

Shear Band Couplers to suit S1 PVC to Concrete/earthenware

Code	Size Range (mm)	Width (mm)	Thickness (mm)	Max Pipe Gap (mm)
EWKC115	100 - 115	100	7	20
EWKC125	110 - 125	120	7	20
EWKC137/1	122 - 137	120	7	20
EWKC150	125 - 150	120	7	45
EWKC165	140 - 165	120	7	45
EWKC180	160 - 185	120	7	45
EWKC200/1	175 - 200	150	7.5	45
EWKC225	200 - 225	150	7.5	45
EWKC250	225 - 250	150	7.5	45
EWKC265	240 - 265	150	7.5	45
EWKC270	250 - 275	150	7.5	45
EWKC265-290	265 - 290	150	7.5	45
EWKC310	285 - 310	185	9	50
EWKC335	310 - 335	185	9	50
EWKC345	320 - 345	185	9	50
EWKC360	335 - 360	185	9	50
EWKC385	360 - 385	185	9	50
EWKC425	400 - 425	185	9	50
EWKC445	420 - 445	185	9	50
EWKC465	440 - 465	185	9	50
EWKC490	465 - 490	185	9	50
EWKC510	485 - 510	185	9	50
EWKC540	515 - 540	185	9	50
EWKC560	535 - 560	185	9	50
EWKC600	575 - 600	185	9	50
EWKC620	595 - 620	185	9	50
EWKC710	685 - 710	190	9	50
EWKC735	710 - 735	300	9	150
EWKC865	840 - 865	300	9	150

Note: Larger sized shear bands are available. Please refer to PF5.2 Fernco Shear Band Large Pipe Couplers

**TABLE 2** Examples of Common Shear Band Bushes to suit S1 PVC to Concrete

Pipe NB (mm)	S1 PVC O.D (mm)	Concrete O.D (mm)	Shearband Code	Shearband Range	Bush Code**	Bush Thickness
225	250	282	EWKC290	265 - 290	EWKB16/225	16
300	315.5	367	EWKC385	360 - 385	EWKB32.70.PM*	32

*Note: Use 1090mm of bush material to fabricate.

** Thickness / maximum pipe O.D the coupler will fit on

TABLE 3 Examples of Common Shear Band Bushes to suit S1 PVC to Earthenware

Pipe NB (mm)	S1 PVC O.D (mm)	Earthenware O.D (mm)	Shearband Code	Shearband Range	Bush Code	Bush Thickness
100	114.3	131	EWKC137/1	122 - 137	EWKB8.70PM*	8
150	160.3	186	EWKC200/1	175 - 200	EWKB16/164	16

*Note: Use 362mm of bush material to fabricate

TABLE 4 Moulded Bushes

Bush Code	Description	Size Range I.D.	Nominal O.D. (mm)
EWKB8.170	M/Bush 8mm suit O.D 170mm PVC	160 - 170	185
EWKB15.115	M/Bush 15mm suit O.D 115mm PVC	105 - 115	145
EWKB16.164	M/Bush 16mm suit O.D 164mm PVC	154 - 164	196
EWKB16.225	M/Bush 16mm suit O.D 225mm PVC	215 - 225	257
EWKB24.250	M/Bush 24mm suit O.D 250mm PVC	240 - 250	298
EWKB24.315	M/Bush 24mm suit O.D 315mm PVC	305 - 315	363

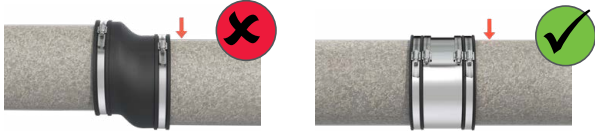
TABLE 5 Material for Fabricated Bushes - per metre

Bush Code	Description	Thickness (mm)	Width (mm)
EWKB8.70PM	Bush Material 8mm thick 70mm wide	8	70
EWKB16.70.PM	Bush Material 16mm thick 70mm wide	16	70
EWKB24.70.PM	Bush Material 24mm thick 70mm wide	24	70
EWKB32.70.PM	Bush Material 32mm thick 70mm wide	32	70

NOTE: You can fabricate a bush to suit your specific application using the bush material above. Contact Hygrade Water if you require further assistance.

Installation

Correctly fitted shear band couplers give the connection added protection against deflection that could cause the pipes to become mis-aligned.



Shear band coupler installation video



QR code will take you to the installation video

Installing moulded couplers



1. Mark both pipes, from the end to be connected, half the width of the coupling, less the required joint gap, to account for angular deflection. Use 10mm as a guide.



2a. Slide the coupling fully over one of the pipes.



2b. Install fabrication bush if needed



2c. If replacing a cut section of pipe, slide both couplings over each of the existing drain pipes.



3. Align the pipes and slide the coupling onto the other pipe, ensuring the coupling face and marked line are flush. Tighten this clamp band.



4. Position the second pipe, ensuring the coupling face and marked line are flush. Tighten this clamp band.



5. Tighten all clamp bands to the recommended torque in sequence across the width of the coupling starting with the central shear band. Tamp the bedding under the pipe and re-tighten prior to backfilling.

TABLE 6 Recommended tightening torque for standard couplings

Size Range	Torque (Nm)
EWKC115 - EWKC200	6Nm
EWKC215 - EWKC385	10Nm
EWKC395 - EWKC865	13Nm