FIG. C-3 Lightweight Flexible Coupling

SPF/ANVIL

The C-3 Coupling is a flexible light weight style which is ideal for fire protection services and other services where low pressure and ambient temperature conditions are expected.

For the latest UL/ULC listed, LPCB, VdS and FM Approved pressure ratings versus pipe schedule, see www.anvilintl.com or contact your local Anvil Representative.

c UL us LISTED

FM APPROVED

VdS

For Listings/Approval Details and Limitations, visit our website at www.anvilintl.com or contact an Anvil® Sales Representative.

LPCB UKAS PRODUCT CERTIFICATION 0007

LPS 1219: Issue 3.1
Cert/LPCB ref. 519a/16

MATERIAL SPECIFICATIONS

HOUSING:
Ductile Iron conforming to ASTM A-536, Grade 65-45-12

BOLTS:
SAE J429, Grade 5, Zinc Electroplated
ISO 898-1, Class 8.8, Zinc Electroplated followed by a Yellow Chromate Dip

HEAVY HEX NUTS:
ASTM A563, Grade A, Zinc Electroplated
ISO 898-2, Class 8.8, Zinc Electroplated followed by a Yellow Chromate Dip

COATINGS:
☐ Rust inhibiting paint Color: ORANGE (standard)
☐ Hot Dipped Zinc Galvanized (optional)
☐ Other available options: Example: RAL3000 or RAL9000 Series
For other coating requirements contact an Anvil Representative.

LUBRICATION:
☐ Standard Gruvlok
☐ Gruvlok Xtreme™ required for dry pipe systems and freezer applications.

GASKETS: Materials
Properties as designated in accordance with ASTM D-2000.

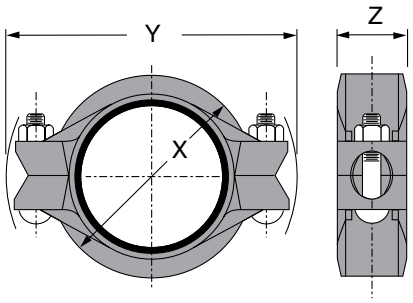
☐ **Pre-Lubricated Grade "E" EPDM, Type A Gasket** (Violet color code)
-40°F to 150°F (Service Temperature Range)(-40°C to 65°C)
Recommended for wet and dry (oil free air) pipe fire protection sprinkler systems. For dry pipe systems and freezer applications, Gruvlok Xtreme™ Lubricant is required.

GASKET TYPE:
☐ Standard C Style
☐ Flush Gap

PROJECT INFORMATION	APPROVAL STAMP
Project:	☐ **Approved**
Address:	☐ **Approved as noted**
Contractor:	☐ **Not approved**
Engineer:	**Remarks:**
Submittal Date:	
Notes 1:	
Notes 2:	

FIG. C-3 Lightweight Flexible Coupling

SPF/ANVIL



C-3 LIGHTWEIGHT FLEXIBLE COUPLING

Nominal Size	Pipe O.D.	Max. Working Pressure▲	Max. End Load	Range of Pipe End Separation	Deflection From ℄		Coupling Dimensions			Coupling Bolts		Specified Torque §		Approx. Wt. Ea.
					Per Coupling	Pipe	X	Y	Z	Qty.	Size	Min.	Max.	
In./DN(mm)	*In./mm*	*PSI/bar*	*Lbs./kN*	*In./mm*	*Degrees*	*In./Ft. - mm/m*	*In./mm*	*In./mm*	*In./mm*		*In./mm*	*Ft.-Lbs./N-m*		*Lbs./Kg*
1 25	1.315 33.4	300 20.7	407 1.81	0-1/32 0-0.79	1° 22'	0.29 23.8	2 1/2 64	4 102	1 3/4 44	2	3/8 x 2 1/4 M10 x 57	30 40	45 60	1.2 0.5
1 1/4 32	1.660 42.2	300 20.7	649 2.89	0-1/32 0-0.79	1° 5'	0.23 18.8	2 3/4 70	4 1/4 111	1 3/4 44	2	3/8 x 2 1/4 M10 x 50	30 40	45 60	1.3 0.6
1 1/2 40	1.900 48.3	300 20.7	851 3.78	0-1/32 0-0.79	0° 57'	0.20 16.5	3 76	4 1/2 117	1 3/4 44	2	3/8 x 2 1/4 M10 x 50	30 40	45 60	1.5 0.7
2 50	2.375 60.3	300 20.7	1,329 5.91	0-1/32 0-0.79	0° 45'	0.16 13.1	3 3/8 66	5 140	1 7/8 48	2	3/8 x 2 1/4 M10 x 57	30 40	45 60	1.7 0.8
2 1/2 65	2.875 73.0	300 20.7	1,948 8.66	0-1/32 0-0.79	0° 37'	0.13 10.9	3 7/8 99	5 1/2 146	1 7/8 48	2	3/8 x 2 1/4 M10 x 57	30 40	45 60	2.0 0.9
3 O.D. 76.1	*2.996* 76.1	*300* 20.7	*2,115* 9.41	*0 1/32* 0-0.79	*0° 36'*	*0.13* 10.4	*4 1/8* 105	*5 3/4* 146	*1 7/8* 48	*2*	*3/8 x 2 1/4* M10 x 57	*30* 40	*45* 60	*1.9* 0.9
3 80	3.500 88.9	300 20.7	2,886 12.84	0-1/32 0-0.79	0° 31'	0.11 8.9	4 1/2 114	6 1/8 156	1 7/8 48	2	1/2 x 2 1/2 M10 x 63	80 110	100 150	2.6 1.2
4 100	4.500 114.3	300 20.7	4,771 21.22	0-3/32 0-2.38	1° 12'	0.25 20.8	6 1/8 156	8 203	2 1/4 57	2	5/8 x 3 1/2 M12 x 70	100 135	130 175	4.1 1.9
5 1/2 O.D. 139.7	*5.500* 139.7	*300* 20.7	*7,127* 31.70	*0 3/32* 0-2.38	*0° 59'*	*0.20* 17.0	*6 7/8* 175	*9 5/16* 237	*2 1/4* 57	*2*	*5/8 x 3 1/2* M16 x 89	*100* 135	*130* 175	*5.5* 2.5
5 125	5.563 141.3	300 20.7	7,292 32.44	0-3/32 0-6.4	0° 58'	0.20 16.8	7 178	9 5/16 237	2 1/4 57	2	5/8 x 3 1/4 M16 x 85	100 135	130 175	5.7 2.6
6 1/2 O.D. 165.1	*6.500* 165.1	*300* 20.7	*9,955* 44.28	*0 3/32* 0-2.38	*0° 50'*	*0.17* 13.1	*7 7/8* 200	*10 1/2* 267	*2 1/4* 57	*2*	*5/8 x 3 1/4* M16 x 85	*100* 135	*130* 175	*6.1* 2.8
6 150	6.625 168.3	300 20.7	10,341 46.00	0-3/32 0-2.38	0° 49'	0.17 14.1	8 1/4 210	10 3/4 273	2 1/4 57	2	5/8 x 3 1/4 M16 x 85	100 135	130 175	6.1 2.8
8 200	8.625 219.1	300 20.7	17,528 77.97	0-3/32 0-2.38	0° 37'	0.13 10.9	10 5/8 270	13 1/2 343	2 1/2 64	2	3/4 x 4 1/4 M20 x 110	130 175	180 245	11.9 5.4

Range of Pipe End Separation and Angular Deflection values are for roll grooved pipe and may be doubled for cut groove pipe.

1. Working pressure and/or end load are total allowable, based on standard weight steel pipe, roll or cut grooved.

2. One time field test pressure may be increased to 1.5 times the figures listed above.

§ – For additional Bolt Torque information see Technical Data Section.

▲ – Working Pressure Ratings are for reference only and based on Sch. 10 and Sch. 40 pipe. For the latest UL/ULC, FM, VdS and LPCB pressure ratings versus pipe schedule, please visit anvilintl.com or contact your local Anvil Representative.

⚠ WARNING

For dry pipe systems and freezer applications lubrication of the gasket is required, Gruvlok® Xtreme™ Lubricant is required.

FIG. C-3 Lightweight Flexible Coupling

The instructions are based on pipe grooved in accordance with SPF® grooving specifications. Check pipe ends for proper groove dimensions and to assure that the pipe ends are free of indentations and projections which would prevent proper sealing.

ALWAYS USE A GRUVLOK® SPF/ANVIL® LUBRICANT FOR PROPER COUPLING ASSEMBLY. Thorough lubrication of the external surface of the gasket is essential to prevent pinching and possible damage to the gasket. For temperatures above 150°F (65˚C) and below 32°F (0˚C) use Gruvlok® SPF/Anvil® Xtreme Lubricant™ and lubricate all gasket surfaces, internal and external. See Gruvlok SPF/Anvil Lubricants in the Technical Data section of the Anvil SPF catalog for additional important information.

1 Check and lubricate gasket

Check gasket to be sure it is compatible for the intended service. Apply a thin coating of Gruvlok SPF/Anvil Xtreme Lubricant to the outside and sealing lips of the gasket. Be careful that foreign particles do not adhere to lubricated surfaces.

2 Gasket installation

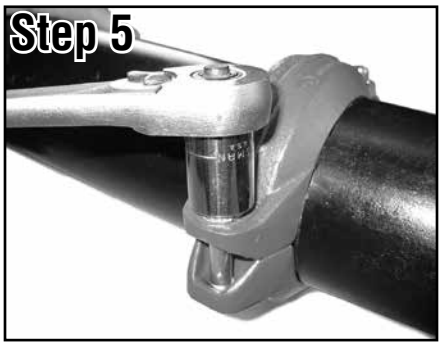
Slip the gasket over the pipe end, making sure the gasket lip does not overhang the pipe end.

3 Alignment

After aligning the two pipe ends together, pull the gasket into position, centering it between the grooves on each pipe. Gasket should not extend into the groove on either pipe.

4 Housings

With one nut unthreaded to the end of the bolt, unthread the other nut completely and swing the coupling housing halves over the gasket, making sure the housing keys engage the grooves. Insert the bolt and turn the nuts finger tight.



5 Tighten nuts

Tighten the nuts alternately and equally to the specified bolt torque. The housing bolt pads must make metal-to-metal contact.

Caution: Uneven tightening may cause the gasket to pinch.

6 Assembly is complete

Visually inspect the pipe joint to assure the coupling keys are fully engaged in the pipe grooves and the bolt pads are in firm even metal-to-metal contact on both sides of the coupling.

Specified Bolt Torque

Specified bolt torque is for the oval neck track bolts used on SPF® couplings. The nuts must be tightened alternately and evenly until fully tightened.

Caution: Proper torquing of coupling bolts is required to obtain specified performance. **Over torquing the bolts may result in damage to the bolt and/or casting which could result in pipe joint separation.** Under torquing the bolts may result in lower pressure retention capabilities, lower bend load capabilities, joint leakage and pipe joint separation. Pipe joint separation may result in significant property damage and serious injury.

ANSI Specified Bolt Torque

Bolt Size	Wrench Size	Specified Bolt Torque*
In.	*In.*	*Ft.-Lbs*
3/8	11/16	30-45
1/2	7/8	80-100
5/8	1 1/16	100-130
3/4	1 1/4	130-180

* Non-lubricated bolt torque

Metric Specified Bolt Torque

Bolt Size	Wrench Size	Specified Bolt Torque*
mm	*mm*	*N-M*
M10	16	40-60
M12	22	110-150
M16	24	135-175
M20	30	175-245

* Non-lubricated bolt torque