

FIG. C-4 Rigid Coupling



The C-4 Rigid Coupling is our standard coupling and is designed for rigid piping applications. The C-4 is specially designed to provide a rigid, locked-in pipe connection to meet the specific demands of rigid design steel pipe.

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.



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

LPS 1219: Issue 3.1
Cert/LPCB ref. 519a/02

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:

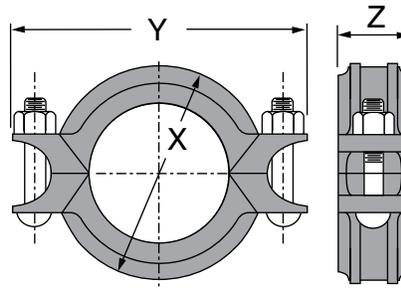
- Standard C Style
- Flush Gap

PROJECT INFORMATION

APPROVAL STAMP

Project:	<input type="checkbox"/> Approved
Address:	<input type="checkbox"/> Approved as noted
Contractor:	<input type="checkbox"/> Not approved
Engineer:	Remarks:
Submittal Date:	
Notes 1:	
Notes 2:	

FIG. C-4 Rigid Coupling



C-4 RIGID COUPLING												
Nominal Size	Pipe O.D.	Max. Working Pressure ▲	Max. End Load	Range of Pipe End Separation	Coupling Dimensions			Coupling Bolts		Specified Torque §		Approx. Wt. Ea.
					X	Y	Z	Qty.	Size	Min.	Max.	
In./DN(mm)	In./mm	PSI/bar	Lbs./kN	In./mm	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	0-1/2 0-0.79	2 3/8 60	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	0-1/2 0-0.79	2 5/8 67	4 1/4 108	1 23/32 44	2	3/8 x 2 1/4 M10 x 57	30 40	45 60	1.4 0.6
1 1/2 40	1.900 48.3	300 20.7	851 3.78	0-1/2 0-0.79	2 7/8 73	4 1/2 114	1 23/32 44	2	3/8 x 2 1/4 M10 x 57	30 40	45 60	1.5 0.7
2 50	2.375 60.3	300 20.7	1,329 5.91	0-1/2 0-0.79	3 1 1/2 85	5 3/16 132	1 23/32 44	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	0-1/2 0-0.79	3 3/8 98	5 1 1/16 144	1 23/32 44	2	3/8 x 2 1/2 M10 x 63	30 40	45 60	1.9 0.9
3 O.D. 76.1	2.996 76.1	300 20.7	2,115 9.41	0-3/2 0-0.79	4 7/8 105	6 1/8 156	1 7/8 48	2	3/8 x 2 1/2 M10 x 63	30 40	45 60	2.2 1.0
3 80	3.500 88.9	300 20.7	2,886 12.84	0-1/2 0-0.79	4 3/4 121	6 3/8 168	2 51	2	3/8 x 2 1/2 M10 x 63	30 40	45 60	2.4 1.1
4 100	4.500 114.3	300 20.7	4,771 21.22	0-3/2 0-2.38	5 7/8 149	7 3/4 197	2 1/8 54	2	3/8 x 2 1/2 M10 x 63	30 40	45 60	3.2 1.4
5 1/2 O.D. 139.7	5.500 139.7	300 20.7	7,127 31.70	0-3/2 0-2.38	6 7/8 175	9 1/4 235	2 1/16 52	2	1/2 x 3 M12 x 76	80 110	100 150	5 2.2
5 125	5.563 141.3	300 20.7	7,292 32.44	0-3/2 0-2.38	6 1 1/16 176	9 1/16 230	2 1/16 52	2	1/2 x 3 M12 x 76	80 110	100 150	4.5 2.0
6 1/2 O.D. 165.1	6.500 165.1	300 20.7	9,955 44.28	0-3/2 0-2.38	8 3/8 207	10 3/8 264	2 3/8 54	2	1/2 x 3 M12 x 76	80 110	100 150	5.8 2.6
6 150	6.625 168.3	300 20.7	10,341 46.00	0-3/2 0-2.38	8 1/4 210	10 3/8 264	2 3/8 54	2	1/2 x 3 1/4 M12 x 82	80 110	100 150	5.8 2.6
8 200	8.625 219.1	300 20.7	17,528 77.97	0-3/2 0-2.38	10 1/2 267	13 1/4 337	2 1/2 64	2	5/8 x 3 1/2 M16 x 89	100 130	130 175	10.8 4.9
10 250	10.750 273.1	300 20.7	27,229 121.12	0-3/2 0-2.38	13 331	16 3/4 425	2 5/8 67	2	7/8 x 5 M22 x 125	180 245	220 298	21.5 9.8
12 300	12.750 323.9	300 20.7	38,303 170.38	0-3/2 0-2.38	15 3/8 391	19 1/4 489	2 5/8 67	2	7/8 x 5 1/2 M22 x 140	180 245	220 298	27.4 12.4

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

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

Other sizes available, contact an Anvil Representative.

WARNING

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

FIG. C-4 Rigid 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 one pipe, 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. The gasket should not extend into the groove on either pipe.



4 Housings
Remove one nut and bolt and loosen the other nut. Place one housing over the gasket, making sure the housing keys fit into the pipe grooves. Swing the other housing over the gasket and into the grooves on both pipes, making sure the tongue and recess of each housing is properly mated. Re-insert the bolt and run-up both nuts finger tight.



5 Tighten nuts
Securely tighten nuts alternately and equally to the specified bolt torque, keeping the gaps at the bolt pads evenly spaced.
Caution: Uneven tightening may cause the gasket to pinch. Gasket should not be visible between segments after bolts are tightened.



6 Assembly is complete
Visually inspect the pipe joint to assure the coupling keys are fully engaged in the pipe grooves. The bolt pads are to have equal gaps on each side 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			Metric Specified Bolt Torque		
Bolt Size	Wrench Size	Specified Bolt Torque*	Bolt Size	Wrench Size	Specified Bolt Torque*
In.	In.	Ft.-Lbs	mm	mm	N-M
3/8	11/16	30-45	M10	16	40-60
1/2	7/8	80-100	M12	22	110-150
5/8	1 1/16	100-130	M16	24	135-175
7/8	1 7/16	180-220	M22	34	245-300

* Non-lubricated bolt torque * Non-lubricated bolt torque