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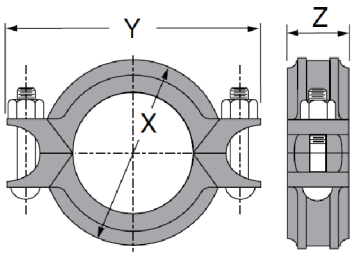
FIG. C-4 Rigid Coupling

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 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/20

MATERIAL SPECIFICATIONS

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

BOLTS:
SAE J429, Grade 5, Zinc Electroplated (standard)

HEAVY HEX NUTS:
ASTM A563, Grade A, Zinc Electroplated, Violet Dyed (standard)

COATINGS:
- Rust inhibiting paint Color: ORANGE (standard)
- Hot Dipped Zinc Galvanized (optional)

LUBRICATION:
- Standard Gruvlok
- Gruvlok Xtreme™

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 66°C) Recommended for wet and dry (oil free air) fire protection sprinkler systems. For freezing conditions, Gruvlok Xtreme™ Lubricant is required.

GASKET TYPE:
Grade “EP” EPDM Flush Gap Gasket (Green color code)
-40°F to 230°F (Service Temperature Range) (-40°C to 110°C)
Recommended for wet and dry (oil free air) fire protection sprinkler systems. For freezing conditions, Gruvlok Xtreme™ Lubricant is require

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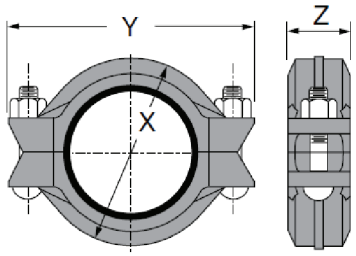
FIG. C-4 Rigid Coupling



C-4 Rigid Coupling

Nominal Size	Pipe O.D.	Max. Working Pressures	Max. End Load	Range of Pipe End Separation	Coupling Dimensions			Coupling Bolts		Approx. Wt. Ea.
					X	Y	Z	Qty.	Size	
In./DN(mm)	In./mm	PSI/bar	Lbs./Kg	In./mm	In./mm	In./mm	Lbs./Kg	In./mm	In./mm	
1 25	1.315 33.4	300 20.7	407 1.81	0-1/32 0-0.79	2 3/8 60	4 102	1 3/4 44	2	3/8 x 2 1/4 M10 x 57	1.2 0.5
1 1/4 32	1.660 42.2	300 20.7	649 2.89	0-1/32 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	1.4 0.6
1 1/2 40	1.900 48.3	300 20.7	851 3.78	0-1/32 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	1.5 0.7
2 50	2.375 60.3	300 20.7	1,329 5.91	0-1/32 0-0.79	3 11/32 85	5 3/16 132	1 23/32 44	2	3/8 x 2 1/4 M10 x 57	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	3 7/8 98	5 11/16 144	1 23/32 44	2	3/8 x 2 1/2 M10 x 63	1.9 0.9
3 O.D. 76.1	2.996 76.1	300 20.7	2,115 9.41	0-1/32 0-0.79	4 1/8 105	6 1/8 156	1 7/8 48	2	3/8 x 2 1/2 M10 x 63	2.2 1.0
3 80	3.500 88.9	300 20.7	2,886 12.84	0-1/32 0-0.79	4 1/2 114	6 1/4 159	1 3/4 44	2	3/8 x 3 M10 x 70	2.4 1.1
4 100	4.500 114.3	300 20.7	4,771 21.22	0-3/32 0-2.38	5 3/4 146	7 7/16 189	1 7/8 48	2	3/8 x 3 M10 x 70	3.5 1.6
5 1/2 O.D. 139.7	5.500 139.7	300 20.7	7,217 31.70	0-3/32 0-2.38	6 7/8 175	9 1/4 235	2 1/16 52	2	1/2 x 3 M12 x 76	5 2.2
5 125	5.563 141.3	300 20.7	7,292 32.44	0-3/32 0-2.38	6 13/16 173	8 15/16 227	1 7/8 48	2	1/2 x 3 M12 x 70	4.5 2.0
6 1/2 O.D. 165.1	6.500 165.1	300 20.7	9,955 44.28	0-3/32 0-2.38	8 1/8 207	10 3/8 264	2 1/8 54	2	1/2 x 3 M12 x 76	5.8 2.6
6 150	6.625 168.3	300 20.7	10,341 46.00	0-3/32 0-2.38	7 7/8 200	10 1/16 256	1 15/16 49	2	1/2 x 3 M12 x 70	5.4 2.4
8 200	8.625 219.1	300 20.7	17,528 77.97	0-3/32 0-2.38	10 1/8 257	12 7/16 316	2 3/8 60	2	1/2 x 3 M12 x 70	9.5 4.3
10 250	10.750 273.1	300 20.7	27,229 121.12	0-3/32 0-2.38	13 331	16 3/4 425	2 5/8 67	2	7/8 x 5 M22 x 125	21.5 9.8
12 300	12.750 323.9	300 20.7	38,303 170.38	0-3/32 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	27.4 12.4

Range of Pipe End Seperation 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.
– Working Pressure Ratings are for reference only and based on Sch. 10 and Sch. 40 pipe.

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

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FIG. C-4 Rigid Coupling

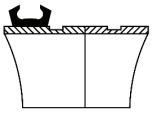
The instructions are based on pipe grooved in accordance with SPF® grooving specifications. Check pipe ends for proper groove dimensions and to assure that the pipe ends are free of indentations and projections which would prevent proper sealing.

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.

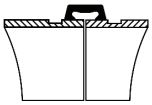
1 Check and lubricate gasket
Check gasket to be sure it is compatible for the intended service. Apply a thin coating of Gruvlok lubricant to the exterior surface and sealing lips of the gasket. Some applications require lubrication of the entire gasket surface. Be careful that foreign particles do not adhere to lubricated surfaces. Pre-lubricated gaskets do not require lubrication.

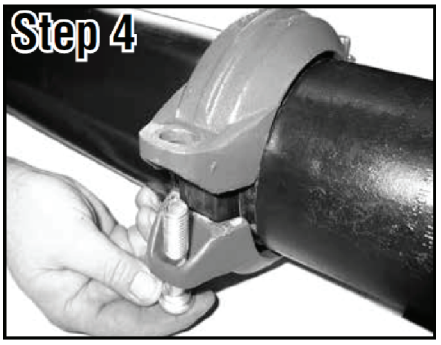
NOTICE: Gruvlok Xtreme Lubricant must be applied when used in dry pipe systems or freezer applications.

2 Gasket installation
Slip the gasket over the pipe end making sure the gasket lip does not overhang the pipe end. On couplings 10” and larger it may be easier to turn the gasket inside out then lubricate and slide the gasket over the pipe end as shown.

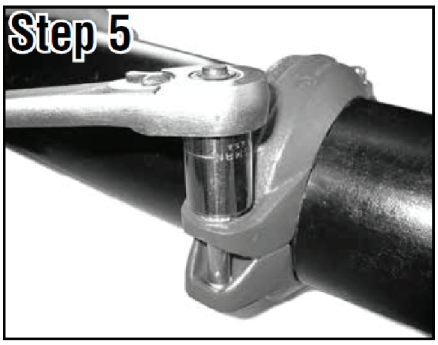


3 Alignment
After aligning the two pipe ends, pull the gasket into position centering it between the grooves on each pipe. Gasket should not extend into the groove on either pipe.
On couplings 10” and larger, flip or roll the gasket into centered position.





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. Reinsert the bolt and run-up both nuts finger tight.

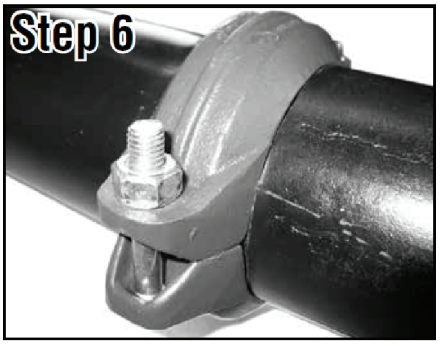


5 Tighten nuts
Securely tighten nuts alternately and equally, keeping the gaps at the bolt pads evenly spaced.

NOTICE: Uneven tightening may cause the gasket topinch. Gasket should not be visible between segments after bolts are tightened.

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
7/8	1 7/16	180-220

* Non-lubricated bolt torque



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.

NOTICE: Visually inspect both sides of the coupling to ensure gaps between bolt pads are evenly spaced and are parallel. Anvy deviations must be corrected before placing coupling into service.

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