Rigid Coupling
Fig. C-4

LPS 1219: Issue 3.1
Cert/LPCB ref. 119a/03

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.asc-es.com or contact an ASC Engineered Solutions™ Sales Representative.

Material Specifications

Housing
Ductile Iron conforming to ASTM A536, 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

Gasket Materials
Properties as designated in accordance with ASTM D2000

☐ **Pre-Lubricated Grade "E" EPDM, Type A C-Style 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.

☐ **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 required.

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

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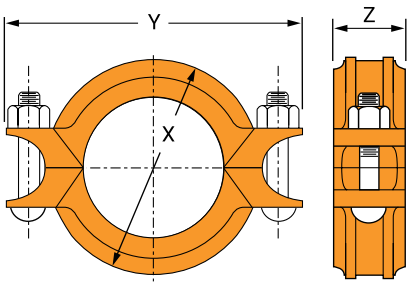

Nominal Size	Pipe O.D.	Max. Working Pressure ▲	Max. End Load	Range of Pipe End Separation	Coupling Dimensions			Coupling Bolts		Approx. Wt. Ea.
					X	Y	Z	Qty.	Size	
In./DN(mm)	In./mm	PSI/bar	Lbs./kN	In./mm	In./mm	In./mm	In./mm		In./mm	Lbs./kg
1 25	1.315 33.4	300 20.7	407 1.81	0-1/32 0-0.79	2 3/8 60	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	7,127 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

Note:

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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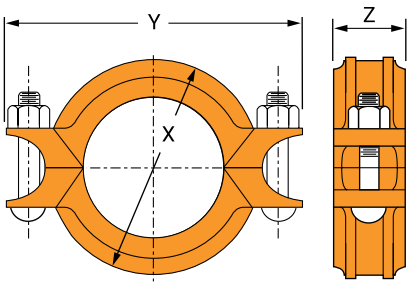
Fig. C–4

(continued)



Nominal Size	Pipe O.D.	Max. Working Pressure ▲	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./kN	In./mm	In./mm	In./mm	In./mm		In./mm	Lbs./kg
6½ O.D. 165.1	6.500 165.1	300 20.7	9,955 44.28	0-3/32 0-2.38	8⅛ 207	10⅜ 264	2⅛ 54	2	½ 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	7⅞ 200	10 1/16 256	1 15/16 49	2	½ 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	10⅛ 257	12 7/16 316	2⅜ 60	2	½ 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	16¾ 425	2⅝ 67	2	⅞ 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	15⅜ 391	19¼ 489	2⅝ 67	2	⅞ x 5½ M22 x 140	27.4 12.4

Note:

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.

Fig. C-4 Rigid Coupling

WARNING

Read and understand all instructions before use.

Ensure system is drained and depressurized before installation or service.

Use appropriate personal protective equipment.

Failure to follow these instructions could result in serious personal injury and/or property damage.

Check pipe ends for proper grooved dimensions and to ensure that the pipe is free of indentations, projections, or other imperfections that would prevent proper sealing of the gasket.

1 Check and lubricate gasket

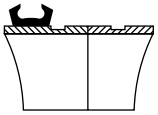
Check gasket to be sure it is compatible for the intended service. Apply a thin coating of Gruvlok lubricant to the exterior surface and sealing lips of the gasket. Some applications require lubrication of the entire gasket surface. Be careful that foreign particles do not adhere to lubricated surfaces.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

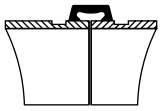
On couplings 10" and larger it may be easier to turn the gasket inside out then lubricate and slide the gasket over the pipe end as shown.



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.



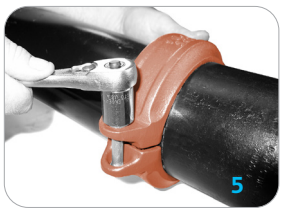
4 Housings

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 to pinch. Gasket should not be visible between segments after bolts are tightened.



ANSI Specified Bolt Torque

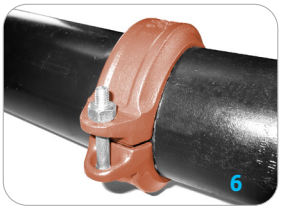
Bolt Size	Wrench Size	Specified Bolt Torque*
In.	In.	Ft.-Lbs
3/8	11/16	30-45
1/2	7/8	80-100
5/8	1 1/16	100-130
7/8	1 7/16	180-220

* 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. Any deviations must be corrected before placing coupling into service.



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