Gruvlok®
Figures 74-CL and 74-SL Rigid Couplings

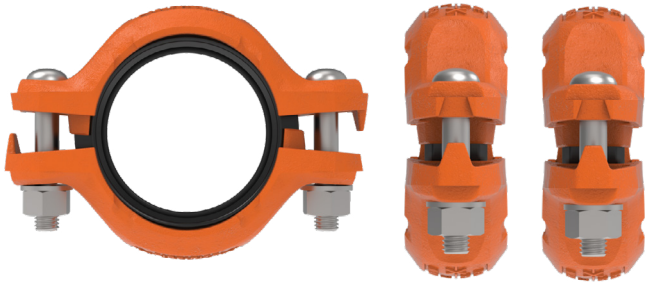


Fig. 74-CL



CenterLOK Pressure Responsive Gasket

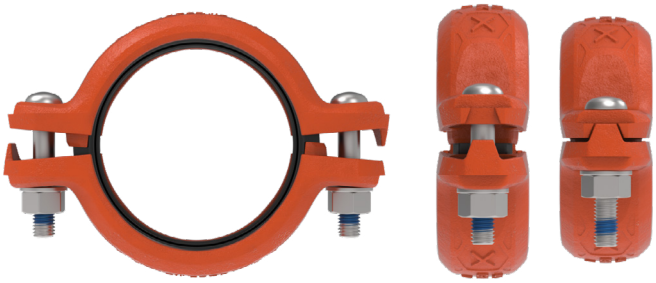


Fig. 74-SL



SlideLOK Pressure Responsive Gasket

PRODUCT OVERVIEW

APPLICATION

- Typically used in mechanical systems, plumbing, potable water, heating and cooling, compressed air, oil and gas and mining.
- Rigid, ready-for-installation coupling features patented ASC Sabertooth™ installation technology enabling rapid visual and tactile proper assembly confirmation and protection from over-tightening.
- CenterLOK™ and SlideLOK® patented gasket options available as needed.
- Designed to be used with roll, cut or swage grooved steel and stainless steel pipe in accordance with AWWA C606, as well as Gruvlok® grooved-end fittings, and valves. See Coupling Working Pressure Ratings Guide for more details.
- Provide a rigid connection enabling pipe hanging practices per ASME B31 Pipe Codes.

SIZES

- 1-¼ inch through 8 inch
- Standard zinc-flake coated hardware offers corrosion protection superior to 316SS

MAXIMUM WORKING PRESSURE

- From full vacuum (29.9 in Hg/760 mm Hg) up to 750 psi/ 51 bar on roll or cut grooved carbon steel Sch. 40 pipe (pipe material, size and wall thickness dependent)

OPERATING TEMPERATURES

- "EP" EPDM -40°F to 250°F (Service Temperature Range)(-40°C to 121°C)
- "T" Nitrile -20°F to 180°F (Service Temperature Range)(-29°C to 82°C)

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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MATERIALS

HOUSING MATERIAL

- Ductile iron conforming to ASTM A536, Grade 65-45-12

HOUSING COATING: (Select)

☐ Orange Rust-inhibiting Paint

☐ Hot-dipped Zinc Galvanized conforming to ASTM A123

GASKET TYPE

☐ CenterLOK™ Pressure Responsive Gasket (Fig. 74-CL)

☐ SlideLOK® Pressure Responsive Gasket (Fig. 74-SL)

GASKET / SEAL MATERIAL

- Properties as designated in accordance with ASTM D2000

☐ Grade "EP" EPDM (Green and Red color code)-40°F to 250°F (Service Temperature Range) (-40°C to 121°C) Recommended for water service, diluted acids, alkalies solutions, oil-free air and many other chemical services. NOT FOR USE IN PETROLEUM APPLICATIONS.

☐ Grade "T" Nitrile (Orange color code)-20°F to 180°F (Service Temperature Range) (-29°C to 82°C) Recommended for petroleum applications. Air with oil vapors and vegetable and mineral oils. NOT FOR USE IN HOT WATER OR HOT AIR NOT FOR USE IN DRINKING WATER.

HARDWARE

Note: Stock Hardware coated with corrosion-resistant, zinc-flake coating on bolts, nuts and speed plates.

Bolts

- SAE J429, GRADE 5, Zn/Al Flake Coating

Nuts

- Heavy Hex Nut, ASTM A563, Grade A, Zn/Al Flake Coating

Speed Plates

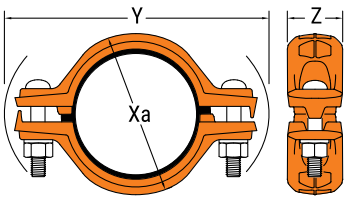
- ANSI/ASME spec B18.22.1, ASTM A123, Zn/Al Flake Coating (Up to 4")

OPTIONAL HARDWARE

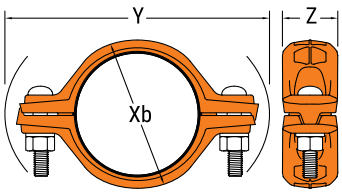
☐ 304 Stainless Steel

- Bolts per ASTM A193, Grade B8
- Heavy Hex Nuts Per ASTM A563 Grade A (UNS K05802)
- Stainless Steel bolt lengths may differ from standard hardware but do not impact coupling functional performance.

Gruvlok®
Figures 74–CL and 74–SL Rigid Couplings

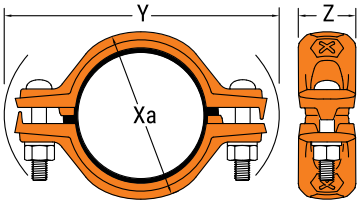


Uninstalled View

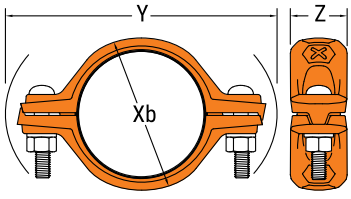


Installed View

Fig. 74–CL



Uninstalled View



Installed View

Fig. 74–SL

74-CL/74-SL							Coupling Dimensions				Coupling Bolts		
Nominal Size	O.D.	Max. Working Pressure		Max. End Load	Max Pipe End Separation CL	Max Pipe End Separation SL	Xa	Xb	Y	Z	Qty.	Size	Approx Wt. Ea.
		Sch 10	Sch 40										
In.	In.	PSI	PSI	Lbs.	In.	In.	In.	In.	In.	In.		In.	Lbs.
1 ¼	1.66	550	750	866	0.14	0.26	3.05	2.8	5.33	1.69	2	⅜ x 2 ¼	1.63
1 ½	1.9	550	750	1134	0.14	0.26	3.29	3.04	5.58	1.75	2	⅜ x 2 ¼	1.77
2	2.375	550	750	3323	0.13	0.26	3.73	3.47	6.13	1.75	2	½ x 3	2.34
2 ½	2.875	550	750	4869	0.13	0.26	4.36	4.04	6.62	1.75	2	½ x 3	2.60
3	3.5	550	750	7216	0.13	0.26	4.99	4.67	7.23	1.75	2	½ x 3	2.81
4	4.5	550	750	11928	0.15	0.31	5.95	5.71	8.59	1.95	2	½ x 3	3.82
5	5.563	550	750	18928	0.15	0.31	7.24	6.9	9.84	1.98	2	⅝ x 4 ¼	6.00
6	6.625	525	700	24130	0.15	0.31	8.29	8.08	11	1.98	2	⅝ x 4 ¼	7.02
8	8.625	485	600	35056	0.17	0.33	10.8	10.45	13.85	2.47	2	¾ x 4 ½	12.94

Note:

Maximum end load is defined as the max allowable force from the combination of internal pressure thrust at the pipe joint and external loads based on the use of standard ASME B36.10 pipe that is grooved in accordance with ASC's groove specification.

Pressure ratings and end loads may differ for other pipe materials and/or wall thicknesses.

See ASC Coupling Working Pressure Ratings document published in the resources section of the website for pressure ratings on alternate pipe materials.

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Gruvlok®
Figures 74-CL and 74-SL Rigid Couplings

CERTIFICATIONS / LISTINGS

- See IAPMO listings for approved sizes and pressure ratings.

ADDITIONAL RESOURCES

- Technical Data Sheet: Working Pressure Ratings
- Technical Data Sheet: Gasket Styles
- Pipe Fitter's Handbook
- Gasket Information: ASC Gasket Compatibility Chart

SAFETY

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.

The Figures 74-CL and 74-SL Rigid Couplings have a patent pending indicator on both ends allowing the installer to verify that the coupling is properly tightened. Failure to properly tighten the coupling nuts as shown by the indicator will cause excessive or inadequate load on the coupling, which could result in the following conditions:

- Separation of the coupling from the pipes
- Leakage from the joint
- Fracture or damage to the coupling
- Excessive stress within the coupling leading to future fracture or damage
- Voiding the warranty
- Property damage, personal injury, or death

Continuing to tighten the coupling nuts beyond the point where the indicator is aligned will not improve the performance of the coupling and may result in the conditions listed above.

- Tighten coupling nuts only until the indicators are aligned on both sides of the coupling. DO NOT continue tightening coupling nuts beyond the alignment of the indicators. Over tightening the coupling nuts, as shown by the indicators, may cause joint failure, resulting in property damage, personal injury, or death. In addition, over tightening the coupling nuts may cause excessive stress in the coupling and future joint failure, resulting in property damage, personal injury, or death.

Gruvlok®
Figures 74–CL and 74–SL Rigid Couplings

INSTALLATION

READY FOR INSTALLATION – RIGHT OUT OF THE BOX

Do not disassemble the Gruvlok Figure 74–CL / 74–SL coupling – it is ready for installation. The bolts and gasket do not need to be removed.



PIPE PREPARATION

Pipe ends are to be rolled or cut grooved according to ASC Engineered Solutions™ specifications. Not for use on "EG" rolled or cut grooved pipe ends. The pipe end must be smooth and free from metal burrs, sharp edges or projections.

INSTALLATION TOOLS

The coupling nuts may be tightened with an impact driver or manual socket wrench. Follow the manufacturer's instructions for the use of all tools. Only use deep–well sockets of the correct size. Couplings with hardware $^{3}/_{8}$–inch and smaller should not be tightened with an impact driver larger than $^{1}/_{4}$–inch.

ASSEMBLY METHOD 1 – GRUVLOK® FIGURE 74–CL WITH CENTERLOK™ GASKET

The Gruvlok Figure 74–CL coupling gasket features an integrated center rib that serves as a positive stop during installation. As the coupling is slid onto the pipe or fitting, the rib prevents it from over–traveling, automatically positioning it at the correct depth. This design eliminates the need for manual alignment of the coupling keys with the pipe grooves.



INSTALLATION STEPS

1. POSITION THE COUPLING

Slide the Fig. 74–CL coupling onto the pipe or fitting until the center rib contacts the pipe end. The coupling will naturally stop in the correct position with the keys aligned to the groove.



2. JOIN THE MATING PIPE, VALVE, OR FITTING

Bring the second pipe, valve, or fitting into place and slide it onto the opposite side of the center rib, ensuring it seats fully against the rib. Both pipe ends should be firmly butted against the center stop.



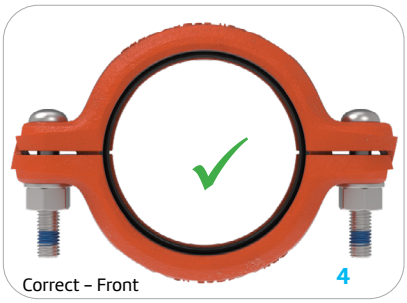
3. TIGHTEN THE BOLTS

Tighten the nuts in the following sequence: first side half way, second side tightened until the indicator is aligned, first side tightened until the indicator is aligned.

Notice: Once fully tightened, the gasket should not be visible between the coupling segments.

Gruvlok®
Figures 74–CL and 74–SL Rigid Couplings

INSTALLATION


Correct – Front 4

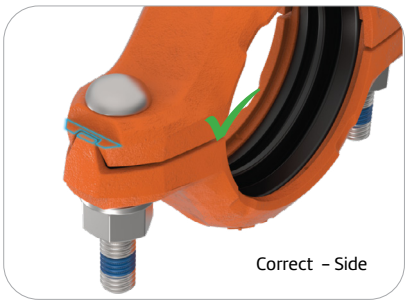
4. CONFIRM PROPER INSTALLATION – VISUAL INDICATORS

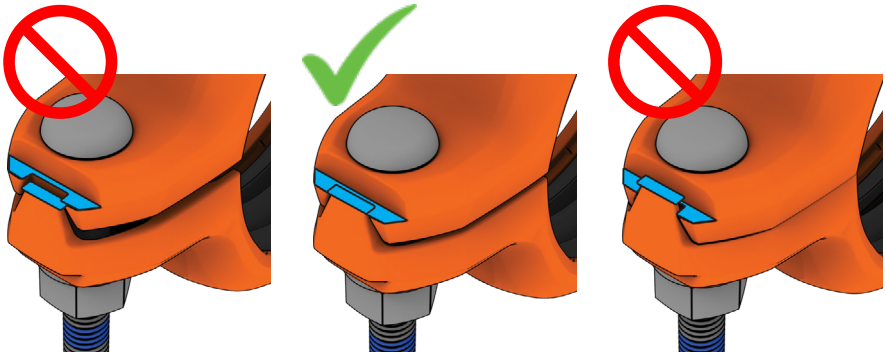
Inspect the casting alignment indicators located on both sides of the coupling. When the coupling is properly installed, the male and female ends of the indicator will form a straight line across the seam—on both sides.

Also verify:

– Coupling keys are fully engaged in both pipe grooves

– If either indicator is misaligned or bolt pad gaps are uneven, recheck pipe positioning and re–tighten as needed. The coupling must be visually aligned on both sides before being placed into service.


Correct – Side


Undertightened | Correct Installation | Overtightened

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Figures 74–CL and 74–SL Rigid Couplings

INSTALLATION

METHOD 2 ASSEMBLY – GRUVLOK® FIGURE 74–SL WITH SLIDELOK™ GASKET



1. SLIDE THE COUPLING OVER PIPE END
Slide the Figure 74–SL coupling completely over the grooved pipe end. This will allow a clear and un–obstructed view of the pipe for correct alignment.



2. ALIGN THE PIPE, VALVE, OR FITTING ENDS
Align the mating pipe, valve, or fitting end. Align the two adjoining pipes together.



3. POSITION THE COUPLING
Slide the coupling back over the grooves so that the coupling keys are located over the respective grooves on both pipe ends.



4. TIGHTEN THE BOLTS

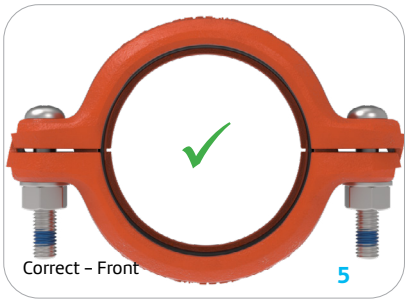
Tighten the nuts in the following sequence: first side half way, second side tightened until the indicator is aligned, first side tightened until the indicator is aligned.

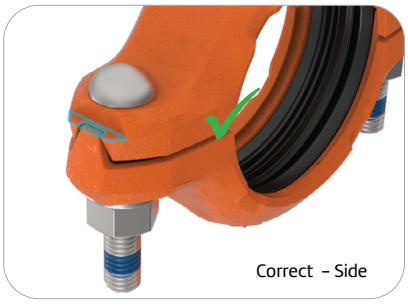
Notice: Once fully tightened, the gasket should not be visible between the coupling segments.

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Figures 74–CL and 74–SL Rigid Couplings

INSTALLATION (Continued)

METHOD 2 ASSEMBLY – GRUVLOK® FIGURE 74–SL WITH SLIDELOK™ GASKET





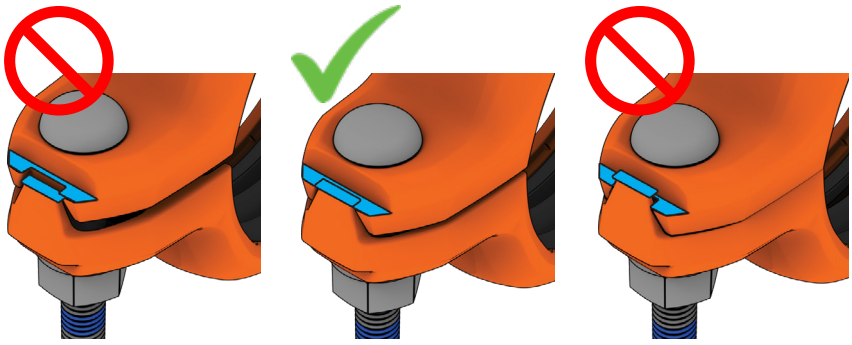
5. CONFIRM PROPER INSTALLATION – VISUAL INDICATORS

Inspect the casting alignment indicators located on both sides of the coupling. When the coupling is properly installed, the male and female ends of the indicator will form a straight line across the seam—on both sides.

Also verify:

– Coupling keys are fully engaged in both pipe grooves

– If either indicator is misaligned or bolt pad gaps are uneven, recheck pipe positioning and re–tighten as needed. The coupling must be visually aligned on both sides before being placed into service.



Undertightened | Correct Installation | Overtightened

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