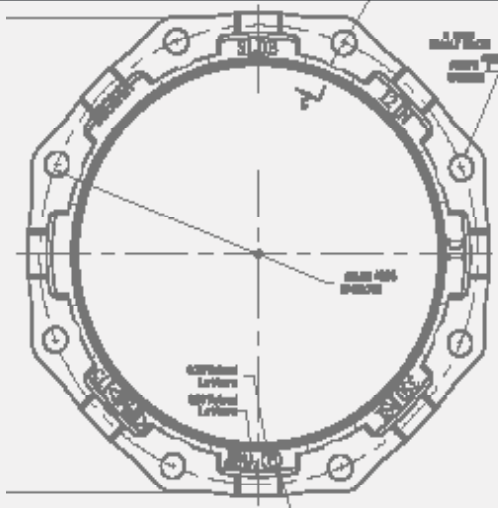
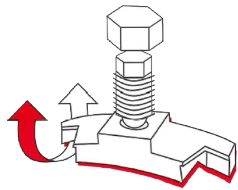


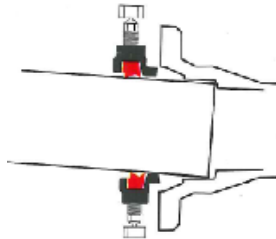
ONE-LOK™ Series SLDE for Ductile Iron Pipe



Features & Advantages:



ONE-LOK's unique cam action allows the restraining wedges to "rock," gripping the pipe wall more securely as thrust force increases.



ONE-LOK's cam action also accommodates deflection of the joint during installation, and also allows for subsidence, seismic or other forces after installation, up to the maximum allowed deflection.

1) The SIGMA ONE-LOK Series SLDE is a mechanical joint restraining gland that implements a series of individually activated wedges into the mechanical joint follower gland. When the wedge segment is engaged by the actuating bolt, the primary contact edges of each wedge segment lock onto the pipe wall. This action causes the primary contact edges to grip the pipe and effectively restrain all classifications of ductile iron pipe.

2) ONE-LOK SLDE's precision contoured wedges provide proper contact and support of the ductile iron pipe wall. Each wedge is manufactured with an elongated contour that evenly matches the outside circumference of each nominal diameter of ductile iron pipe. This elongated contour also eliminates the concern of damage to both the pipe wall and the interior cement mortar lining caused by point loading, even on the thinner pressure classes of ductile iron pipe.

3) ONE-LOK SLDE's wedge actuating bolt provides the installer with a visual torque indicator. The breakaway top ensures proper engagement of the wedge segment at the time of installation. Unlike other actuating bolts, the ONE-LOK SLDE is manufactured with a proprietary quality control system that ensures the breakaway tops will activate at the correct torque. The breakaway top is sized to match the same dimensions of the bolts and nuts used to assemble the mechanical joint fitting and follower gland, eliminating the need for special installation tools. Once engaged, the actuating bolt leaves a residual hex-head shank, allowing post-installation disassembly of the restrained joint, if necessary.

4) ONE-LOK SLDE's unique wedge segment and actuating bolt design allows the two components to interface using a cam action principle, allowing the wedge segments to rock and increase their grip on the pipe wall as thrust on the assembled joint increases. This also allows improved resistance to subsidence, seismic forces, and other movement within the maximum deflection limitations of the mechanical joint under applicable AWWA standards.

Deflection Chart

Nominal Size	Item #	Deflection
3-12"	SLDE3-SLDE12	5 deg
14-16"	SLDE14-SLDE16	2 deg
18-30"	SLDE18-SLDE30	1.5 deg
36-64"	SLDE36-SLDE64	1 deg

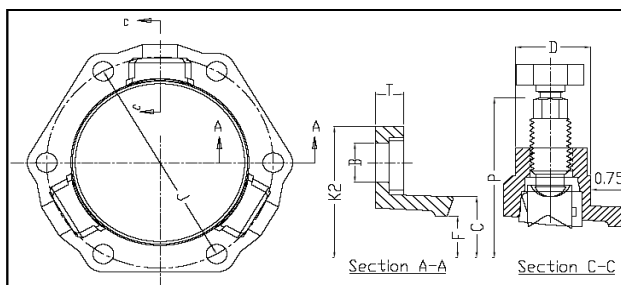
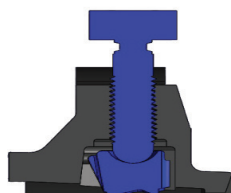
ONE-LOK™ Series SLDE for Ductile Iron Pipe

Sample Specification:

Restraint for standard mechanical joint fittings shall be incorporated in the design of the follower gland and shall utilize multiple wedge segments that act against the pipe, increasing their resistance as the line pressure increases. The assembled joint shall maintain the maximum flexibility and deflection of all nominal pipe sizes after burial. Restraining gland, wedge segments, and actuating bolts shall be manufactured of high strength ductile iron conforming to the requirements of ASTM A536, Grade 65-45-12. Wedge segments shall be heat treated to a hardness of 370 BHN minimum. Dimensions shall be compatible with standardized mechanical joints conforming to the requirements AWWA C111/ANSI A21.11 and AWWA C153/ANSI 21.53 through 24" (latest revision). Breakaway tops shall be incorporated in the design of the actuating bolts to visually ensure proper torque. The manufacturing of the actuating bolt must incorporate a quality control procedure that is deemed acceptable by the specifier and positively assures precise and consistent operating torque of the breakaway top. The mechanical joint restraining devices shall have a working pressure rating of 350psi (for sizes 3-16") and 250 psi (for sizes 18-64") minimum and provide no less than a safety factor of 2:1. Restraint shall be UL Listed and FM approved in applicable sizes. Restraining device shall be SIGMA ONE-LOK™ or approved equal.

Materials:

- Gland body, brackets, wedge segments & actuating bolts: ASTM A536 65-45-12 ductile iron.
- Wedge segments are heat treated to a minimum hardness of 370BHN
- T-head bolts & nuts: High strength, low alloy steel meeting AWWA/ANSI C111/A21.11 with minimum 65,000psi tensile strength and 45,000psi yield strength.



Dimensions in Inches, Weights in Pounds

Nom Pipe Size	Item #	Wgt	DI Pipe OD	Steel Pipe OD	Dimensions								Bolts and Inserts			Pressure Rating	T-bolts			Gasket	
					C	F	D	T	P*	B	J	K2	No	Size	Torque		No	Size	Torque	No	Item #
3	SLDE3	5.50	3.96	---	4.84	4.16	1.58	0.55	9.40	0.750	6.19	7.69	2	7/8	75 - 90	350	4	5/8 x 3.0	45 - 60	1	MG-3
4	SLDE4	6.50	4.80	4.50	5.92	5.00	1.58	0.55	10.24	0.875	7.50	9.12	2	7/8	75 - 90	350	4	3/4 x 3.5	75 - 90	1	MG-4
6	SLDE6	10.00	6.90	6.625	8.02	7.10	1.58	0.60	12.34	0.875	9.50	11.12	3	7/8	75 - 90	350	6	3/4 x 3.5	75 - 90	1	MG-6
8	SLDE8	14.50	9.05	8.625	10.17	9.25	1.63	0.75	14.32	0.875	11.75	13.37	4	7/8	75 - 90	350	6	3/4 x 4.0	75 - 90	1	MG-8
10	SLDE10	23.00	11.10	10.75	12.22	11.30	1.58	0.85	16.54	0.875	14.00	15.62	6	7/8	75 - 90	350	8	3/4 x 4.0	75 - 90	1	MG-10
12	SLDE12	29.00	13.20	12.75	14.32	13.40	1.58	0.85	18.80	0.875	16.25	17.88	8	7/8	75 - 90	350	8	3/4 x 4.0	75 - 90	1	MG-12
14	SLDE14	39.60	15.30	---	16.40	15.55	1.58	1.125	21.20	0.875	18.75	20.25	10	7/8	75 - 90	350	10	3/4 x 4.5	75 - 90	1	MG-14
16	SLDE16	49.67	17.40	---	18.50	17.54	1.77	1.21	23.74	0.875	21.00	22.50	12	7/8	75 - 90	350	12	3/4 x 4.5	75 - 90	1	MG-16
18	SLDE18	60.33	19.50	---	20.60	19.64	1.77	1.25	25.84	0.875	23.25	24.75	12	7/8	75 - 90	250	12	3/4 x 4.5	75 - 90	1	MG-18
20	SLDE20	69.00	21.60	---	22.70	21.74	1.87	1.25	27.94	0.875	25.50	27.00	14	7/8	75 - 90	250	14	3/4 x 5.0	75 - 90	1	MG-20
24	SLDE24	103.67	25.80	---	26.88	25.95	1.92	1.47	32.14	0.875	30.00	31.50	16	7/8	75 - 90	250	16	3/4 x 5.0	75 - 90	1	MG-24
30	SLDE30	158.67	32.00	---	33.29	32.17	2.13	1.65	39.30	1.125	36.88	39.12	20	1.00	115-125	250	20	1 x 6.5	100-120	1	MGS-30
36	SLDE36	234.50	38.30	---	39.59	38.47	3.15	1.75	46.07	1.125	43.75	46.00	24	1.00	115-125	250	24	1 x 6.5	100-120	1	MGS-36
42	SLDE42	344.00	44.50	---	45.79	44.67	3.56	2.25	53.25	1.38	50.62	53.38	28	1 1/4	115-125	250	28	1 1/4 x 8.0	120-150	1	MGS-42
48	SLDE48	456.00	50.80	---	52.09	50.97	3.81	2.25	59.55	1.38	57.5	60.26	32	1 1/4	115-125	250	32	1 1/4 x 8.0	120-150	1	MGS-48
54	SLDE54	1045.00	57.56	---	58.85	57.73	6.00	4.50	70.43	1.375	63.20	67.50	18	1 1/2	400 +/- 5	250	36	1 1/4 x 11.0	120-150	1	MGS-54
60	SLDE60	1136.00	61.61	---	62.90	61.78	6.00	4.50	74.52	1.375	67.72	72.00	18	1 1/2	400 +/- 5	250	36	1 1/4 x 11.0	120-150	1	MGS-60
64	SLDE64	1258.00	65.67	---	66.96	65.84	6.00	4.50	78.68	1.375	71.86	76.00	19	1 1/2	400 +/- 5	250	38	1 1/4 x 11.0	120-150	1	MGS-64

ONE-LOK SLDE was previously referred to as model SLD

P* Dim shows OD after head is broken/removed.

Sizes 3"-12" is approved for thinnest class of DI pipe.

SLDE 4" - 12" can be used on Steel Pipe - Sch 40 & above with Transition Gasket.



** Product is provided with SIGMASEAL™ improved mechanical joint gasket.*

Sizes 3" - 14" are UL listed for 350 psi on DI Pipe

Sizes 16" are UL listed for 300 psi on DI Pipe

Sizes 18" - 30" are UL listed for 250 psi on DI Pipe

Sizes 36" are UL listed for 200 psi on DI Pipe

Sizes 42" and 48" are pressure rated at 250 psi on DI Pipe

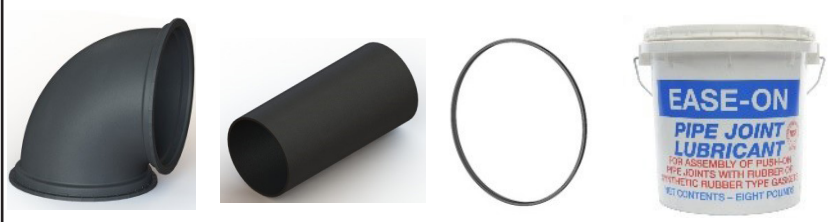
Sizes 54", 60" and 64" are pressure rated at 250 psi on DI Pipe

Sizes 4" - 12" are FM approved for 175 psi on DI pipe.

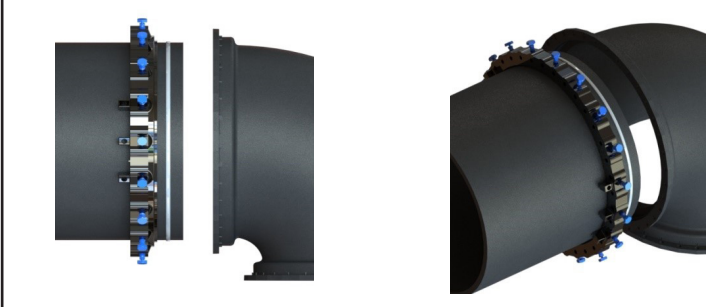
One Lok SLDE Wedge Action Restraint



1. Clean the fitting socket & pipe end. Lubricate mechanical joint gasket & pipe end with soapy water or approved lubricant meeting AWWA C111/A21.11. (A transition gasket is required if using on steel OD pipe)



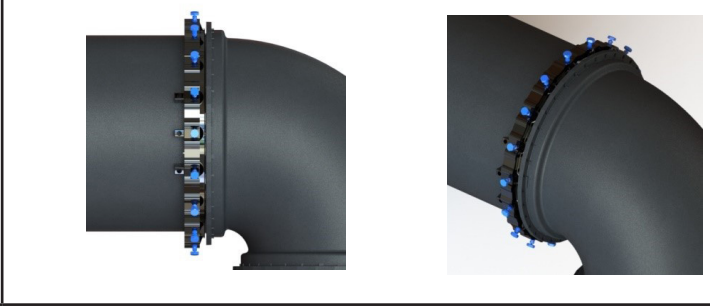
2. Insert the One Lok SLDE Wedge Restraint on the pipe with the lip extension facing the pipe end followed by the gasket, tapered side toward end of the pipe.



3. Insert the gasket along with the pipe into the fitting socket and seat the gasket firmly and evenly into the gasket cavity, keeping the joint straight.



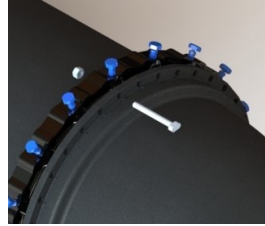
4. Push the One-Lok gland toward the fitting and center it around the pipe with the lip evenly against the gasket.



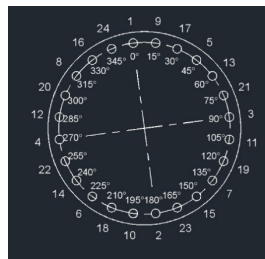
ONE-LOK™ Series SLDE for Ductile Iron Pipe

Installation Instructions for Wedge Action Restraint with PVC Pipe & Mechanical Joint Fitting (Continued)

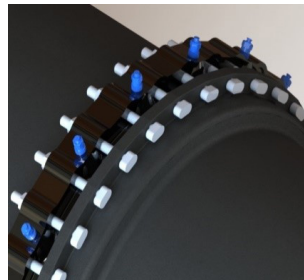
5. Insert the T-bolts with the T-head on the fitting side and nut on the restraint side, and hand tighten the nuts. Make the joint deflection as required keeping the wedge restraint centered on the pipe before torquing the T-Bolts.



6. Tighten the nuts in an alternate method (STAR PATTERN) to the recommended torque of 45-60 ft-lbs for 3", 75-90 ft-lbs for 4" – 24", 100-120 ft-lbs for 30", 36", 120 – 150 ft-lbs for 42", 48", 54", 60" & 64" sizes, use of a torque indicating wrench is recommended to confirm the applied torque.



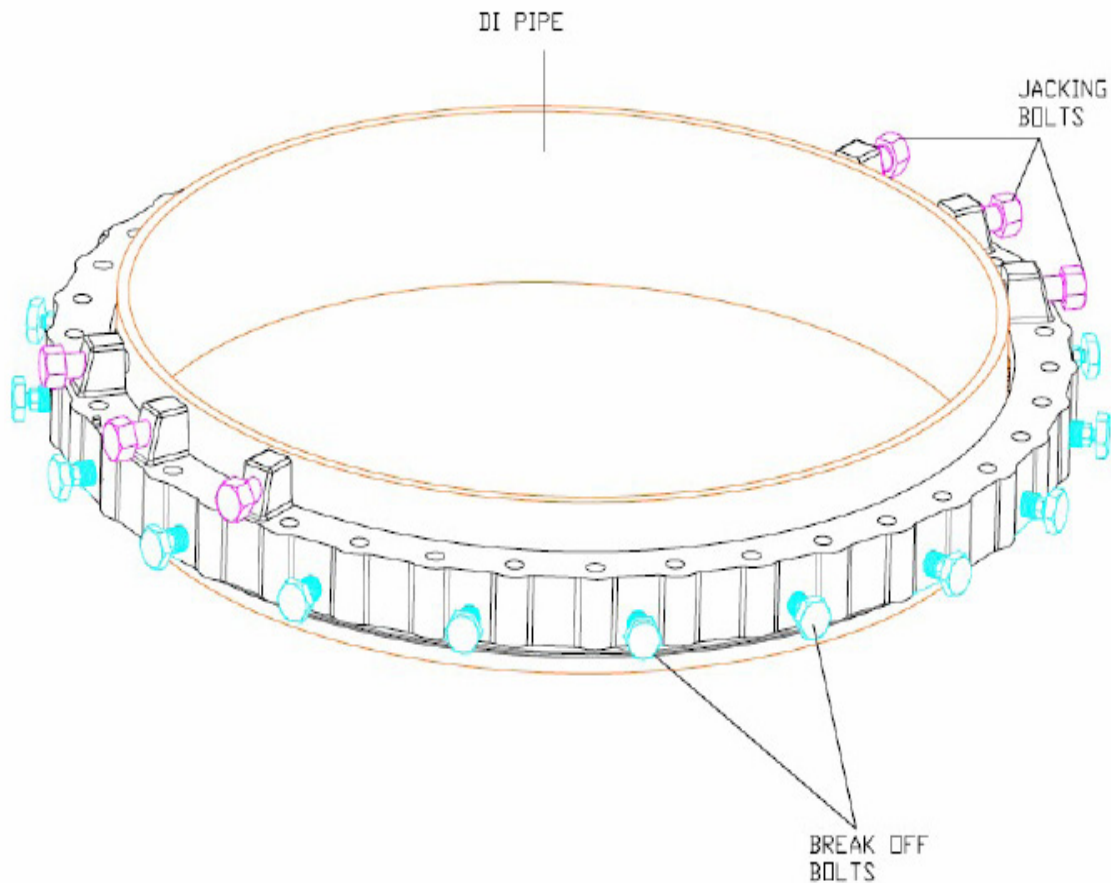
7. Hand tighten each actuating bolt in a clockwise direction until contact is made between each wedge insert and the pipe OD. Continue tightening the actuating bolts in an alternate method (STAR PATTERN) until all the break-off tops have been removed. Never tighten actuating bolt more than 180 degrees before moving to the next bolt.
Recommended Torque for actuating bolt – 75-90 ft-lbs for 3" – 24", 115 – 125 ft-lbs for 30", 36", 42", 48", 400 +/- 5 ft-lbs for 54", 60", 64"



SIGMA SEAL GASKET (MGS) is recommended for One-Lok sizes 30", 36", 42", 48", 54", 60", 64"

SLDE 30, 36, 42, 48, 54, 60 & 64" ONE-LOK™ Wedge Action Restraint for Ductile Iron Pipe "Re-Rounding" Feature

Sigma proudly announces an additional feature in the largest size of Restraints that has been developed in the industry for water works application. This feature has been designed and implemented to help the industry to re-round the pipe without using any external equipment during the installation of the joints using Ductile Iron pipes which is prone to have the OD out of round. By using this feature the installer/contractor will be able to bring the out of round pipe to a near round which will enable the spigot end of the pipe to fit into the MJ Bell of a fitting or bell. This feature contains 6 lugs for 42", 48", 54", 60" & 64" and 4 lugs for 30" & 36" with threads to accommodate hex bolts and they are located opposite to each other as shown below.



Instructions for using this feature:

1. Measure the OD of the pipe and identify the minimum & maximum diameter.
2. Insert the SLDE onto the pipe with the lugs positioned on the maximum diameter side.
3. Using the bolts provided in the lugs tighten them in alternating method till the diameter averages out and the pipe can be inserted on to the bell.
4. Once the pipe is inserted on to the bell the bolts can be backed off.
5. Please exercise caution that these bolts are normal Hex bolts and are painted BLACK to distinguish between the break off bolts which are painted BLUE.
6. These bolts can be either removed from the gland or left as these will be only used for re-rounding the pipe and not to be used during the installation of the SLDE.
7. Recommended installation instructions provided in the installation tag to be followed for installing the SLDE.

LOCATIONS

Northeast Region

Cream Ridge, New Jersey (HQ)

700 Goldman Drive
 Cream Ridge, NJ 08514
 Phone (800) 999-2550
 crmcslr@sigmaco.com

REPCO

51 Rue Gingras
 Warwick, QC J0A 1M0
 Phone (888) 744-6262
 jboucher@repcocan.ca

Concord Supply

2353 Bowman Street
 Innisfil, Ontario L9S 3V6
 Phone (877) 436-3800
 tanya@concordsupply.ca

SIGMA-Edmonton

26224 Highway 37
 Sturgeon County, Alberta T8T 0H3
 Phone (780) 458-9676
 pbrunelle@sigmaco.com

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21699 Torrence Avenue
 Sauk Village, IL 60411
 Phone (888) 999-0420
 chicsr@sigmaco.com

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 Brighton, CO 80603
 Phone (888) 999-0420
 dbrugger@sigmaco.com

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1500 Highway 22 W
 Alexander City, AL 35010
 Phone (800) 824-4513
 alxcsr@sigmaco.com

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Houston, Texas

5000 Askins Lane
 Houston, TX 77093
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 htncslr@sigmaco.com

Western Region

Ontario, California

4652 E. Guasti Road
 Ontario, CA 91761
 Phone (800) 688-6230
 ontcsr@sigmaco.com

Auburn, Washington (Branch)

902 W Main Street
 Auburn, WA 98001
 Phone (800) 688-6230
 ontcsr@sigmaco.com

www.sigmaco.com

Terms and Conditions of Sales available at our website.

AWWA Ductile Iron Fittings



- 2-64" C153 Ductile Iron Mechanical Joint Fittings
- 2-48" C110 Ductile Iron Mechanical Joint Fittings
- 2-64" C110 Ductile Iron Flanged Fittings
- 3-24" C153 Ductile Iron Push-On Fittings
- 4-24" C110 Ductile Iron Push-On Fittings
- 3-36" Ductile Iron Mechanical Joint Connector
- C116 Fusion Bonded Epoxy Lining Available
- PROTECTO 401® Ceramic Epoxy Lining Available

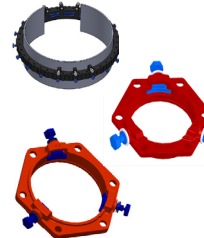
Visit our website for available special coatings. <https://www.sigmaco.com/project/fittings-coatings-linings/>

Mechanical Joint Accessories



- Prepackaged and Loose Mechanical Joint Accessories
- SIGMASEAL™ Improved Mechanical Joint Gasket
- Snap-On Multi-Purpose Gasket for Ductile Iron or PVC Pressure Pipes
- OMNI-SLEEVE™ Improved Wall Penetration Sleeve
- Specialty Bolts and Nuts for Mechanical Joint Assemblies

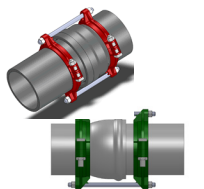
ONE-LOK™ Wedge Action Restraints



- 3-48" ONE-LOK D-SLDE Domestic Wedge Restraint for Ductile Iron Pipe
- 3-64" ONE-LOK SLDE Wedge Restraint for Ductile Iron Pipe (Import)
- 4-48" ONE-LOK T-SLDE Tandem Wedge Restraint for High Pressure Ductile Iron Pipe
- 3-36" ONE-LOK D-SLCE Domestic Wedge Restraint for PVC Pipe
- 3-12" ONE-LOK SLC Wedge Restraint for PVC Pipe (Import)
- 3-60" ONE-LOK SLCE Wedge Restraint for PVC Pipe (Import)
- 3-42" ONE-LOK SLDEH Wedge Harness Restraint for Ductile Iron Pipe
- 4-12" /16" /20" ONE-LOK SLDM Wedge Restraint for Oversized Cast Iron Pipe
- 4-48" ONE-LOK SSLD Split Wedge Restraint for Installed Ductile Iron Pipe & Fitting
- 4-36" ONE-LOK SSLDH Split Wedge Harness Restraint for Installed Ductile Iron Pipe
- 4-12" ONE-LOK SLCEH Wedge Harness Restraint for AWWA C900 PVC Pipe
- 3-12" ONE-LOK Series SLO MJ Restraining Gland

Visit our website for available special coatings. <https://www.sigmaco.com/download/corr-safe-alternative-coating-for-enhanced-exterior-corrosion-protection-on-wedge-and-serration-type-restrainers/>

PV-LOK™ Serration Lock Restraints



- 4-48" PV-LOK PWM Serrated Restraint for Ductile Iron Fitting & AWWA C900/905 PVC Pipe
- 4-48" PV-LOK PWP Serrated Bell Joint Restraint for AWWA C900/905 PVC Pipe
- 4-12" PV-LOK D-PWP Domestic Serrated Bell Joint Restraint for AWWA C900 PVC Pipe
- 4-12" PV-LOK PVPF Restraint for AWWA C900/905 PVC Pipe & PVC Fitting
- 4-12" PV-LOK PWH Serrated Harness Restraint for AWWA C900 PVC Pipe
- 2-12" PV-LOK PVM Serrated Restraint for Ductile Iron & IPS OD PVC pipe
- 2-12" PV-LOK PVP Serrated Bell Joint Restraint for IPS OD PVC Pipe
- 2-8" PV-LOK PVPF Serrated Restraint for IPS OD PVC Pipe & PVC Fitting
- 4-12" PV-LOK PWP Serrated Bell Joint Restraint for Ductile Iron Pipe

Visit our website for available special coatings. <https://www.sigmaco.com/download/corr-safe-alternative-coating-for-enhanced-exterior-corrosion-protection-on-wedge-and-serration-type-restrainers/>

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- Rotational Molded Meter Boxes & Pits
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Municipal Construction Castings



- Manhole Rings and Covers
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- Storm Inlets
- Valve Boxes, Risers, and Extensions

Products for the Ductile Iron Fabricator



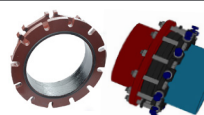
- 3-64" High Hub Threaded Flanges
- 3-48" Tapped High Hub Threaded Flanges
- 3-36" Extra Heavy 250lb Drilled Threaded Flanges
- 3-48" Threaded MJ Bell Adapters
- 3-48" MJ x PE Bell adapter
- 3-48" Anchor Flanges
- 3-16" Filler Flanges

Extended Range Products



- Flange-Pak™ Prepackaged Flange Accessory Sets
- Polyethylene Encasement for Ductile Iron Pipe
- Copper Tubing Products
- Tracer Wire & Detectable/Non-Detectable Marking Tape
- Pipe Joint Lubricant & Hydraulic Cement
- Socket Clamps and Tie Rod Accessories
- Boxlok Valve Box Alignment Device
- Cast Iron Companion Flanges

Flange Adapters



- 3-36" SIGMAFLANGE Flange Adapter Sleeve for PVC and Ductile Iron Pipe
- 2-48" ZIP FLANGE Set Screw Style Flange Adapter
- 3-36" SIGMAFLANGE Universal Joint for Flanged Fittings, Flanged Pipes & Valves