

Couplings

AGS STYLE W07 RIGID AND **AGS** STYLE W77 FLEXIBLE

WARNING



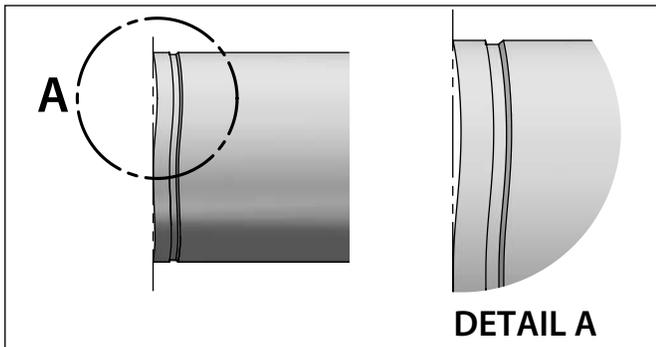
- Read and understand all instructions before attempting to install any Victaulic piping products.
- These products must be used only on pipe that is prepared to Victaulic Advanced Groove System (AGS) specifications using Victaulic AGS (RW) roll sets. DO NOT attempt to assemble these products on pipe that is prepared with original-type grooving roll sets.
- Depressurize and drain the piping system before attempting to install, remove, or adjust any Victaulic piping products.
- Wear safety glasses, hardhat, and foot protection during installation.

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

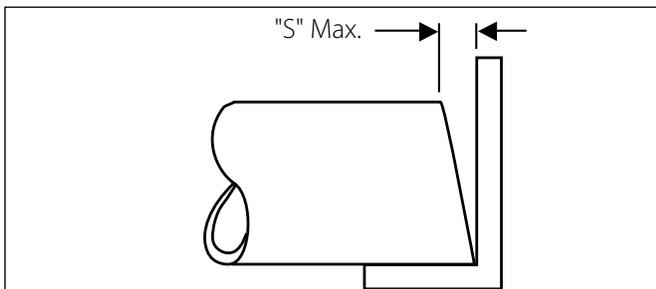
The information contained in this instruction sheet must be referenced to ensure proper installation of Style W07 AGS Rigid Couplings and Style W77 AGS Flexible Couplings. Style W07 and Style W77 AGS Couplings require pipe that is prepared with a grooving technology called the Victaulic Advanced Groove System (AGS). Victaulic AGS (RW) roll sets are required to produce grooves in accordance with this technology. Refer to the instructions in this sheet for complete grooving dimensions and assembly information.

PIPE END VISUAL INSPECTION – ALL SIZES

1. Pipe ends shall be visually inspected in accordance with the requirements listed below.

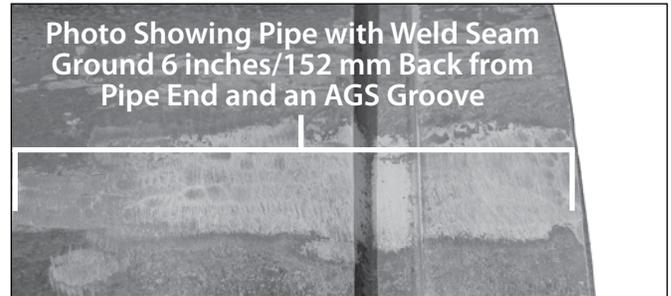


2. The front edge of the pipe end shall be uniform with no concave/convex surface features (refer to the drawing above). These features will cause improper grooving roll tracking, resulting in difficult coupling assembly.
3. If pipe cut-off is required, Victaulic recommends the use of a mechanically-guided pipe cutting tool for proper pipe end preparation. Free-hand pipe end cutting is not acceptable.



4. Square cut the pipe ends ("S" dimension shown above) within 1/8 inch/3.2 mm.

PIPE PREPARATION – ALL SIZES



1. Prior to grooving, the weld seams must be ground flush to the pipe surface (inside diameter and outside diameter). Grind the weld seam from the pipe end to a distance of 6 inches/152 mm back from the pipe end. This area must be smooth and free from indentations, projections, and roll marks to ensure a leak-tight seal.
 - 1a. Groove the pipe in accordance with the Victaulic AGS grooving specifications listed on the following page. **NOTE: PIPE MUST BE ROLL GROOVED WITH VICTAULIC AGS (RW) ROLL SETS.**



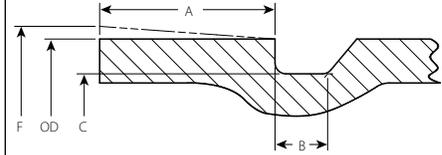
- 1b. Clean the outside surface of the pipe, from the groove to the pipe end, to remove all oil, grease, loose paint, and dirt

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NOTICE

- When grooving pipe for use with Style W07 or Style W77 Couplings, Victaulic roll grooving tools must be equipped with Victaulic AGS (RW) roll sets. Style W07 and Style W77 Couplings **MUST NOT** be installed on pipe that is prepared with original-type grooving roll sets.
- The Groove Width "B" dimension will be achieved with properly maintained Victaulic tools equipped with Victaulic AGS (RW) roll sets.
- It is critical to measure the Groove Diameter "C" dimension, along with the Gasket Seat "A" dimension and the Flare Diameter "F" dimension. These measurements must be within the specifications listed in the table below for proper joint performance.



AGS Roll Grooving Specifications for Steel Pipe

Size Nominal Size inches/ Actual mm	Dimensions – inches/millimeters										lbs/kg Approx. Weight Each Coupling	
	Outside Diameter "OD"		Gasket Seat "A"			Groove Width "B"‡			Groove Diameter "C"			Maximum Allowable Flare Diameter "F"
	Maximum	Minimum	Basic	Maximum	Minimum	Basic	Maximum	Minimum	Maximum	Minimum		
14 355.6	14.094 358.0	13.969 354.8	1.500 38.1	1.531 38.9	1.437 36.5	0.455 11.6	0.460 11.7	0.450 11.4	13.500 342.9	13.455 341.8	14.23 361.4	49.0 22.2
16 406.4	16.094 408.8	15.969 405.6	1.500 38.1	1.531 38.9	1.437 36.5	0.455 11.6	0.460 11.7	0.450 11.4	15.500 393.7	15.455 392.6	16.23 412.2	61.0 27.7
18 457.0	18.094 459.6	17.969 456.4	1.500 38.1	1.531 38.9	1.437 36.5	0.455 11.6	0.460 11.7	0.450 11.4	17.500 444.5	17.455 443.4	18.23 463.0	71.0 32.2
20 508.0	20.094 510.4	19.969 507.2	1.500 38.1	1.531 38.9	1.437 36.5	0.455 11.6	0.460 11.7	0.450 11.4	19.500 495.3	19.455 494.2	20.23 513.8	82.0 37.2
24 610.0	24.094 612.0	23.969 608.8	1.500 38.1	1.531 38.9	1.437 36.5	0.455 11.6	0.460 11.7	0.450 11.4	23.500 596.9	23.455 595.8	24.23 615.4	116.0 52.6
26 660.0	26.094 662.8	25.969 659.6	1.750 44.5	1.781 45.2	1.687 42.8	0.535 13.6	0.540 13.7	0.530 13.5	25.430 645.9	25.370 644.4	26.30 668.0	205.0 93.0
28 711.0	28.094 713.6	27.969 710.4	1.750 44.5	1.781 45.2	1.687 42.8	0.535 13.6	0.540 13.7	0.530 13.5	27.430 696.7	27.370 695.2	28.30 718.8	220.0 100.0
30 762.0	30.094 764.4	29.969 761.2	1.750 44.5	1.781 45.2	1.687 42.8	0.535 13.6	0.540 13.7	0.530 13.5	29.430 747.5	29.370 746.0	30.30 769.6	227.0 103.0
32 813.0	32.094 815.2	31.969 812.0	1.750 44.5	1.781 45.2	1.687 42.8	0.535 13.6	0.540 13.7	0.530 13.5	31.430 798.3	31.370 796.8	32.30 820.4	242.0 110.0
36 914.0	36.094 916.8	35.969 913.6	1.750 44.5	1.781 45.2	1.687 42.8	0.535 13.6	0.540 13.7	0.530 13.5	35.430 899.9	35.370 898.4	36.30 922.0	268.0 122.0
40 1016.0	40.094 1018.4	39.969 1015.2	2.000 50.8	2.031 51.6	1.937 49.2	0.562 14.3	0.567 14.4	0.557 14.1	39.375 1000.1	39.315 998.6	40.30 1023.6	340.0 154.0
42 1067.0	42.094 1069.2	41.969 1066.0	2.000 50.8	2.031 51.6	1.937 49.2	0.562 14.3	0.567 14.4	0.557 14.1	41.375 1050.9	41.315 1049.4	42.30 1074.4	360.0 163.0
46 1168.0	46.094 1170.8	45.969 1167.6	2.000 50.8	2.031 51.6	1.937 49.2	0.562 14.3	0.567 14.4	0.557 14.1	45.375 1152.5	45.315 1151.0	46.30 1176.0	415.0 188.0
48 1219.0	48.094 1221.6	47.969 1218.4	2.000 50.8	2.031 51.6	1.937 49.2	0.562 14.3	0.567 14.4	0.557 14.1	47.375 1203.3	47.315 1201.8	48.30 1226.8	425.0 193.0
54 1372.0	54.094 1374.0	53.969 1370.8	2.500 63.5	2.531 64.3	2.437 61.9	0.562 14.3	0.567 14.4	0.557 14.1	53.375 1355.7	53.315 1354.2	54.30 1379.2	648.0 294.0
56 1422.0	56.094 1424.8	55.969 1421.6	2.500 63.5	2.531 64.3	2.437 61.9	0.562 14.3	0.567 14.4	0.557 14.1	55.375 1406.5	55.315 1405.0	56.30 1430.0	676.0 307.0
60 1524.0	60.094 1526.4	59.969 1523.2	2.500 63.5	2.531 64.3	2.437 61.9	0.562 14.3	0.567 14.4	0.557 14.1	59.375 1508.1	59.315 1506.6	60.30 1531.6	720.0 327.0

‡ The Groove Width "B" dimension is listed for information only.

IMPORTANT – Grooving pipe to AGS specifications enlarges the pipe length by approximately 1/8 inch (0.125 inch/3.2 mm) for each groove. For a pipe length with an AGS groove at each end, the length will grow approximately 1/4 inch (0.250 inch/6.4 mm) total. Therefore, the cut length should be adjusted to accommodate this growth.

EXAMPLE: If you need a 24-inch/610-mm length of pipe that will contain an AGS groove at each end, cut the pipe to a length of 23 3/4 inches/603 mm to allow for this growth.

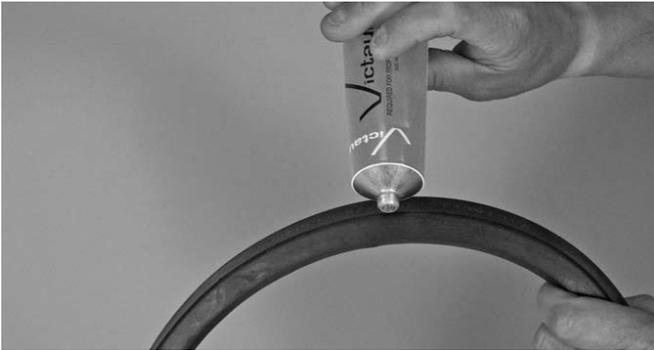
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INSTALLATION INSTRUCTIONS – 14 – 24-INCH/355.6 – 610.0-MM SIZES

THIS COUPLING ASSEMBLY HAS A TORQUE REQUIREMENT. REFER TO THE INSTRUCTIONS IN THIS SECTION OR THE MARKINGS ON THE HOUSINGS FOR THE SPECIFIC TORQUE REQUIREMENT.

1. Prepare the pipe by following the “Pipe Preparation – All Sizes” section on page 2.



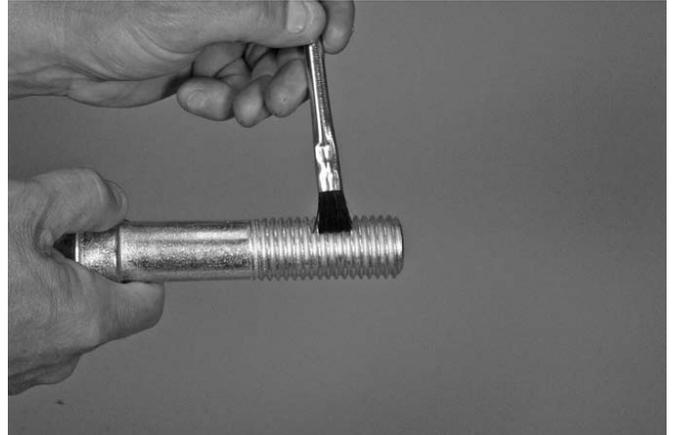
2. Check the gasket to make sure it is suitable for the intended service. The color code identifies the gasket grade. Apply a thin coat of Victaulic lubricant or silicone lubricant to the gasket lips and exterior.



3. Position the gasket over the pipe end. Make sure the gasket does not overhang the pipe end.



4. Align and bring the two pipe ends together. Slide the gasket into position, and center it between the grooves in each pipe.



5. Apply a thin coat of Victaulic lubricant or silicone lubricant to the bolt threads.



6. Install the housings over the gasket. Make sure the housings' keys engage the grooves completely on both pipes. Support the segments while preparing to install the bolts and nuts.
- 6a. Install the bolts, and thread the nuts finger-tight onto the bolts. **NOTE:** Make sure the oval necks of the bolts seat properly in the bolt holes.

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- Tighten the nuts evenly by alternating sides. Make sure the housings' keys engage the grooves completely. Continue to tighten the nuts evenly until metal-to-metal bolt pad contact **AND** the specified torque value are achieved. Refer to the "Required Assembly Torques" table on this page. **NOTE: Both conditions of metal-to-metal bolt pad contact AND the specified torque value are required for proper coupling assembly.**

NOTE: It is important to tighten the nuts evenly by alternating sides to prevent gasket pinching. Deep well sockets are recommended for proper installation due to the longer bolt lengths associated with these products. Deep well sockets provide the full nut engagement that is necessary during tightening.

TO PREVENT LUBRICATION FROM DRYING OUT AND CAUSING GASKET PINCHING, ALWAYS BRING THE BOLT PADS INTO METAL-TO-METAL CONTACT IMMEDIATELY AFTER ASSEMBLING THE COUPLING ONTO THE PIPE.

Required Assembly Torques

Coupling Size		Required Torques
Nominal Size inches	Actual Outside Diameter Inches/mm	ft-lbs (N•m)
14 – 18	14.000 – 18.000 355.6 – 457.0	250 340
20 – 24	20.000 – 24.000 508.0 – 610.0	375 500

Style W07 and W77 Helpful Information

Size		Number of Bolts/Nuts	Nut Size	Socket Size
Nominal Size inches	Actual Outside Diameter inches mm		inches/Metric	inches/Metric
14 – 18	14.000 – 18.000 355.6 – 457.0	2	1 M24	1 5/8 41
20 – 24	20.000 – 24.000 508.0 – 610.0	2	1 1/8 M27	1 13/16 46

WARNING

- Nuts must be tightened evenly until both conditions of metal-to-metal bolt pad contact **AND** the specified torque value are achieved.
 - Always bring the bolt pads into metal-to-metal contact immediately after assembling the coupling onto the pipe.
- Failure to follow these instructions could cause joint failure, resulting in serious personal injury and/or property damage.**

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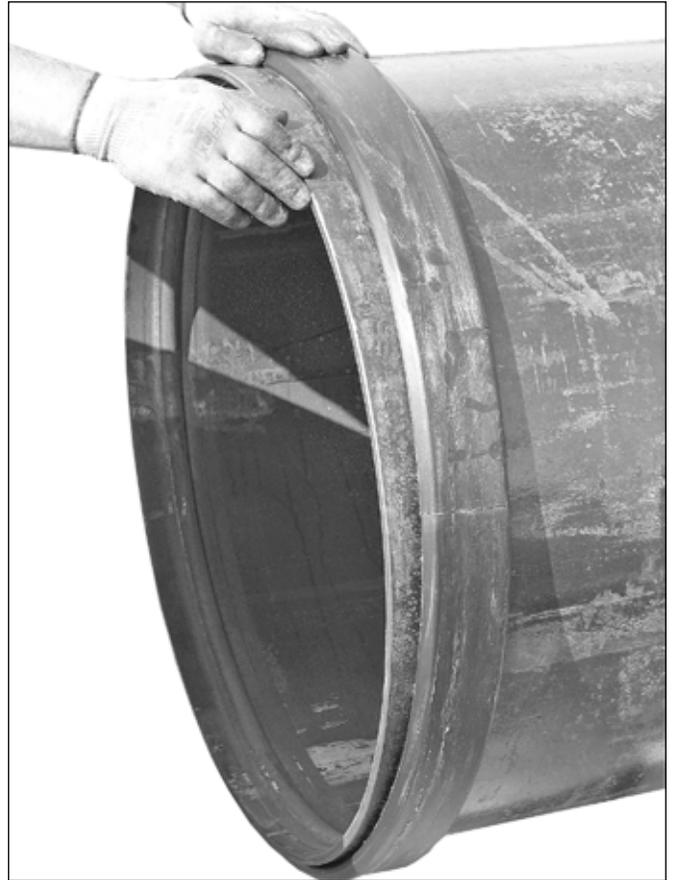
INSTALLATION INSTRUCTIONS – 26 – 60-INCH/660.0 – 1524.0-MM SIZES

THIS COUPLING ASSEMBLY HAS A TORQUE REQUIREMENT. REFER TO THE INSTRUCTIONS IN THIS SECTION OR THE MARKINGS ON THE HOUSINGS FOR THE SPECIFIC TORQUE REQUIREMENT.

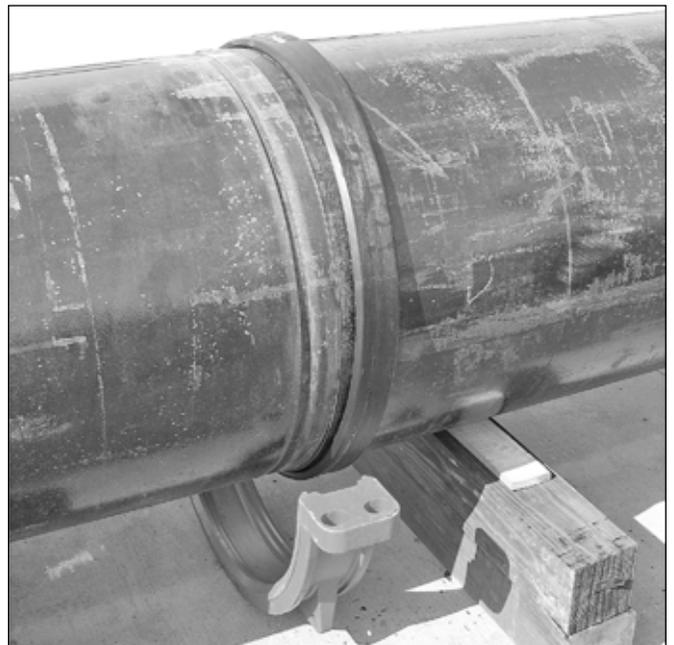
1. Prepare the pipe by following the “Pipe Preparation – All Sizes” section on page 2.



2. Check the gasket to make sure it is suitable for the intended service. The color code identifies the gasket grade. Apply a thin coat of Victaulic lubricant or silicone lubricant to the gasket lips, gasket exterior, and the interior surface of the coupling housings.



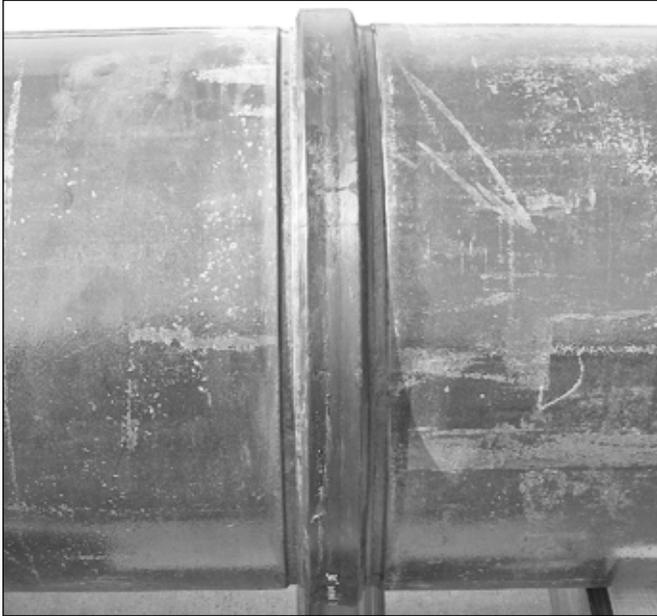
3. Position the gasket over the pipe end. Make sure the gasket does not overhang the pipe end.



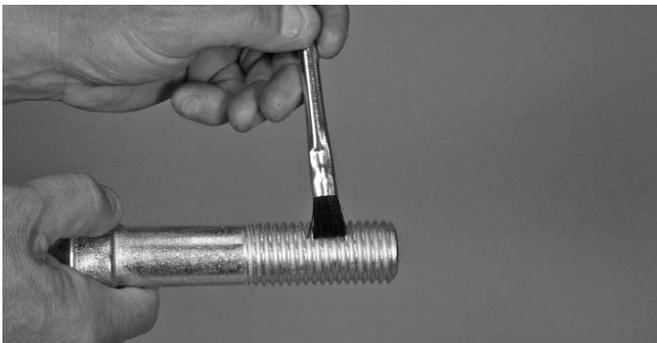
4. Align and bring the two pipe ends together.

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4a. Slide the gasket into position, and center it between the grooves in each pipe.



5. Apply a thin coat of Victaulic lubricant or silicone lubricant to the bolt threads.

NOTICE

- Lifting lugs are provided on 26 – 60-inch/660.0 – 1524.0-mm coupling housings to aid in assembly.
- Due to the weight of 26 – 60-inch/660.0 – 1524.0-mm coupling housings, mechanical lifting equipment is strongly recommended for safe and proper installation.



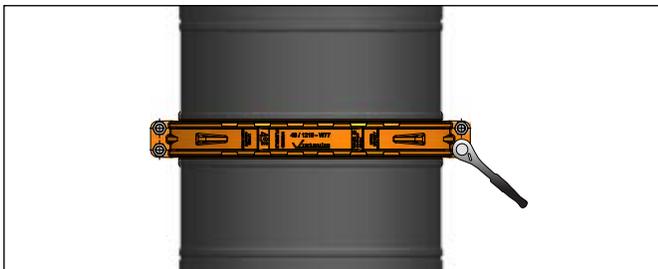
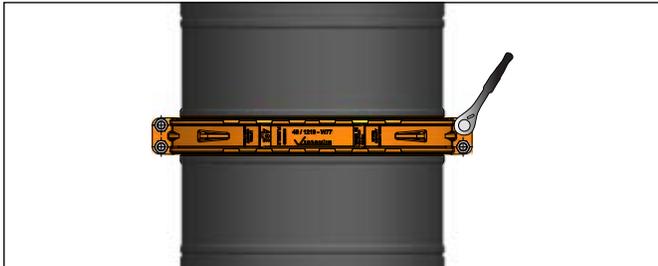
6. Using a strapping method, similar to the one shown in the photos above, install the housings over the gasket. Make sure the housings' keys engage the grooves completely on both pipes.

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6a. Install a flat washer (supplied with the coupling) onto the end of each bolt, and thread a nut finger-tight onto each bolt. **NOTE:** Make sure the oval necks of the bolts seat properly in the bolt holes.



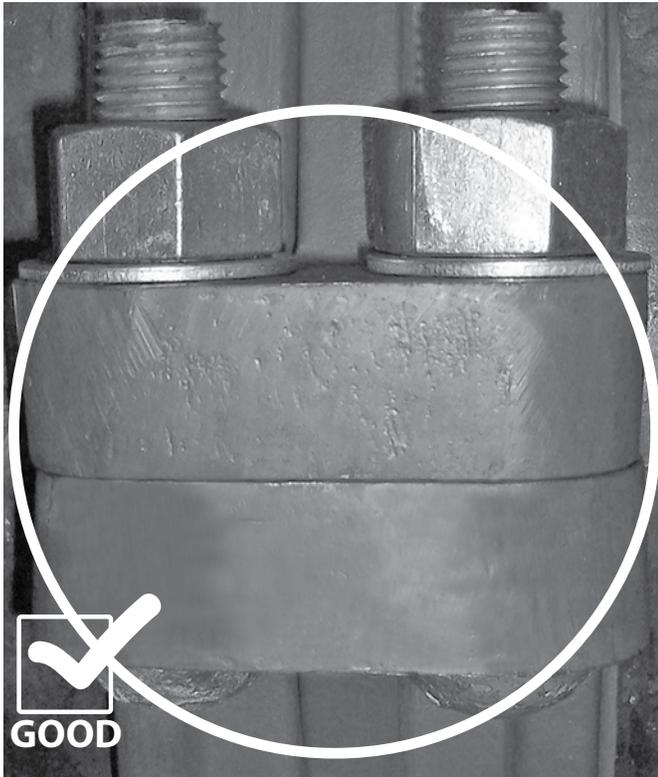
7. Tighten the nuts evenly by alternating sides (refer to the graphics in the left column of this page for the tightening sequence). Make sure the housings' keys engage the grooves completely. Continue to tighten the nuts evenly until metal-to-metal bolt pad contact **AND** the specified torque value are achieved. Refer to the "Required Assembly Torques" table on the following page. **NOTE: Both conditions of metal-to-metal bolt pad contact AND the specified torque value are required for proper coupling assembly.**

NOTE: It is important to tighten the nuts evenly to prevent gasket pinching. Deep well sockets are recommended for proper installation due to the longer bolt lengths associated with these products. Deep well sockets provide the full nut engagement that is necessary during tightening.

TO PREVENT LUBRICATION FROM DRYING OUT AND CAUSING GASKET PINCHING, ALWAYS BRING THE BOLT PADS INTO METAL-TO-METAL CONTACT IMMEDIATELY AFTER ASSEMBLING THE COUPLING ONTO THE PIPE.

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8. Visually inspect the bolt pads at each joint to ensure metal-to-metal contact is achieved across the entire bolt pad section.

⚠ WARNING

- Nuts must be tightened evenly until both conditions of metal-to-metal bolt pad contact AND the specified torque value are achieved.
- Always bring the bolt pads into metal-to-metal contact immediately after assembling the coupling onto the pipe.

Failure to follow these instructions could cause joint failure, resulting in serious personal injury and/or property damage.

Required Assembly Torques

Coupling Size		Required Torques
Nominal Size inches	Actual Outside Diameter Inches/mm	ft-lbs (N•m)
26 – 28	26.000 – 28.000 660.0 – 711.0	375 500
30 – 36	30.000 – 36.000 762.0 – 914.0	500 678
40 – 60	40.000 – 60.000 1016.0 – 1524.0	600 814

Style W07 and W77 Helpful Information

Size		Number of Bolts/Nuts/ Washers	Bolt/Nut/Washer Size	Socket Size
Nominal Size inches	Actual Outside Diameter inches mm		inches/Metric	inches/Metric
26 – 28	26.000 – 28.000 660.0 – 711.0	4	1 1/8 M27	1 13/16 46
30 – 36	30.000 – 36.000 762.0 – 914.0	4	1 1/4 M30	2 50
40 – 60	40.000 – 60.000 1016.0 – 1524.0	4	1 1/2 M36	2 3/8 60

For complete contact information, visit www.victaulic.com

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