

**Rigid Coupling  
Fig. 770**



The Figure 770 Rigid Coupling provides a rigid joint by firmly gripping along the circumference of the pipe grooves. This coupling offers a dependable method for joining pipe and is an economical alternative to welding, threading, or using flanges. It is capable of pressures up to 1000 psi (68.9 bar) depending on pipe size and wall thickness.

**Additional Features:**

- Full 360° gripping of the groove circumference provides a strong rigid connection.
- Tongue-and-groove design simplifies installation.

For Listings/Approval Details and Limitations, visit our website at [www.asc-es.com](http://www.asc-es.com) or contact an ASC Engineered Solutions™ Sales Representative.

## Material Specifications

**Bolts**

SAE J429, Grade 5, Zinc Electroplated (standard)

**Heavy Hex Nuts**

SAE A563, Grade A, Zinc Electroplated (standard)

**Hardware Kits**

304 Stainless Steel (available in sizes up to ¾")

Kit includes:

- (2) Bolts per ASTM A193, Grade B8
- (2) Heavy Hex Nuts per ASTM A194, Grade 8

## Material Specifications (continued)

**Housing**

Ductile Iron conforming to ASTM A536, Grade 65-45-12.

**Coatings**

- Rust inhibiting paint
- Color: Orange (standard)
- Hot Dipped Zinc Galvanized (optional)
- Other Colors Available (IE: RAL3000 and RAL9000)

For other Coating requirements contact an ASC Representative

**Gaskets**

Properties as designated in accordance with ASTM D2000

**Grade "EP" EPDM** (Green and Red color code)  
**Not available with 3"**

-40°F to 250°F (Service Temperature Range)  
(-40°C to 121°C)

Recommended for water service, diluted acids, alkalis solutions, oil-free air and many other chemical services.

NOT FOR USE IN PETROLEUM APPLICATIONS.  
NSF-61 Certified.

**Grade "T" Nitrile** (Orange color code)

NOT FOR USE IN DRINKING WATER

-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

**Gasket Type**

Standard C Style (2" - 8")

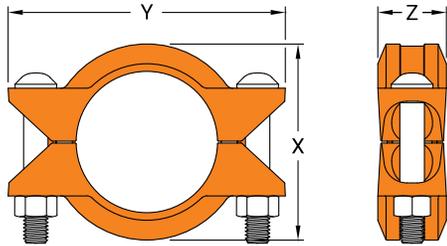
**Lubrication**

- Standard
- Gruvlok Xtreme



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

## Rigid Coupling Fig. 770



Nominal Size	O.D.	Max. Working Pressure	Max. End Load	Allowable 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	
2 50	2.375 60.3	1000 68.9	4,430 19.71	0.14 3.6	3.53 89.7	5.72 145.3	1.88 47.8	2 M16 x 70	3.4 1.5	
2½ 65	2.875 73.0	1000 68.9	6,492 28.88	0.14 3.6	4.06 103.1	6.00 152.4	1.88 47.8	2 M16 x 89	4.0 1.8	
3 80	3.500 88.9	1000 68.9	9,621 42.79	0.14 3.6	4.78 121.4	6.76 171.7	1.88 47.8	2 M16 x 89	5.3 2.4	
4 100	4.500 114.3	1000 68.9	15,904 70.74	0.25 6.4	6.01 152.7	8.50 215.9	2.10 53.3	2 M20 x 108	7.3 3.3	
6 150	6.625 168.3	1000 68.9	34,472 153.33	0.25 6.4	8.51 216.2	11.25 285.8	2.10 53.3	2 M22 x 140	15.0 6.8	
8 200	8.625 219.1	800 55.2	46,741 207.90	0.25 6.4	10.93 277.6	13.75 349.3	2.60 66.0	2 M24 x 140	25.0 11.3	

**Notes:**  
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 Gruvlok Coupling Working Pressure Ratings document published in the resources section of the website for pressure ratings on alternate pipe materials.



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## Fig. 770 Rigid Coupling



Read and understand all instructions before use.

### WARNING

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 & Lubricate Gasket

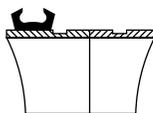
Check gasket to be sure it is compatible for the intended service. Apply a thin coating of Gruvlok lubricant to the exterior surface and sealing lips of the gasket. Some applications require lubrication of the entire gasket surface. Be careful that foreign particles do not adhere to lubricated surfaces.

**Notice:** Gruvlok Xtreme Lubricant must be applied when used in dry pipe systems or freezer applications. separation. Pipe joint separation may result in significant property damage and serious injury.



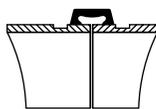
### 2 Gasket Installation

Slip the gasket over the pipe end making sure the gasket lip does not overhang the pipe end.



### 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.



### 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.



#### Maximum Bolt Torque

Bolt Size (In.)	Wrench Size (In.)	Ft-Lbs
5/8	1 1/16	235
3/4	1 1/2	425
7/8	1 7/16	675
1	1 5/8	900

### 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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