

Thank you for purchasing the Tuf-Lok Ring Grip Pipe Coupling. This guide contains information that will allow you to get the best results from your equipment while operating it safely. Please read it carefully before installing and operating this equipment. It is critical that the people operating and maintaining this equipment have a copy of this guide. All information in this guide is based on the latest product information. Tuf-Lok International reserves the right to make changes at any time without notice and without incurring any obligation.



### Safety

Your safety and the safety of others are very important. We have provided important safety messages in this guide and safety labels on the equipment. Please read these messages carefully.

A safety message alerts you to the potential hazards that could hurt you or others. Each safety message is preceded by a safety alert symbol and one of three words, DANGER, WARNING, or CAUTION.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

These signal words mean:



#### DANGER

**DANGER** indicates a hazardous situation which, if not avoided, will result in death or serious injury.



#### WARNING

**WARNING** indicates a hazardous situation which, if not avoided, could result in death or serious injury.



#### CAUTION

**CAUTION** indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.

Each message typically identifies the type of the hazard, the consequence of not avoiding the hazard, and how to avoid the hazard.

### Damage Prevention Messages

#### NOTICE

**NOTICE** indicates information or a company policy that relates directly or indirectly to the safety of personnel or protection of property.

| Symbol | Typical Warning/Meaning  |
|--------|--|
|        | This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death. |
|        | Mandatory Action to Avoid a Hazard   |
|        | Pressurized Source, or Contents Under Pressure   |

#### NOTICE

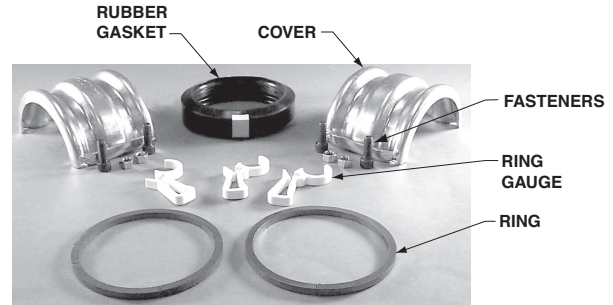
##### OPERATING CONDITIONS



The Tuf-Lok pipe coupling has been designed to provide dependable service, even under severe use. However, the Tuf-Lok pipe coupling is intended for specific operating conditions only, with respect to air pressure and temperature. Maintenance of such products is controlled exclusively by the user. Tuf-Lok disclaims all responsibility for damage or injury resulting from the use of the Tuf-Lok pipe coupling. Therefore, the user assumes all responsibility for any and all claims arising directly or indirectly from the product and/or its use.

### Operation Principles

The Tuf-Lok ring grip pipe coupling provides a versatile, economical and reliable method for connecting pipe together. The Tuf-Lok ring grip pipe coupling eliminates any pipe grooving, threading or flanging. Pipe end preparation is simple and easy, either in the shop or on the job site. In addition to speed and ease of assembly, the Tuf-Lok ring grip pipe coupling offers specific mechanical benefits to the designer, installer and end user.



### Gasket Usage and Temperature Ratings

**Black EPDM** - Tuf-Lok coupling standard gasket, rated to 230° F (110° C)

**White Silicone** - Tuf-Lok coupling standard high temperature gasket (also food grade), rated to 350° F (176° C)

**White Buna-N** - Tuf-Lok coupling standard food grade gasket, rated to 180° F (82° C)

### Installation

#### WARNING



Provide proper supports for the pipe during installation. The Tuf-Lok pipe coupling is not intended to support the weight of the pipe.

1. Cut both pipe ends square and deburr all edges (see Fig. 1). Burrs and jagged edges can cut the rubber gasket.
2. The outside surface of the pipe should be properly cleaned of mill scale and any other contamination.
3. Slide the ring over the end of the pipe. Use the nylon ring gauges provided to locate the ring in the proper position (see Fig. 2-3).

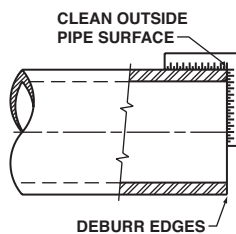


Fig. 1



Fig. 2

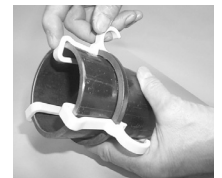


Fig. 3

4. Make sure nylon ring gauges are pushed up tightly to the end of the pipe in order for the ring to be located in the proper position (see Fig. 4).

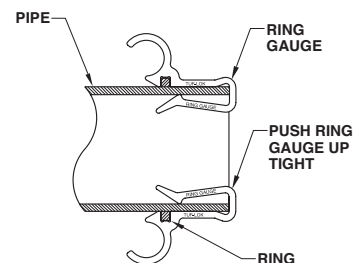


Fig. 4

### Installation

5. Tack weld the ends of the ring to the pipe. Continue tack welding around the perimeter to secure the ring in place (see Fig. 5).

#### WARNING



All welding must be completed by a qualified welder.

#### NOTICE

Distance between tack welds should not exceed 2.00" (51 mm). Failure to tack weld rings properly may cause warping and improper location of ring.

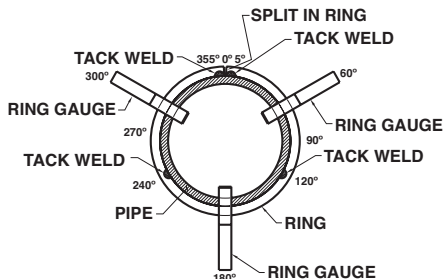


Fig. 5

6. Remove the nylon ring gauges and continuously weld the ring on the pipe end side only with a 1/4" (6.4mm) fillet weld (see Fig. 6). Repeat steps 2 through 6 for the mating pipe end.

#### NOTICE



Allow the welded ring and pipe to cool below 150° F (65° C) before continuing with the assembly of the coupling.

7. Lubricate the rubber gasket with an 8:1 ratio of a water and liquid detergent solution for ease of installation (see Fig. 7).
8. Gently slide the gasket past the end of the pipe (see Fig. 8).



Fig. 6



Fig. 7



Fig. 8

9. Butt the mating pipe end to the pipe with the gasket in place.
10. Position the gasket over the joint until it is centered (see Fig. 9).
11. Use the metal cover as an alignment guide to position the gasket (see Fig. 10).
12. Assemble the metal covers over the welded rings and gasket with the gasket inserts positioned between the coupling cover halves (see Fig. 11).

#### WARNING



Gasket inserts must be positioned between the cover halves to prevent joint pressure failure and/or damage to equipment or possible injury to plant personnel (see Fig. 13).



Fig. 9



Fig. 10

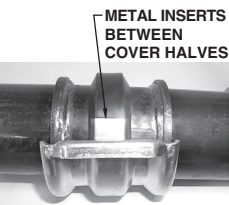


Fig. 11

13. Install bolts, lock washers and nuts; partially tighten the coupling bolts to ensure proper seating of the gasket (see Fig. 12). Ensure the metal insert on the gasket is correctly positioned between the coupling covers to protect against gasket failure (see Fig. 13).

#### NOTICE

Do not over tighten bolts. Over tightening would exceed recommended limits and damage the coupling.

14. Evenly tighten all the coupling bolts to the following torque values: 44 ft. lbs for Series 688 couplings; and 212 ft. lbs. for Series 698 couplings.
15. For optimum alignment, the cover must be touching the pipe perimeter at points 1 through 6 (see Fig. 14).

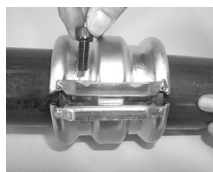


Fig. 12

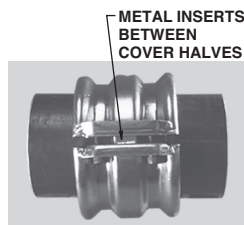


Fig. 13

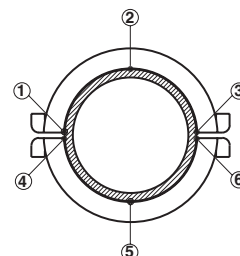


Fig. 14

16. Before disassembling the coupling, completely depressurize the piping system.

#### WARNING



To prevent damage to equipment and/or possible injury to plant personnel, make sure any residual pressure within the pipe is completely relieved before disassembling the coupling. Follow all lockout and tagout procedures before performing maintenance on or servicing the Tuf-Lok coupling.

### Dimensions & Specifications

| Series Number | Nominal Pipe Size |     | Pipe Outside Diameter |     | Maximum Working Pressure |       |
|---------------|-------------------|-----|-----------------------|-----|--------------------------|-------|
|               | in.               | mm  | in.                   | mm  | psig                     | barg  |
| 688           | 2                 | 50  | 2.375                 | 60  | 150                      | 10.34 |
| 688           | 3                 | 80  | 3.500                 | 89  | 150                      | 10.34 |
| 688           | 4                 | 100 | 4.500                 | 114 | 150                      | 10.34 |
| 688           | 5                 | 125 | 5.563                 | 141 | 150                      | 10.34 |
| 688           | 6                 | 150 | 6.625                 | 168 | 150                      | 10.34 |
| 688           | 8                 | 200 | 8.625                 | 219 | 130                      | 8.96  |
| 698           | 8                 | 200 | 8.625                 | 219 | 150                      | 10.34 |
| 698           | 10                | 250 | 10.750                | 273 | 175                      | 12.07 |

### Customer Assistance

Should any questions arise with regard to installation and/or operation that are not covered in this guide, please call or email the Tuf-Lok customer service department for further recommendations.

**Tuf-Lok International**  
St. Paul, Minnesota USA

Phone: +1 651 486-3074  
Email: info@tuflok.com

[www.tuflok.com](http://www.tuflok.com)

**Tuf-Lok UK**  
Aylesbury, UK

Phone: +44 (0) 1706 822512  
Email: sales@tuflok.co.uk