

## **GRINNELL G-FIRE Figure 577 Grooved Rigid Coupling 1-Inch to 12-Inch (DN25 to DN300)**

### **General Description**

For use in fire protection systems, the GRINNELL G-FIRE Figure 577 Grooved Rigid Coupling provides a rigid joint by firmly gripping along the full circumference of the pipe grooves. Figure 577 Grooved Rigid Couplings are a proven dependable method of joining pipe and are an economical alternative to welding, threading, or using flanges. It is capable of pressures up to 350 psi (24, 1 bar) depending on pipe size and wall thickness when used in fire protection services.

#### **⚠WARNING**

*Never remove any piping component nor correct or modify any piping deficiencies without first de-pressurizing and draining the system. Failure to do so may result in serious personal injury, property damage, and/or impaired device performance.*

*It is the Designer's responsibility to select products suitable for the intended service and to ensure that pressure ratings and performance data are not exceeded. Material and gasket selection should be verified to be compatible for the specific application. Always read and understand the installation instructions.*

*The GRINNELL G-FIRE Figure 577 Grooved Rigid Coupling described herein must be installed and maintained in compliance with this document, as well as with the applicable standards of the Approval agency, in addition to the standards of any other authorities having jurisdiction. Failure to do so may result in serious personal injury or impair the performance of these devices.*

*Owners are responsible for maintaining their mechanical system and devices in proper operating condition. The installing contractor or device manufacturer should be contacted with any questions.*

### **Technical Data**

#### **Approvals**

UL, FM, ULC, VdS, and LPCB

#### **Sizes**

1-Inch to 12-Inch (DN25 to DN300)

#### **Housing**

Ductile iron conforming to ASTM A 536, Grade 65-45-12

#### **Finish**

- Orange non-lead paint
- Red non-lead paint
- Hot-dipped, Galvanized conforming to ASTM A 153

#### **Bolts/Nuts**

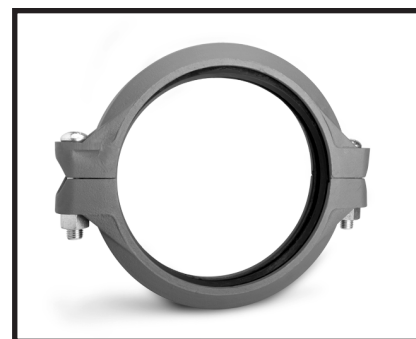
- **ANSI:**  
Carbon Steel oval neck track head bolts are heat-treated and conform to the physical properties of ASTM A 183 Grade 2 and SAE J429 Grade 5 with a minimum tensile strength of 110,000 psi.

Carbon Steel heavy hex nuts conform to the physical properties of ASTM A 183 Grade 2 and SAE J995 Grade 5. Bolts and nuts are zinc-electroplated conforming to ASTM B 633.

Stainless Steel Bolts and Nuts are available upon request.

- **Metric:**  
Carbon steel oval neck track head bolts (Gold color coded) are heat-treated and conform to the physical properties of ASTM F 568 M with a minimum tensile strength of 760 MPa.

Carbon Steel heavy hex nuts conform to the physical properties of ASTM A 563 M Class 9. Bolts and nuts are zinc-electroplated conforming to ASTM B 633.

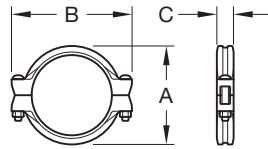


For Fire Protection pressure rating, listing, and approval information, contact your GRINNELL Representative.

#### **Gaskets**

- Pre-lubricated Grade "A" EPDMA, Violet color code, -30°F to 150°F (-34°C to 66°C)  
*Not recommended for hot water systems*
- Tri-Seal Grade "E" EPDM, Green color code, -30°F to 150°F (-34°C to 66°C)

For proper gasket selection, refer to Technical Data Sheet TFP1895.



**FIGURE 577**  
**GROOVED RIGID COUPLING**  
**1" - 12" (DN25 TO DN300)**

Pipe Size		Max. † Pressures psi (bar)	Max. † End Load Lbs. (kN)	Max. *‡ End Gap Inches (mm)	Nominal Dimensions			Coupling Bolts		Approx. Weight Lbs. (kg)
Nominal ANSI Inches DN	O.D. Inches (mm)				A Inches (mm)	B Inches (mm)	C Inches (mm)	Qty.	Size** Inches (mm)	
1 DN25	1.315 (33,4)	350 (24,1)	475 (2,11)	0.06 (1,5)	1.63 (2)	3.92 (100)	1.65 (42)	2	3/8 x 2-1/4 M10 x 57	1.2 (0,55)
1-1/4 DN32	1.660 (42,2)	350 (24,1)	757 (3,37)	0.06 (1,5)	2.66 (68)	4.40 (112)	1.64 (42)	2	3/8 x 2-1/4 M10 x 57	1.3 (0,59)
1-1/2 DN40	1.900 (48,3)	350 (24,1)	992 (4,41)	0.06 (1,5)	2.90 (74)	4.66 (118)	1.66 (42)	2	3/8 x 2-1/4 M10 x 57	1.5 (0,68)
2 DN50	2.375 (60,3)	350 (24,1)	1,551 (6,90)	0.06 (1,5)	3.38 (86)	5.20 (132)	1.70 (43)	2	3/8 x 2-1/4 M10 x 57	1.8 (0,82)
2-1/2 DN65	2.875 (73,0)	350 (24,1)	2,272 (10,11)	0.06 (1,5)	3.88 (99)	5.64 (143)	1.75 (44)	2	3/8 x 2-1/4 M10 x 57	2.0 (0,91)
— DN65	3.000 (76,2)	350 (24,1)	2,474 (11,01)	0.06 (1,5)	4.00 (102)	5.78 (147)	1.75 (2)	2	— M16 x 83	2.0 (0,91)
3 DN80	3.500 (88,9)	350 (24,1)	3,367 (14,98)	0.06 (1,5)	4.50 (114)	6.33 (161)	1.75 (44)	2	3/8 x 2-1/4 M10 x 57	3.3 (1,50)
4 DN100	4.500 (114,3)	300 (20,7)	4,771 (21,22)	0.06 (1,5)	5.70 (145)	7.50 (191)	1.83 (46)	2	3/8 x 2-1/4 M10 x 57	3.3 (1,50)
— DN125	5.500 (139,7)	300 (20,7)	7,127 (31,71)	0.125 (3,2)	6.80 (173)	8.75 (222)	1.91 (49)	2	— M12 x 76	5.3 (2,41)
5 DN125	5.563 (141,3)	300 (20,7)	7,290 (32,43)	0.125 (3,2)	6.86 (174)	8.82 (224)	1.91 (49)	2	1/2 x 3 M12 x 76	5.3 (2,41)
— DN150	6.500 (165,1)	300 (20,7)	9,955 (44,28)	0.125 (3,2)	7.80 (198)	9.75 (248)	1.91 (49)	2	— M12 x 76	5.7 (2,59)
6 DN150	6.625 (168,3)	300 (20,7)	10,341 (46,00)	0.125 (3,2)	8.47 (215)	9.88 (251)	1.91 (49)	2	1/2 x 3 M12 x 76	5.9 (2,68)
8 DN200	8.625 (219,1)	300 (20,7)	17,528 (77,97)	0.125 (3,2)	10.25 (260)	12.78 (325)	2.40 (61)	2	5/8 x 3-1/4 M16 x 83	11.7 (5,32)
10 DN250	10.750 (273,1)	175 (12,1)	15,883 (70,7)	0.25 (6,4)	12.50 (318)	16.50 (419)	2.56 (65)	2	3/4 x 4-3/4 M20 x 121	19.5 (8,86)
12 DN300	12.750 (323,9)	175 (12,1)	22,343 (99,4)	0.25 (6,4)	14.50 (368)	18.50 (470)	2.56 (65)	2	3/4 x 4-3/4 M20 x 121	22.0 (10,00)

\* Maximum available gap between pipe ends. Minimum gap = 0.

† Maximum Pressure and End Load are total from all loads based on standard weight steel pipe. Pressure ratings and end loads may differ for other pipe materials and/or wall thickness. Contact your GRINNELL Representative.

\*\* Gold color coded metric bolt sizes for DN25 - DN300 couplings are available upon request.

‡ Max End Gap is for cut grooved standard weight pipe.

**TABLE 1**  
**GRINNELL G-FIRE FIGURE 577 GROOVED RIGID COUPLING**  
**— DIMENSIONS —**

## Care and Maintenance

### NOTICE

*Before closing a fire protection system main control valve for maintenance work on the fire protection system that it controls, obtain permission to shut down the affected fire protection system from the proper authorities and notify all personnel who may be affected by this decision.*

*After placing a fire protection system in service, notify the proper authorities and advise those responsible for monitoring proprietary and/or central station alarms.*

Owners are responsible for the inspection, testing, and maintenance of their fire protection system and devices in compliance with this document, as well as with the applicable standards of the National Fire Protection Association (for example, NFPA 25), in addition to the standards of any authority having jurisdiction. The installing contractor or product manufacturer should be contacted relative to any questions. Any impairments must be immediately corrected.

Automatic sprinkler systems are recommended to be inspected, tested, and maintained by a qualified Inspection Service in accordance with local requirements and/or national codes.

## Limited Warranty

Products manufactured by Tyco International (Tyco) under the GRINNELL brand are warranted solely to the original Buyer for ten (10) years from date of shipment by Tyco against defects in material and workmanship when paid for and properly installed and maintained under normal use and service, except for the G-MINE line of products, which are warranted solely to the original Buyer for six (6) months from date of shipment by Tyco against defects in material and workmanship when paid for and properly installed and maintained under normal use and service. No warranty is given for products or components manufactured by companies not affiliated by ownership with Tyco or for products and components which have been subject to misuse, improper installation or maintenance, corrosion, or other external sources of damage. Materials found by Tyco to be defective shall be either repaired or replaced, at Tyco's sole option. Tyco neither assumes, nor authorizes any person to assume for it, any other obligation in connection with the sale of products or parts of products. Tyco shall not be responsible for system design errors or inaccurate or incomplete information supplied by Buyer or Buyer's representatives.

In no event shall Tyco be liable, in contract, tort, strict liability or under any other legal theory, for incidental, indirect, special or consequential damages, including but not limited to labor charges, regardless of whether Tyco was informed about the possibility of such damages, and in no event shall Tyco's liability exceed an amount equal to the sales price.

The foregoing warranty is made in lieu of any and all other warranties, express or implied, including warranties of merchantability and fitness for a particular purpose.

This limited warranty sets forth the exclusive remedy for claims based on failure of or defect in products, materials or components, whether the claim is made in contract, tort, strict liability or any other legal theory.

This warranty will apply to the full extent permitted by law. The invalidity, in whole or part, of any portion of this warranty will not affect the remainder.

## Ordering Procedure

GRINNELL Products are available globally through a network of distribution centers. For the nearest distributor, visit [www.grinnell.com](http://www.grinnell.com). When placing an order, indicate the full product name.

Specify G-FIRE Figure 577 Grooved Rigid Coupling, quantity, pipe size (Nominal ANSI or O.D.), finish (Orange, Red, or Galvanized), and type of gasket:

- Pre-lubricated Grade "A" EPDM
- Tri-Seal Grade "E" EPDM

