GRUVLOK® COUPLINGS FOR GROOVED-END PIPE

Gruvlok couplings for grooved-end pipe are available in nominal pipe sizes 1” thru 30” and metric sizes. The variety of coupling designs provide a universal means for the connection of pipe, fittings and pipe system components. The wide assortment of Gruvlok couplings and gaskets permit selection of the most suitable combination for a specific application, thus providing the most versatile and economical pipe system installation.

MATERIAL SPECIFICATIONS

ANSI BOLTS & HEAVY HEX NUTS:
Heat treated, oval neck track head bolts conforming to ASTM A 183 Grade 2 with a minimum tensile strength of 110,000 psi and heavy hex nuts of carbon steel conforming to ASTM A 563 Grade A or Grade B, or J995 Grade 2. Bolts and nuts are provided zinc electroplated as standard.

METRIC BOLTS & HEAVY HEX NUTS:
Heat treated, zinc electroplated oval-neck track head bolts made of carbon steel with mechanical properties per ISO 898-1 Class 8.8. Hex nuts are zinc electroplated followed by a yellow chromate dip.

STAINLESS STEEL BOLTS & NUTS:
Stainless steel bolts and nuts are available for the Fig. 7001, 7401, 7401-2, 7004, 7000 and 7400 couplings in standard 304SS, (316SS available as special order)

HOUSING:
Ductile Iron conforming to ASTM A 536, 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 a Anvil Representative.

GASKETS: Materials
Properties as designated in accordance with ASTM D 2000

GRADE “EP” EPDM (Green/Red color code) NSF-61 Certified
-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.

GRADE “E” EPDM (Green color code) NSF-61 Certified
-40°F to 230°F (Service Temperature Range)-40°C to 110°C
Recommended for water service, diluted acids, alkalis solutions, oil-free air and many other chemical services.
NOT FOR USE IN PETROLEUM APPLICATIONS.

Grade “T” Nitrile (Orange color code)
-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

Grade “O” Fluoro-Elastomer (Blue color code)
Size Range: 1” - 12” (C style only)
20°F to 300°F (Service Temperature Range)-29°C to 149°C
Recommended for high temperature resistance to oxidizing acids, petroleum oils, hydraulic fluids, halogenated hydrocarbons and lubricants

Grade “L” Silicone (Red color code)
Size Range: 1” - 12” (C style only)
-40°F to 350°F (Service Temperature Range)-40°C to 177°C
Recommended for dry, hot air and some high temperature chemical services

GASKET TYPE:
Standard C Style
Flush Gap: 1” - 24”
End Guard: 1” - 12” (Fig. 7004 and 7377)
SlideLOK: 2” - 8”

LUBRICATION:
Standard Gruvlok
Gruvlok Xtreme™ (Do Not use with Grade “L”)

WORKING PRESSURE, END LOAD, PIPE END SEPARATION & DEFLECTION FROM CENTER LINE:
Based on standard wall steel pipe with cut or roll grooves in accordance with Gruvlok specifications. See technical data section for design factors.
## COUPLING DATA CHART NOTES

<table>
<thead>
<tr>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>Y</td>
<td>Z</td>
<td>Qty.</td>
<td>Size</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>in./mm</td>
<td>in./mm</td>
<td>in./mm</td>
<td></td>
<td>in./mm</td>
</tr>
</tbody>
</table>

1. Gruvlok Couplings are identified by either the nominal ANSI pipe size in inches or pipe O.D. in millimeters (see column 2).

2. Nominal Outside Diameter of Pipe.

3. Maximum line pressure, including surge, to which a joint can be subjected. Working pressure ratings are based on standard wall steel pipe with standard cut or roll grooves in accordance with Gruvlok specifications. For Performance Data on other than standard wall pipe, refer to Technical data section. **NOTE:** For one time field test only, the maximum joint working pressure may be increased to 1.5 times the figure shown unless otherwise noted.

4. Maximum end load from all interior and/or exterior forces to which the joint can be subjected are based on standard wall steel pipe with standard cut or roll grooves in accordance with Gruvlok specifications.

5. Range of pipe end separation for roll grooved pipe, Double values shown when using cut groove pipe; see page 204 for details.

6. Maximum allowable angular deflection values from centerline when using standard roll grooved pipe; Double values shown when using cut groove pipe; see page 204 for details.

7. “X,” “Y,” and “Z” are external dimensions for reference purposes only.

8. The quantity of bolts per coupling.

9. Nuts must be tightened alternating and evenly to the specified bolt torque. See individual product installation instructions for additional important information.

10. Approximate weight for a fully assembled coupling with gasket, bolts, and nuts.
FIG. 7401
Rigidlok® Coupling

The Fig. 7401 Rigidlok Coupling from Gruvlok provides a rigid pipe connection. Rigidity is attained simply; it is designed in.

The Fig. 7401 Rigidlok coupling utilizes a technologically advanced housing design that conforms to and grips the pipe. With the Fig. 7401 there emerges a new generation of rigid couplings.

Coupling installation is fast and easy, remove only one nut and swing the housing over the gasket and into the grooves. The exclusive Guidelok® feature automatically separates the grooved pipe ends and guides the coupling into position as the bolts are tightened. Precisely sized and oriented tines in the housing key section firmly grip the pipe. The combination of these designed in features produce a secure, rigid pipe joint connection.

This coupling is an ideal connector for service and applications that require a rigid connection.

The Fig. 7401 Rigidlok Coupling is designed for use with roll grooved or cut grooved standard weight and roll grooved lightweight pipe, as well as with grooved-end fittings and valves. The Rigidlok Coupling maintains a rigid connection with support and hanging in conformance with applicable ANSI B31.1 Power Piping Code, ANSI B31.9 Building Service Pipe Code as well as NFPA 13 sprinkler systems.

The Fig. 7401 Rigidlok Coupling allows for working pressure ratings to 750 psi (51.7 bar) when used on standard wall roll or cut grooved pipe.

MATERIAL SPECIFICATIONS

ANSI BOLTS & HEAVY HEX NUTS:
Heat treated, oval neck track head bolts conforming to ASTM A 183 Grade 2 with a minimum tensile strength of 110,000 psi and heavy hex nuts of carbon steel conforming to ASTM A 563 Grade A or Grade B, or J995 Grade 2. Bolts and nuts are provided zinc electroplated as standard.

METRIC BOLTS & HEAVY HEX NUTS:
Heat treated, zinc electroplated oval-neck track head bolts made of carbon steel with mechanical properties per ISO 898-1 Class 8.8. Hex nuts are zinc electroplated followed by a yellow chromate dip.

STAINLESS STEEL BOLTS & NUTS:
304SS Stainless Steel bolts and nuts are available as a standard option. (316SS are available for special order).

HOUSING:
Ductile Iron conforming to ASTM A 536, 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 Anvil Representative.

GASKETS: Materials
Properties as designated in accordance with ASTM D 2000
Grade “EP” EPDM (Green and Red color code)
-40°F to 250°F (Service Temperature Range) [-40°C to 121°C]
Recommended for water service, dilute acids, alkalies solutions, oil-free air and many other chemical services.
NOT FOR USE IN PETROLEUM APPLICATIONS.

For hot water applications the use of Gruvlok Extreme Temperature lubricant is recommended. NSF-61 Certified for cold and hot water applications up through 12".

Grade “T” Nitrile (Orange color code)
-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

Grade “O” Fluoro-Elastomer (Blue color code)
Size Range: 1” - 12” (C style only)
20°F to 300°F (Service Temperature Range) [-29°C to 149°C]
Recommended for high temperature resistance to oxidizing acids, petroleum oils, hydraulic fluids, halogenated hydrocarbons and lubricants.

Grade “L” Silicone (Red color code)
Size Range: 1” - 12” (C style only)
-40°F to 350°F (Service Temperature Range) [-40°C to 177°C]
Recommended for dry, hot air and some high temperature chemical services. Contact an Anvil Representative for availability.

GASKET TYPE:
C Style (1” - 24”)
Flush Gap (1” - 24”)

LUBRICATION:
Standard
Gruvlok Xtreme™ (Do Not use with Grade “L”)

For Listings/Approval Details and Limitations, visit our website at www.anvilintl.com or contact an Anvil® Sales Representative.
### FIG. 7401

**Rigidlok® Coupling**

![Diagram of Rigidlok® Coupling](image)

**Sizes:** 1 1/2" - 14"  
**Size:** 16"  
**Sizes:** 18" - 24"

#### FIGURE 7401 RIGIDLOK COUPLING

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
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<tbody>
<tr>
<td></td>
<td>in./mm</td>
<td>in./DN</td>
<td>Lbs./KN</td>
<td>in./mm</td>
<td>X Y Z</td>
<td>Qty. Size</td>
<td>Min. Max.</td>
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<tr>
<td>1 1/2</td>
<td>1.900</td>
<td>750</td>
<td>2,126</td>
<td>0-3/8</td>
<td>3 5/16 1/16</td>
<td>2</td>
<td>M10 x 2 1/4</td>
<td>30 45 1.8</td>
</tr>
<tr>
<td>2</td>
<td>2.375</td>
<td>750</td>
<td>3,323</td>
<td>0-3/8</td>
<td>3 5/16 1/16</td>
<td>2</td>
<td>M10 x 2 1/2</td>
<td>30 45 2.4</td>
</tr>
<tr>
<td>2 1/2</td>
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<td>750</td>
<td>4,869</td>
<td>0-3/8</td>
<td>4 6/16 1/16</td>
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<td>M10 x 2 1/2</td>
<td>30 45 2.9</td>
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<td>3 O.D.</td>
<td>3.296</td>
<td>750</td>
<td>5,207</td>
<td>0-3/8</td>
<td>4 6/16 1/16</td>
<td>2</td>
<td>M10 x 2 1/2</td>
<td>30 45 3.4</td>
</tr>
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<td>3</td>
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<td>750</td>
<td>7,216</td>
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<td>M12 x 7/16</td>
<td>80 100 3.6</td>
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<td>4</td>
<td>4.000</td>
<td>750</td>
<td>11,928</td>
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<td>2</td>
<td>M12 x 7/6</td>
<td>110 150 2.3</td>
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<td>750</td>
<td>17,819</td>
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<td>2</td>
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<td>5.563</td>
<td>750</td>
<td>18,229</td>
<td>0-3/8</td>
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<td>2</td>
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<td>135 175 3.1</td>
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<tr>
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<td>750</td>
<td>25,854</td>
<td>0-3/8</td>
<td>8 11/16 2/16</td>
<td>2</td>
<td>M18 x 8 1/2</td>
<td>165 215 3.4</td>
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<td>8 11/16 2/16</td>
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<td>M18 x 8 1/2</td>
<td>165 215 3.4</td>
</tr>
<tr>
<td>8</td>
<td>6.625</td>
<td>750</td>
<td>25,854</td>
<td>0-3/8</td>
<td>8 11/16 2/16</td>
<td>2</td>
<td>M18 x 8 1/2</td>
<td>165 215 3.4</td>
</tr>
<tr>
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<td>8.000</td>
<td>750</td>
<td>35,056</td>
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<td>M20 x 11/16</td>
<td>175 245 7.2</td>
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<tr>
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<td>750</td>
<td>35,056</td>
<td>0-3/8</td>
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<td>2</td>
<td>M20 x 11/16</td>
<td>175 245 7.2</td>
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<tr>
<td>12</td>
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<td>750</td>
<td>45,381</td>
<td>0-3/8</td>
<td>12 1/16 2/16</td>
<td>2</td>
<td>M24 x 15/16</td>
<td>200 250 25.8</td>
</tr>
<tr>
<td>12</td>
<td>10.750</td>
<td>750</td>
<td>45,381</td>
<td>0-3/8</td>
<td>12 1/16 2/16</td>
<td>2</td>
<td>M24 x 15/16</td>
<td>200 250 25.8</td>
</tr>
<tr>
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<td>12.750</td>
<td>750</td>
<td>51,070</td>
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<td>15 1/16 2/16</td>
<td>2</td>
<td>M22 x 15/16</td>
<td>245 300 13.8</td>
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<tr>
<td>14</td>
<td>12.750</td>
<td>750</td>
<td>51,070</td>
<td>0-3/8</td>
<td>15 1/16 2/16</td>
<td>2</td>
<td>M22 x 15/16</td>
<td>245 300 13.8</td>
</tr>
<tr>
<td>16</td>
<td>14.000</td>
<td>750</td>
<td>46,181</td>
<td>0-3/8</td>
<td>16 1/16 2/16</td>
<td>2</td>
<td>M22 x 15/16</td>
<td>245 300 13.8</td>
</tr>
<tr>
<td>16</td>
<td>14.000</td>
<td>750</td>
<td>46,181</td>
<td>0-3/8</td>
<td>16 1/16 2/16</td>
<td>2</td>
<td>M22 x 15/16</td>
<td>245 300 13.8</td>
</tr>
<tr>
<td>18</td>
<td>16.000</td>
<td>750</td>
<td>60,319</td>
<td>0-3/8</td>
<td>18 1/16 2/16</td>
<td>3</td>
<td>M24 x 15/16</td>
<td>200 250 42.0</td>
</tr>
<tr>
<td>18</td>
<td>16.000</td>
<td>750</td>
<td>60,319</td>
<td>0-3/8</td>
<td>18 1/16 2/16</td>
<td>3</td>
<td>M24 x 15/16</td>
<td>200 250 42.0</td>
</tr>
<tr>
<td>20</td>
<td>18.000</td>
<td>750</td>
<td>76,341</td>
<td>0-3/8</td>
<td>20 1/16 2/16</td>
<td>3</td>
<td>M24 x 15/16</td>
<td>200 250 42.0</td>
</tr>
<tr>
<td>20</td>
<td>18.000</td>
<td>750</td>
<td>76,341</td>
<td>0-3/8</td>
<td>20 1/16 2/16</td>
<td>3</td>
<td>M24 x 15/16</td>
<td>200 250 42.0</td>
</tr>
<tr>
<td>24</td>
<td>20.000</td>
<td>750</td>
<td>94,248</td>
<td>0-3/8</td>
<td>23 1/16 2/16</td>
<td>4</td>
<td>M24 x 15/16</td>
<td>200 250 42.0</td>
</tr>
<tr>
<td>24</td>
<td>20.000</td>
<td>750</td>
<td>94,248</td>
<td>0-3/8</td>
<td>23 1/16 2/16</td>
<td>4</td>
<td>M24 x 15/16</td>
<td>200 250 42.0</td>
</tr>
</tbody>
</table>

*Available in ANSI or metric bolt sizes only as indicated.  
§ For additional Bolt Torque information, see page 204.  
For additional details see “Coupling Data Chart Notes” on page 17.

**NOTE:**  
Range of Pipe End Separation values are for roll grooved pipe and may be doubled for cut groove pipe.

---

For not for use in copper systems.

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GL-7.12
Gruvlok® introduces new 2-piece large diameter standard groove couplings in both rigid and flexible styles

- Uses standard grooves (conforming to AWWA C-606)
- No special grooves or grooving tools needed
- Pressures to 350 P.S.I. on cut or roll grooved pipe with a wall thickness of 0.250” or greater
- No special fittings needed
- No special valves needed
- Up to 23% less weight than competitive models
- Sizes: 14” through 24” in Rigid: Figure 7401-2

MATERIAL SPECIFICATIONS

ANSI BOLTS & HEAVY HEX NUTS:
Heat treated, oval neck track head bolts conforming to ASTM A 183
Grade 2 with a minimum tensile strength of 110,000 psi and heavy hex nuts of carbon steel conforming to ASTM A 563 Grade A or Grade B, or J995 Grade 2. Bolts and nuts are provided zinc electroplated as standard.

STAINLESS STEEL BOLTS & NUTS:
304SS Stainless Steel bolts and nuts are available as a standard option. (316SS are available for special order).

HOUSING:
Ductile Iron conforming to ASTM A 536, 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 Anvil Representative.

GASKETS: Materials
Properties as designated in accordance with ASTM D 2000

Grade “E” EPDM (Green color code)
-40°F to 230°F (Service Temperature Range)(-40°C to 110°C)
Recommended for water service, diluted acids, alkalies solutions, oil-free air and many other chemical services.
NOT FOR USE IN PETROLEUM APPLICATIONS.

Grade “T” Nitrile (Orange color code)
-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:
Flush Gap (Standard)

LUBRICATION:
Standard
Gruvlok Xtreme™

WORKING PRESSURE, END LOAD & PIPE END SEPARATION:
Based on standard wall steel pipe with cut or roll grooves in accordance with Gruvlok specifications. See technical data section for design factors.

FIGURE 7401-2 RIGIDLOK COUPLING

<table>
<thead>
<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>in.(mm)</td>
<td>PSI/bar (kN/mm)</td>
<td>in. (mm)</td>
<td>min. (mm)</td>
<td>X (in.) Y (in.) Z (in.)</td>
<td>Min. Size</td>
<td>Max. Size</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>3.50</td>
<td>350</td>
<td>53,878</td>
<td>0-3/32</td>
<td>16 1/2 19 3/16 11/2</td>
<td>2 x 1 1/2</td>
<td>180</td>
<td>320</td>
</tr>
<tr>
<td>16</td>
<td>4.00</td>
<td>350</td>
<td>70,372</td>
<td>0-3/32</td>
<td>18 1/2 22 3/16 1 1/2</td>
<td>2 x 1 3/4</td>
<td>250</td>
<td>300</td>
</tr>
<tr>
<td>18</td>
<td>4.50</td>
<td>350</td>
<td>89,064</td>
<td>0-3/32</td>
<td>20 1/2 24 1/2 1 1/2</td>
<td>2 x 1 5/8</td>
<td>375</td>
<td>425</td>
</tr>
<tr>
<td>20</td>
<td>5.00</td>
<td>350</td>
<td>109,956</td>
<td>0-3/32</td>
<td>23 27 1/2 1 1/2 1 1/2</td>
<td>2 x 1 1/2</td>
<td>450</td>
<td>510</td>
</tr>
<tr>
<td>24</td>
<td>6.00</td>
<td>350</td>
<td>158,336</td>
<td>0-3/32</td>
<td>27 1/2 31 1/2 1 1/2</td>
<td>2 x 1 1/2</td>
<td>510</td>
<td>570</td>
</tr>
</tbody>
</table>

Range of Pipe End Separation values are for roll grooved pipe and may be doubled for cut groove pipe.
See Installation & Assembly directions on page 167.
COUPLINGS FOR GROOVED-END PIPE

FIG. 7402
SlideLOK™ Ready for Installation Coupling

The SlideLOK coupling is a ready for installation coupling designed to reduce installation time. The slide action allows for greater flexibility during installation. The patented gasket provides four separate sealing surfaces for added protection. The engineered metal-to-metal installation requirement is a quick and easy indication of proper assembly.

The SlideLOK is designed to be used with roll groove or cut groove steel pipe, as well as with grooved light wall pipe, Gruvlok® grooved-end fittings, and valves. The SlideLOK coupling produces a secure, rigid pipe joint connection.

The SlideLOK coupling allows for a maximum working pressure of 750 psi on roll or cut grooved standard wall pipe. Contact an Anvil representative for light wall pipe pressure ratings.

MATERIAL SPECIFICATIONS

ANSI BOLTS & HEAVY HEX NUTS:
Heat treated, oval neck track head bolts conforming to ASTM A 183 Grade 2 with a minimum tensile strength of 110,000 psi and heavy hex nuts of carbon steel conforming to ASTM A 563 Grade A or Grade B, or J995 Grade 2. Bolts and nuts are provided zinc electroplated as standard.

HOUSING:
Ductile Iron conforming to ASTM A 536, Grade 65-45-12

COATINGS:
Rust inhibiting paint Color: ORANGE (standard)
Hot Dipped Zinc Galvanized (optional)

GASKETS: Materials
Properties as designated in accordance with ASTM D 2000

Grade “EP” EPDM (Green and Red color code)
-40°F to 250°F (Service Temperature Range)(-40°C to 121°C)
Recommended for water service, diluted acids, alkalies solutions, oil-free air and many other chemical services.
NOT FOR USE IN PETROLEUM APPLICATIONS.

Grade “T” Nitrile (Orange color code)
-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:
SlideLOK (2" - 8")

LUBRICATION:
Standard
Gruvlok Xtreme™
## FIG. 7402
SlideLOK™ Ready for Installation Coupling

### FIGURE 7402 SLIDELOK COUPLING

<table>
<thead>
<tr>
<th>Nominal Size</th>
<th>O.D. in./mm</th>
<th>Max. Working Pressure in./mm</th>
<th>Max. End Load in./mm</th>
<th>Range of Pipe End Separation</th>
<th>Coupling Dimensions in./mm</th>
<th>Coupling Bolts</th>
<th>Specified Torque §</th>
<th>Approx. Wt. Ea.</th>
</tr>
</thead>
<tbody>
<tr>
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<td>3</td>
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<td>7,216</td>
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<td>0-1/32</td>
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<td>2</td>
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<tr>
<td>4</td>
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<td>750</td>
<td>11,928</td>
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<td>6 1/4</td>
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<tr>
<td>4½</td>
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<td>750</td>
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<td>6 1/4</td>
<td>6 1/4</td>
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<td>2</td>
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<tr>
<td>5</td>
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<td>7 1/4</td>
<td>9 1/4</td>
<td>2</td>
</tr>
<tr>
<td>5½</td>
<td>5.625</td>
<td>750</td>
<td>18,229</td>
<td>0-1/32</td>
<td>7 1/4</td>
<td>7 1/4</td>
<td>9 1/4</td>
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</tr>
<tr>
<td>6</td>
<td>6.625</td>
<td>700</td>
<td>24,130</td>
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<td>8 3/4</td>
<td>10 1/4</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>7.625</td>
<td>600</td>
<td>35,056</td>
<td>0-1/32</td>
<td>11 3/4</td>
<td>10 3/4</td>
<td>13 3/4</td>
<td>2 1/2</td>
</tr>
<tr>
<td>8</td>
<td>8.625</td>
<td>600</td>
<td>35,056</td>
<td>0-1/32</td>
<td>11 3/4</td>
<td>10 3/4</td>
<td>13 3/4</td>
<td>2 1/2</td>
</tr>
<tr>
<td>8½</td>
<td>8.875</td>
<td>600</td>
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<td>11 3/4</td>
<td>10 3/4</td>
<td>13 3/4</td>
<td>2 1/2</td>
</tr>
</tbody>
</table>

**NOTES:**
- Range of Pipe End Separation values are for roll grooved pipe and may be doubled for cut groove pipe.
- Impact gun can be used for installation, verify that the output of the impact gun is within the required torque range.
- Not for use on “EG” rolled or cut grooved pipe ends.
- Contact an Anvil Representative for use on light wall and SS pipe applications.

For additional details see “Coupling Data Chart Notes” on page 17.
§ – For additional Bolt Torque information, see page 204.
See Installation & Assembly directions on pages 164-165.
Not for use in copper systems.
FIG. 7001
Flexible Coupling

The Gruvlok® Fig. 7001 Coupling forms a flexible grooved end pipe joint connection with the versatility for a wide range of applications. Services include mechanical and plumbing, process piping, mining and oil field piping, and many others. The coupling design supplies optimum strength for working pressures to 1000 PSI (69 bar) without excessive casting weight.

The flexible design eases pipe and equipment installation while providing the designed-in benefit of reducing pipeline noise and vibration transmission without the addition of special components. To ease coupling handling and assembly and to assure consistent quality, sizes 1" through 14" couplings have two 180° segment housings, 16" have three 120° segment housings, and 18" through 24" sizes have four 90° segment housings, while the 28" O.D. and 30" O.D. couplings have six 60° segment housings. The 28" O.D. and 30" O.D. are weld-ring couplings.

MATERIAL SPECIFICATIONS

**ANSI BOLTS & HEAVY HEX NUTS:**
Heat treated, oval neck track head bolts conforming to ASTM A 183 Grade 2 with a minimum tensile strength of 110,000 psi and heavy hex nuts of carbon steel conforming to ASTM A 563 Grade A or Grade B, or J995 Grade 2. Bolts and nuts are zinc electroplated as standard.

**METRIC BOLTS & HEAVY HEX NUTS:**
Heat treated, zinc electroplated oval-neck track head bolts made of carbon steel with mechanical properties per ISO 898-1 Class 8.8. Hex nuts are zinc electroplated followed by a yellow chromate dip.

**STAINLESS STEEL BOLTS & NUTS:**
304SS Stainless Steel bolts and nuts are available as a standard option. (316SS are available for special order).

**HOUSING:**
Ductile Iron conforming to ASTM A 536, 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 Anvil Representative.

**GASKETS: Materials**

**Grade “O” Fluoro-Elastomer (Blue color code)**
Size Range: 1" - 12" (C style only)
20°F to 300°F (Service Temperature Range) (-29°C to 149°C)
Recommended for high temperature resistance to oxidizing acids, petroleum oils, hydraulic fluids, halogenated hydrocarbons and lubricants.

**Grade “L” Silicone (Red color code)**
Size Range: 1" - 12" (C style only)
-40°F to 350°F (Service Temperature Range) (-40°C to 177°C)
Recommended for dry, hot air and some high temperature chemical services. Contact an Anvil Representative for availability.

**GASKET TYPE:**
C Style (1" - 30")
Flush Gap (1" - 24")

**LUBRICATION:**
Standard
Gruvlok Xtreme™ (Do Not use with Grade “L”)

**WORKING PRESSURE, END LOAD, PIPE END SEPARATION & DEFLECTION FROM CENTER LINE:**
Based on standard wall steel pipe with cut or roll grooves in accordance with Gruvlok specifications. See technical data section for design factors.

---

For Listings/Approval Details and Limitations, visit our website at www.anvilintl.com or contact an Anvil® Sales Representative.
### FIGURE 7001 FLEXIBLE COUPLING

<table>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X (in./mm) Y (in./mm) Z (in./mm)</td>
<td>Qty.</td>
<td>Size (in./mm)</td>
<td>Min.</td>
<td>Max.</td>
</tr>
<tr>
<td>1</td>
<td>3.150</td>
<td>1000</td>
<td>1.358</td>
<td>0–1⁄4</td>
<td>1° 22'</td>
<td>2 3⁄4</td>
<td>4 1⁄4</td>
<td>1 1⁄4</td>
<td>2 x 3⁄4</td>
</tr>
<tr>
<td>1 1⁄2</td>
<td>3.660</td>
<td>1000</td>
<td>2.164</td>
<td>0–1⁄4</td>
<td>1° 5</td>
<td>2 3⁄4</td>
<td>4 1⁄4</td>
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<tr>
<td>2</td>
<td>3.990</td>
<td>1000</td>
<td>2.835</td>
<td>0–1⁄4</td>
<td>0° 57'</td>
<td>3</td>
<td>4 1⁄4</td>
<td>1 1⁄4</td>
<td>2 x 3⁄4</td>
</tr>
<tr>
<td>3</td>
<td>4.330</td>
<td>1000</td>
<td>4.430</td>
<td>0–1⁄4</td>
<td>0° 45'</td>
<td>3 1⁄4</td>
<td>6 1⁄4</td>
<td>1 3⁄4</td>
<td>2 x 3⁄4</td>
</tr>
<tr>
<td>3 1⁄2</td>
<td>4.660</td>
<td>1000</td>
<td>6.500</td>
<td>0–1⁄4</td>
<td>0° 30'</td>
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<td>2 x 3⁄4</td>
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<td>4</td>
<td>4.990</td>
<td>1000</td>
<td>7.600</td>
<td>0–1⁄4</td>
<td>0° 20'</td>
<td>3 1⁄4</td>
<td>6 1⁄4</td>
<td>1 3⁄4</td>
<td>2 x 3⁄4</td>
</tr>
<tr>
<td>5</td>
<td>5.660</td>
<td>1000</td>
<td>8.620</td>
<td>0–1⁄4</td>
<td>0° 10'</td>
<td>3 1⁄4</td>
<td>6 1⁄4</td>
<td>1 3⁄4</td>
<td>2 x 3⁄4</td>
</tr>
<tr>
<td>6</td>
<td>6.330</td>
<td>1000</td>
<td>9.620</td>
<td>0–1⁄4</td>
<td>0° 0'</td>
<td>3 1⁄4</td>
<td>6 1⁄4</td>
<td>1 3⁄4</td>
<td>2 x 3⁄4</td>
</tr>
<tr>
<td>7</td>
<td>7.000</td>
<td>1000</td>
<td>10.700</td>
<td>0–1⁄4</td>
<td>0° 0'</td>
<td>3 1⁄4</td>
<td>6 1⁄4</td>
<td>1 3⁄4</td>
<td>2 x 3⁄4</td>
</tr>
<tr>
<td>8</td>
<td>7.660</td>
<td>1000</td>
<td>11.700</td>
<td>0–1⁄4</td>
<td>0° 0'</td>
<td>3 1⁄4</td>
<td>6 1⁄4</td>
<td>1 3⁄4</td>
<td>2 x 3⁄4</td>
</tr>
<tr>
<td>9</td>
<td>8.000</td>
<td>1000</td>
<td>12.000</td>
<td>0–1⁄4</td>
<td>0° 0'</td>
<td>3 1⁄4</td>
<td>6 1⁄4</td>
<td>1 3⁄4</td>
<td>2 x 3⁄4</td>
</tr>
</tbody>
</table>

**NOTES:**
- Range of Pipe End Separation and Angular Deflection values are for roll grooved pipe and may be doubled for cut groove pipe. See page 204 for details. Refer to page 210 for Misalignment & Deflection Calculations and page 211 for Curve Layout Calculations.
- *Available in ANSI or metric bolt sizes only as indicated.
- § For additional details see "Coupling Data Chart Notes" on page 17.
- For additional Bolt Torque information, see page 204.
- See Installation & Assembly directions on page 166.
- Not for use in copper systems.
FIG. 7001-2
Flexible Coupling

Gruvlok® introduces new 2-piece large diameter standard groove couplings in both rigid and flexible styles:

- Uses standard grooves (conforming to AWWA C-606)
- No special grooves or grooving tools needed
- Pressures to 350 P.S.I. on cut or roll grooved pipe with a wall thickness of 0.250” or greater
- No special fittings needed
- No special valves needed
- Up to 23% less weight than competitive models
- Sizes: 14” through 24” in Flexible: Figure 7001-2

MATERIAL SPECIFICATIONS

ANSI BOLTS & HEAVY HEX NUTS:
Heat treated, oval neck track head bolts conforming to ASTM A 183
Grade 2 with a minimum tensile strength of 110,000 psi and heavy hex nuts of carbon steel conforming to ASTM A 563 Grade A or Grade B, or J995 Grade 2. Bolts and nuts are provided zinc electroplated as standard.

STAINLESS STEEL BOLTS & NUTS:
304SS Stainless Steel bolts and nuts are available as a standard option. (316SS are available for special order).

HOUSING:
Ductile Iron conforming to ASTM A 536, 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 Anvil Representative.

GASKETS: Materials
Properties as designated in accordance with ASTM D 2000
Grade “E” EPDM (Green color code)
-40°F to 230°F (Service Temperature Range)(-40°C to 110°C)
Recommended for water service, diluted acids, alkalies solutions, oil-free air and many other chemical services.
NOT FOR USE IN PETROLEUM APPLICATIONS.

Grade “T” Nitrile (Orange color code)
-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:
Flush Gap (14” - 24”)

LUBRICATION:
Standard
Gruvlok Xtreme™

WORKING PRESSURE, END LOAD, PIPE END SEPARATION & DEFORMATION FROM CENTER LINE:
Based on standard wall steel pipe with cut or roll grooves in accordance with Gruvlok specifications. See technical data section for design factors.

FIGURE 7001-2 FLEXIBLE COUPLING

<table>
<thead>
<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In./mm</td>
<td>PSI/bar</td>
<td>Lbs./kN</td>
<td>In./mm</td>
<td>Degrees</td>
<td>Min.</td>
<td>Max.</td>
<td>Ft.-Lbs/N-m</td>
<td>Lbs./kg</td>
</tr>
<tr>
<td>14</td>
<td>14.000</td>
<td>350</td>
<td>53,878</td>
<td>0-3/32</td>
<td>0° 23’</td>
<td>0.08</td>
<td>16½</td>
<td>19½</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>350</td>
<td>239,66</td>
<td>24.1</td>
<td>239.66</td>
<td>0-2.38</td>
<td>6.7</td>
<td>413</td>
<td>502</td>
<td>76</td>
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<tr>
<td>16</td>
<td>16.000</td>
<td>350</td>
<td>70,372</td>
<td>0-3/32</td>
<td>0° 20’</td>
<td>0.07</td>
<td>18½</td>
<td>22</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>400</td>
<td>312.03</td>
<td>24.1</td>
<td>312.03</td>
<td>0-2.38</td>
<td>5.9</td>
<td>465</td>
<td>558</td>
<td>76</td>
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<tr>
<td>18</td>
<td>18.000</td>
<td>350</td>
<td>89,064</td>
<td>0-3/32</td>
<td>0° 18’</td>
<td>0.06</td>
<td>20½</td>
<td>24½</td>
<td>3/8</td>
</tr>
<tr>
<td></td>
<td>450</td>
<td>396.18</td>
<td>24.1</td>
<td>396.18</td>
<td>0-2.38</td>
<td>5.2</td>
<td>527</td>
<td>615</td>
<td>79</td>
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<tr>
<td>20</td>
<td>20.000</td>
<td>350</td>
<td>109,956</td>
<td>0-3/32</td>
<td>0° 16’</td>
<td>0.06</td>
<td>23½</td>
<td>27½</td>
<td>3/8</td>
</tr>
<tr>
<td></td>
<td>500</td>
<td>469.11</td>
<td>24.1</td>
<td>469.11</td>
<td>0-2.38</td>
<td>4.7</td>
<td>582</td>
<td>691</td>
<td>79</td>
</tr>
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<td>24</td>
<td>24.000</td>
<td>350</td>
<td>158,336</td>
<td>0-3/32</td>
<td>0° 13’</td>
<td>0.05</td>
<td>27½</td>
<td>31½</td>
<td>3/8</td>
</tr>
<tr>
<td></td>
<td>600</td>
<td>704.31</td>
<td>24.1</td>
<td>704.31</td>
<td>0-2.38</td>
<td>3.9</td>
<td>688</td>
<td>791</td>
<td>81</td>
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</tbody>
</table>

Range of Pipe End Separation and Angular Deflection values are for roll grooved pipe and may be doubled for cut groove pipe.
See Installation & Assembly directions on page 167.
FIG. 7011
Standard Coupling

The Gruvlok® Figure 7011 Standard Coupling is a flexible coupling designed to join roll grooved or cut grooved 30” O.D. pipe for a wide range of applications, including Commercial/Industrial Construction, Mining, Process Piping and many others. This coupling’s operating temperature ranges from –40°F to 230°F (-40°C to 110°C) with the Grade E EPDM gasket and –20°F to 180°F (-29°C to 82°C) with the Grade T Nitrile gasket. The operating pressure ranges 15” of Hg. vacuum to 300 psig on standard wall steel pipe.

MATERIAL SPECIFICATIONS

HOUSING DESIGN:
This six-segment coupling housing is cast in ductile iron per ASTM A 536 Grade 65-45-12. Each housing segment is machined to assure a close dimensional fit with pipe ends that are prepared in accordance with Gruvlok “Large Diameter Roll and Cut Groove Specifications.”

GASKET DESIGN:
The gasket design is a “C” Style cross section and features a larger cross section to provide optimal sealing throughout the range of pipe dimensional variations and operating conditions. The gasket is available in EPDM and Nitrile, to facilitate use in a wide range of applications. For Gruvlok gasket material recommendations see the Gruvlok catalog.

BOLTS & HEAVY HEX NUTS:
Heat treated, oval neck track bolts of carbon steel conforming to ASTM A 183 Grade 2, with a minimum tensile strength of 110,000 psi and heavy hex nuts of carbon steel conforming to ASTM A 563. Bolts and nuts are zinc plated per ASTM B 633 as standard.

PIPE END PREPARATION:
Pipe grooving is simple, easy and quick. It is critical that the pipe ends be prepared in accordance with the Gruvlok “Large Diameter Roll and Cut Groove Specifications.” For roll grooved pipe, grinding the weld seam on the interior and exterior of the pipe may be required. Not performing this operation may result in improper assembly of the coupling, gasket leakage and damage to the roll grooving machine.
**FIG. 7011**

Standard Coupling

![Standard Coupling Diagram](image)

**FIGURE 7011 STANDARD COUPLING**

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>in./DN(mm)</td>
<td>in./mm</td>
<td>+In./mm</td>
<td>+In./mm</td>
<td>In./mm</td>
<td>In./mm</td>
<td>In./mm</td>
<td>In./mm</td>
</tr>
<tr>
<td>30 O.D.</td>
<td>750</td>
<td>762.0</td>
<td>2.36</td>
<td>0.79</td>
<td>44.45</td>
<td>15.88</td>
<td>749.30</td>
<td>6.35</td>
</tr>
</tbody>
</table>

- Pipe O.D. must be within specified dimensions.
- Gasket Seat must be free from scores, seams, chips, rust or other scale, which may interfere with proper sealing of the gasket. Gasket Seat width, dimension A, is to be measured from the pipe end to the vertical flank in the groove.
- Groove width, dimension B, is to be measured between the vertical flank of the groove side walls.
- Groove depth must be uniform depth around the entire pipe circumference. (Reference column 6.)
- Maximum Flare Diameter is to be measured at the most extreme pipe end.
- Out of Roundness: Difference between the maximum and minimum pipe O.D. measured at 90° must not exceed the total pipe O.D. tolerance listed (Reference column 2).

**LARGE DIAMETER PIPE ROLL & CUT GROOVE SPECIFICATIONS**

<table>
<thead>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>+0.030/-0.060</td>
<td>+0.030/-0.77</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

- The maximum allowable tolerance from square cut ends is .125” measured from a true square line.
- Beveled end pipe in conformance with ANSI B16.25 (37½°) is acceptable, however square cut is preferred.

**SPECIAL ROLL GROOVING INSTRUCTION:**

- Weld seams must be ground flush with the pipe O.D. and I.D. prior to roll grooving.
- Failure to do so may result in damage to the roll grooving machine and unacceptable roll grooves may be produced.

**COUPLINGS FOR GROOVED-END PIPE**

**NOTE:**

- Working pressure and end load values are for standard wall pipe.
- Range of pipe end separation values are for cut grooved pipe.
- Roll and Cut Grooving Specifications can be found in the technical data section.

For additional details see “Coupling Data Chart Notes” on page 17.

* Available in ANSI or metric bolt sizes only as indicated.

§ – For additional Bolt Torque information, see page 204. See Installation & Assembly directions on page 168.

* Available in ANSI or metric bolt sizes only as indicated.

§ – For additional Bolt Torque information, see page 204. See Installation & Assembly directions on page 168.
The Gruvlok® Figure 7022 coupling with Gruv-Ring forms a flexible grooved end pipe joint for use on steel pipe. Services for this versatile connection include large O.D. mining applications such as process, tailings and slurries. The coupling’s multi-segment design supplies optimum strength for working pressures to 175 PSI.

![FIG. 7022 Weld Ring Gruv-Ring Coupling](image)

**MATERIAL SPECIFICATIONS**

**ANSI BOLTS & HEAVY HEX NUTS:**
Heat treated, oval neck track head bolts conforming to SAE J429 Grade 5 with a minimum tensile strength of 105,000 psi and heavy hex nuts of carbon steel conforming to ASTM A 563 Grade A or Grade B, or J995 Grade 2. Bolts and nuts are provided zinc electroplated as standard.

**STAINLESS STEEL BOLTS & NUTS:**
304SS Stainless Steel bolts and nuts are available as a standard option. (316SS are available for special order).

**HOUSING:**
Ductile Iron conforming to ASTM A 536, 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 Anvil Representative.

**GASKETS:**
Materials Properties as designated in accordance with ASTM D 2000

- **Grade “E” EPDM** (Green color code)
  - -40°F to 230°F (Service Temperature Range)(-40°C to 110°C)
  - Recommended for water service, diluted acids, alkalies solutions, oil-free air and many other chemical services.
  - NOT FOR USE IN PETROLEUM APPLICATIONS.

- **Grade “T” Nitrile** (Orange color code)
  - -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:**
C Style cross section featuring an enhanced larger cross section to provide optimal sealing throughout the range of pipe dimensional variations and operating conditions.

**LUBRICATION:**
Standard
Gruvlok Xtreme™

![Fig. 7022 with Type C Ring](image)

![Fig. 7022 with Type D Ring](image)

![Fig. 7022 with Type E Ring](image)
### FIG. 7022
Weld Ring Gruv-Ring Coupling

**FIGURE 7022 WELD RING GRUV-RING COUPLING**

<table>
<thead>
<tr>
<th>Nominal Size</th>
<th>Pipe O.D. Range</th>
<th>Applied Gruv-Ring O.D.</th>
<th>Max. Working Pressure</th>
<th>Max. End Load</th>
<th>Range of Pipe End Separation</th>
<th>Deflection from C Per Coupling of Pipe</th>
<th>Coupling Dimensions</th>
<th>Number of Segments</th>
<th>Coupling Bolts Qty.</th>
<th>Size</th>
<th>Approx. Wt. per Segment</th>
<th>Total Assembly Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>28.00 - 32.00</td>
<td>33.75</td>
<td>175</td>
<td>1207</td>
<td>156,558</td>
<td>0-1/2</td>
<td>0.85</td>
<td>0.18</td>
<td>37.00</td>
<td>43.25</td>
<td>5.375</td>
<td>6 1/2 x 5/8</td>
</tr>
<tr>
<td>36</td>
<td>34.00 - 38.00</td>
<td>39.12</td>
<td>175</td>
<td>1207</td>
<td>221,978</td>
<td>0-1/2</td>
<td>0.72</td>
<td>0.15</td>
<td>43.47</td>
<td>50.00</td>
<td>5.375</td>
<td>6 1/2 x 5/8</td>
</tr>
<tr>
<td>42</td>
<td>40.00 - 44.00</td>
<td>45.00</td>
<td>175</td>
<td>1207</td>
<td>298,790</td>
<td>0-1/2</td>
<td>0.62</td>
<td>0.12</td>
<td>49.84</td>
<td>56.50</td>
<td>5.375</td>
<td>6 1/2 x 5/8</td>
</tr>
<tr>
<td>48</td>
<td>46.00 - 50.00</td>
<td>50.78</td>
<td>175</td>
<td>1207</td>
<td>387,905</td>
<td>0-1/2</td>
<td>0.53</td>
<td>0.11</td>
<td>57.16</td>
<td>62.50</td>
<td>5.500</td>
<td>1 1/4 x 5/8</td>
</tr>
<tr>
<td>54</td>
<td>52.00 - 56.00</td>
<td>56.78</td>
<td>175</td>
<td>1207</td>
<td>489,660</td>
<td>0-1/2</td>
<td>0.48</td>
<td>0.10</td>
<td>63.60</td>
<td>69.28</td>
<td>5.625</td>
<td>1 1/2 x 5/8</td>
</tr>
<tr>
<td>60</td>
<td>58.00 - 64.00</td>
<td>62.78</td>
<td>175</td>
<td>1207</td>
<td>602,116</td>
<td>0-1/2</td>
<td>0.43</td>
<td>0.09</td>
<td>70.00</td>
<td>75.71</td>
<td>5.750</td>
<td>1 1/2 x 5/8</td>
</tr>
</tbody>
</table>

**NOTE:** Impact gun can be used for installation, verify that the output of the impact gun is within the required torque range.

For additional details see “Coupling Data Chart Notes” on page 17.

For additional Bolt Torque information, contact an Anvil Representative.

![Diagram of a Weld Ring Gruv-Ring Coupling](image-url)
GRUV-RING WELDED SHOULDER RINGS

For use with Fig. 7022 Couplings

**MATERIAL:** ASTM A105

Additional material options available upon request.

Sealing surface, must be free of scores, seams, and projections.

<table>
<thead>
<tr>
<th>TYPE C</th>
<th>Gasket Seat</th>
<th>Ring O.D.</th>
<th>Groove Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>A</td>
<td>E</td>
<td>Width</td>
</tr>
<tr>
<td>30</td>
<td>1.75</td>
<td>33.75</td>
<td>3.50</td>
</tr>
<tr>
<td>750</td>
<td>44.5</td>
<td>857.3</td>
<td>88.9</td>
</tr>
<tr>
<td>36</td>
<td>1.75</td>
<td>40.19</td>
<td>3.50</td>
</tr>
<tr>
<td>900</td>
<td>44.5</td>
<td>1020.8</td>
<td>88.9</td>
</tr>
<tr>
<td>42</td>
<td>1.75</td>
<td>46.63</td>
<td>3.62</td>
</tr>
<tr>
<td>1050</td>
<td>44.5</td>
<td>1184.3</td>
<td>91.9</td>
</tr>
<tr>
<td>48</td>
<td>1.75</td>
<td>53.13</td>
<td>3.88</td>
</tr>
<tr>
<td>1200</td>
<td>44.5</td>
<td>1349.4</td>
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</tr>
<tr>
<td>54</td>
<td>1.75</td>
<td>59.69</td>
<td>3.88</td>
</tr>
<tr>
<td>1375</td>
<td>44.5</td>
<td>1516.1</td>
<td>98.4</td>
</tr>
<tr>
<td>60</td>
<td>1.75</td>
<td>66.19</td>
<td>3.88</td>
</tr>
<tr>
<td>1500</td>
<td>44.5</td>
<td>1681.2</td>
<td>98.4</td>
</tr>
</tbody>
</table>

Sealing surface, must be free of scores, seams, and projections.

<table>
<thead>
<tr>
<th>TYPE D</th>
<th>Gasket Seat</th>
<th>Groove Width</th>
<th>Groove Diameter</th>
<th>Ring O.D.</th>
<th>Ring Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>E</td>
<td>L</td>
</tr>
<tr>
<td>30</td>
<td>1.75</td>
<td>0.88</td>
<td>33.00</td>
<td>33.75</td>
<td>3.50</td>
</tr>
<tr>
<td>750</td>
<td>44.5</td>
<td>22.2</td>
<td>858.2</td>
<td>857.3</td>
<td>88.9</td>
</tr>
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<td>0.94</td>
<td>39.44</td>
<td>40.19</td>
<td>3.50</td>
</tr>
<tr>
<td>900</td>
<td>44.5</td>
<td>23.8</td>
<td>1001.7</td>
<td>1020.8</td>
<td>88.9</td>
</tr>
<tr>
<td>42</td>
<td>1.75</td>
<td>1.00</td>
<td>45.81</td>
<td>46.63</td>
<td>3.62</td>
</tr>
<tr>
<td>1050</td>
<td>44.5</td>
<td>25.4</td>
<td>1183.6</td>
<td>1184.3</td>
<td>91.9</td>
</tr>
<tr>
<td>48</td>
<td>1.75</td>
<td>1.06</td>
<td>52.19</td>
<td>53.13</td>
<td>3.88</td>
</tr>
<tr>
<td>1200</td>
<td>44.5</td>
<td>27.0</td>
<td>1349.4</td>
<td>1349.4</td>
<td>98.4</td>
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<td>1.75</td>
<td>1.13</td>
<td>58.63</td>
<td>59.69</td>
<td>3.88</td>
</tr>
<tr>
<td>1375</td>
<td>44.5</td>
<td>28.6</td>
<td>1489.1</td>
<td>1516.1</td>
<td>98.4</td>
</tr>
<tr>
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<td>1.75</td>
<td>1.13</td>
<td>66.06</td>
<td>66.19</td>
<td>3.88</td>
</tr>
<tr>
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<td>44.5</td>
<td>28.6</td>
<td>1652.6</td>
<td>1681.2</td>
<td>98.4</td>
</tr>
</tbody>
</table>

Sealing surface, must be free of scores, seams, and projections.

<table>
<thead>
<tr>
<th>TYPE E</th>
<th>Gasket Seat</th>
<th>Groove Diameter</th>
<th>Ring O.D.</th>
<th>Ring Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>A</td>
<td>C</td>
<td>E</td>
<td>L</td>
</tr>
<tr>
<td>30</td>
<td>1.75</td>
<td>33.00</td>
<td>33.75</td>
<td>3.50</td>
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<tr>
<td>750</td>
<td>44.5</td>
<td>858.2</td>
<td>857.3</td>
<td>88.9</td>
</tr>
<tr>
<td>36</td>
<td>1.75</td>
<td>39.44</td>
<td>40.19</td>
<td>3.50</td>
</tr>
<tr>
<td>900</td>
<td>44.5</td>
<td>1001.7</td>
<td>1020.8</td>
<td>88.9</td>
</tr>
<tr>
<td>42</td>
<td>1.75</td>
<td>45.81</td>
<td>46.63</td>
<td>3.62</td>
</tr>
<tr>
<td>1050</td>
<td>44.5</td>
<td>1183.6</td>
<td>1184.3</td>
<td>91.9</td>
</tr>
<tr>
<td>48</td>
<td>1.75</td>
<td>52.19</td>
<td>53.13</td>
<td>3.88</td>
</tr>
<tr>
<td>1200</td>
<td>44.5</td>
<td>1489.1</td>
<td>1516.1</td>
<td>98.4</td>
</tr>
<tr>
<td>54</td>
<td>1.75</td>
<td>58.63</td>
<td>59.69</td>
<td>3.88</td>
</tr>
<tr>
<td>1375</td>
<td>44.5</td>
<td>1652.6</td>
<td>1681.2</td>
<td>98.4</td>
</tr>
<tr>
<td>60</td>
<td>1.75</td>
<td>66.06</td>
<td>66.19</td>
<td>3.88</td>
</tr>
<tr>
<td>1500</td>
<td>44.5</td>
<td>1652.6</td>
<td>1681.2</td>
<td>98.4</td>
</tr>
</tbody>
</table>

Gruv-Rings are not to be considered as pipe reinforcement. Additional provision must be provided by the piping system designer if reinforcement is required.
GRUV-RING WELDED SHOULDER RINGS
For use with Fig. 7022 Couplings

When ordering, please provide the required information below to your Anvil Representative.

**JOINT TYPE**
- Pipe to Pipe (Two Rings Required)
- Pipe to Shoulder (One Ring Required)

**APPLICATION**
- Fluid Media:
- Working Pressure:
- Test Pressure:
- Temperature: Minimum: Maximum:

**PIPE SPECIFICATION**
- Pipe Material:
- Nominal Pipe Size:
- Measured Pipe OD:
- Pipe Schedule:
- Wall Thickness:

**COUPLING CONFIGURATION**
- Size:
- Number of Joints:
- Gasket Materials:
  - Grade "E" EPDM (Green color code)
  - Grade "T" Nitrile (Orange color code)
- Coupling Finish:
  - Rust inhibiting paint – Color: Orange (standard)
  - Hot Dipped Zinc Galvanized (optional)
  - Other Colors Available (IE: RAL3000 and RAL9000)

**LINED PIPE (optional)**
- Abrasive
- Corrosive
- Lined Thickness:
- Lined Material:

**GRUV-RING TYPE**
- Type C
- Type D
- Type E
FIG. 7000
Lightweight Flexible Coupling

The Fig. 7000 Lightweight Flexible Coupling is designed for applications where system flexibility is desired.

The Fig. 7000 Coupling is approximately 30% lighter in weight than the Fig. 7001 Coupling, and allows for working pressure ratings up to 600 psi (41.4 bar).

The Figure 7000 Lightweight Flexible Coupling is intended for use in several applications. See Gasket Grade Index for gasket recommendations.

See technical data section for design factors.

MATERIAL SPECIFICATIONS

**ANSI BOLTS & HEAVY HEX NUTS:**
Heat treated, oval neck track head bolts conforming to ASTM A 183 Grade 2 with a minimum tensile strength of 110,000 psi and heavy hex nuts of carbon steel conforming to ASTM A 563 Grade A or Grade B, or J995 Grade 2. Bolts and nuts are provided zinc electroplated as standard.

**METRIC BOLTS & HEAVY HEX NUTS:**
Heat treated, zinc electroplated oval-neck track head bolts made of carbon steel with mechanical properties per ISO 898-1 Class 8.8. Hex nuts and bolts are zinc electroplated followed by a yellow chromate dip.

**STAINLESS STEEL BOLTS & NUTS:**
304SS Stainless Steel bolts and nuts are available as a standard option. (316SS are available for special order).

**HOUSING:**
Ductile Iron conforming to ASTM A 536, 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 Anvil Representative.

**GASKETS: Materials**
Properties as designated in accordance with ASTM D 2000

**Grade “EP” EPDM** (Green and Red color code)
-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.

For hot water applications the use of Gruvlok Extreme Temperature lubricant is recommended. NSF-61 Certified for cold and hot water applications up through 12”.

**Grade “T” Nitrile** (Orange color code)
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.

**Grade “O” Fluoro-Elastomer** (Blue color code)
Size Range: 1” - 8” (C style only)
-20°F to 300°F [Service Temperature Range]-29°C to 149°C
Recommended for high temperature resistance to oxidizing acids, petroleum oils, hydraulic fluids, halogenated hydrocarbons and lubricants.

**Grade “L” Silicone** (Red color code)
Size Range: 1” - 8” (C style only)
-40°F to 350°F [Service Temperature Range]-40°C to 177°C
Recommended for dry, hot air and some high temperature chemical services.

**GASKET TYPE:**
Standard C Style (1” - 8”)
Flush Gap (1” - 8”)

**LUBRICATION:**
Standard Gruvlok
Gruvlok Xtreme™ (Do Not use with Grade “L”)

For Listings/Approval Details and Limitations, visit our website at www.anvilintl.com or contact an Anvil® Sales Representative.
FIG. 7000
Lightweight Flexible Coupling

![FIG. 7000 COUPLING](image)

**TABLE 7000 COUPLING**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>in./mm</td>
<td>PSI/bar</td>
<td>Lbs./kN</td>
<td>in./mm</td>
<td>Degrees(°) Minutes(')</td>
<td>X</td>
<td>Y</td>
<td>Z</td>
<td>Qty.</td>
</tr>
<tr>
<td>1</td>
<td>1.315</td>
<td>600</td>
<td>815</td>
<td>0-½</td>
<td>1° 22'</td>
<td>0.29</td>
<td>½ x 2¼</td>
<td>30</td>
<td>45</td>
</tr>
<tr>
<td>25</td>
<td>33.4</td>
<td>41.4</td>
<td>3.62</td>
<td>0-¾</td>
<td>2° 33'</td>
<td>0.34</td>
<td>½ x 2¼</td>
<td>30</td>
<td>45</td>
</tr>
<tr>
<td>1¼</td>
<td>1.660</td>
<td>600</td>
<td>1,299</td>
<td>0-½</td>
<td>1° 5'</td>
<td>0.23</td>
<td>½ x 2¼</td>
<td>30</td>
<td>45</td>
</tr>
<tr>
<td>32</td>
<td>42.2</td>
<td>41.4</td>
<td>5.78</td>
<td>0-¾</td>
<td>2° 33'</td>
<td>0.34</td>
<td>½ x 2¼</td>
<td>30</td>
<td>45</td>
</tr>
<tr>
<td>1½</td>
<td>1.900</td>
<td>600</td>
<td>1,701</td>
<td>0-½</td>
<td>0° 57'</td>
<td>0.20</td>
<td>½ x 2¼</td>
<td>30</td>
<td>45</td>
</tr>
<tr>
<td>40</td>
<td>48.3</td>
<td>41.4</td>
<td>7.57</td>
<td>0-¾</td>
<td>2° 33'</td>
<td>0.34</td>
<td>½ x 2¼</td>
<td>30</td>
<td>45</td>
</tr>
<tr>
<td>2</td>
<td>2.375</td>
<td>600</td>
<td>2,658</td>
<td>0-½</td>
<td>0° 45'</td>
<td>0.16</td>
<td>½ x 2¼</td>
<td>30</td>
<td>45</td>
</tr>
<tr>
<td>50</td>
<td>60.3</td>
<td>41.4</td>
<td>11.82</td>
<td>0-¾</td>
<td>2° 33'</td>
<td>0.34</td>
<td>½ x 2¼</td>
<td>30</td>
<td>45</td>
</tr>
<tr>
<td>2½</td>
<td>2.875</td>
<td>600</td>
<td>3,895</td>
<td>0-½</td>
<td>0° 37'</td>
<td>0.13</td>
<td>½ x 2¼</td>
<td>30</td>
<td>45</td>
</tr>
<tr>
<td>65</td>
<td>76.1</td>
<td>41.4</td>
<td>18.82</td>
<td>0-¾</td>
<td>2° 33'</td>
<td>0.34</td>
<td>½ x 2¼</td>
<td>30</td>
<td>45</td>
</tr>
<tr>
<td>3 O.D.</td>
<td>2.996</td>
<td>600</td>
<td>4,230</td>
<td>0-½</td>
<td>0° 36'</td>
<td>0.13</td>
<td>½ x 2¼</td>
<td>30</td>
<td>45</td>
</tr>
<tr>
<td>76.1</td>
<td>76.1</td>
<td>41.4</td>
<td>18.82</td>
<td>0-¾</td>
<td>2° 33'</td>
<td>0.34</td>
<td>½ x 2¼</td>
<td>30</td>
<td>45</td>
</tr>
<tr>
<td>3</td>
<td>3.500</td>
<td>600</td>
<td>5,773</td>
<td>0-½</td>
<td>0° 31'</td>
<td>0.11</td>
<td>½ x 2¼</td>
<td>80</td>
<td>100</td>
</tr>
<tr>
<td>80</td>
<td>88.9</td>
<td>41.4</td>
<td>25.68</td>
<td>0-¾</td>
<td>2° 33'</td>
<td>0.34</td>
<td>½ x 2¼</td>
<td>80</td>
<td>100</td>
</tr>
<tr>
<td>3½</td>
<td>4.000</td>
<td>600</td>
<td>7,540</td>
<td>0-½</td>
<td>0° 27'</td>
<td>0.09</td>
<td>½ x 2¼</td>
<td>80</td>
<td>100</td>
</tr>
<tr>
<td>90</td>
<td>101.6</td>
<td>41.4</td>
<td>33.54</td>
<td>0-¾</td>
<td>2° 33'</td>
<td>0.34</td>
<td>½ x 2¼</td>
<td>110</td>
<td>150</td>
</tr>
<tr>
<td>4½ O.D.</td>
<td>4.250</td>
<td>600</td>
<td>8,512</td>
<td>0-½</td>
<td>1° 16'</td>
<td>0.26</td>
<td>½ x 3</td>
<td>80</td>
<td>100</td>
</tr>
<tr>
<td>108.0</td>
<td>108.0</td>
<td>41.4</td>
<td>37.86</td>
<td>0-¾</td>
<td>2° 33'</td>
<td>0.34</td>
<td>½ x 3</td>
<td>110</td>
<td>150</td>
</tr>
<tr>
<td>4</td>
<td>4.500</td>
<td>600</td>
<td>9,543</td>
<td>0-½</td>
<td>1° 12'</td>
<td>0.25</td>
<td>½ x 3</td>
<td>80</td>
<td>100</td>
</tr>
<tr>
<td>100</td>
<td>114.3</td>
<td>41.4</td>
<td>42.45</td>
<td>0-¾</td>
<td>2° 33'</td>
<td>0.34</td>
<td>½ x 3</td>
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<td>150</td>
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<tr>
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<td>10,766</td>
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<td>47.89</td>
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<td>11,879</td>
<td>0-½</td>
<td>0° 59’</td>
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<td>52.84</td>
<td>0-¾</td>
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<td>5</td>
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<td>12,153</td>
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<td>100</td>
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<tr>
<td>125</td>
<td>141.3</td>
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<td>½ x 3</td>
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<tr>
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<td>68.43</td>
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<td>½ x 3</td>
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<td>175</td>
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<tr>
<td>6½ O.D.</td>
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<td>500</td>
<td>16,592</td>
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<td>165.1</td>
<td>165.1</td>
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<td>73.80</td>
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<td>2° 33’</td>
<td>0.34</td>
<td>½ x 3</td>
<td>135</td>
<td>175</td>
</tr>
<tr>
<td>6</td>
<td>6.625</td>
<td>500</td>
<td>17,236</td>
<td>0-½</td>
<td>0° 49’</td>
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<td>½ x 3</td>
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<td>150</td>
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<td>76.67</td>
<td>0-¾</td>
<td>2° 33’</td>
<td>0.34</td>
<td>½ x 3</td>
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<td>175</td>
</tr>
<tr>
<td>8</td>
<td>8.625</td>
<td>500</td>
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<td>0° 37’</td>
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<td>200</td>
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<td>2° 33’</td>
<td>0.34</td>
<td>½ x 4</td>
<td>175</td>
<td>245</td>
</tr>
</tbody>
</table>

**NOTES:**
- Range of Pipe End Separation and Angular Deflection values are for roll grooved pipe and may be doubled for cut groove pipe. See page 204 for details. Refer to page 210 for Misalignment & Deflection Calculations and page 211 for Curve Layout Calculations.
- For additional details see "Coupling Data Chart Notes" on page 17.
- § – For additional Bolt Torque information, see page 204.
- See Installation & Assembly directions on page 169.
- Not for use in copper systems.
CoUplInGs FoR groOved-End pipe

FIG. 7400
Rigidlite® Coupling

The Fig. 7400 Rigidlite Coupling from Gruvlok is specially designed to provide a rigid, locked-in pipe connection to meet the specific demands of rigid design steel pipe systems. Fast and easy swing-over installation of the rugged lightweight housing produces a secure, rigid pipe joint.

The Fig. 7400 Rigidlite Coupling is UL/ULC Listed and FM Approved for 300 psi (20.7 bar) with roll grooved or cut grooved steel pipe prepared in accordance with Gruvlok grooving specifications.

The galvanized Fig. 7400 is ideal for stainless steel piping application where the external corrosion properties of stainless steel is not required. For Gruvlok coupling pressure ratings on stainless steel pipe, please refer to page 214.

mAterial sPecifications

ANSI BOLTS & HEAVY HEX NUTS:
Heat treated, oval neck track head bolts conforming to ASTM A 183 Grade 2 with a minimum tensile strength of 110,000 psi and heavy hex nuts of carbon steel conforming to ASTM A 563 Grade A or Grade B, or J995 Grade 2. Bolts and nuts are provided zinc electroplated as standard.

METRIC BOLTS & HEAVY HEX NUTS:
Heat treated, zinc electroplated oval-neck track head bolts made of carbon steel with mechanical properties per ISO 898-1 Class 8.8. Hex nuts and bolts are zinc electroplated followed by a yellow chromate dip.

STAINLESS STEEL BOLTS & NUTS:
304SS Stainless Steel bolts and nuts are available as a standard option. (316SS are available for special order).

HOUSING:
Ductile Iron conforming to ASTM A 536, 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 Anvil Representative.

GASKETS: Materials
Properties as designated in accordance with ASTM D 2000

Grade “T” Nitrile (Orange color code)
-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

Grade “O” Fluoro-Elastomer (Blue color code)
Size Range: 1” - 8” (C style only)
20°F to 300°F (Service Temperature Range)(-29°C to 149°C)
Recommended for high temperature resistance to oxidizing acids, petroleum oils, hydraulic fluids, halogenated hydrocarbons and lubricants.

Grade “L” Silicone (Red color code)
Size Range: 1” - 8” (C style only)
-40°F to 350°F (Service Temperature Range)(-40°C to 177°C)
Recommended for dry, hot air and some high temperature chemical services.

GASKET TYPE:
Standard C Style (1” - 8”)
Flush Gap (1” - 8”)

LUBRICATION:
Standard Gruvlok
Gruvlok Xtreme™ (Do Not use with Grade “L”)
**FIG. 7400**
Rigidlite® Coupling

![Rigidlite® Coupling Diagram](image)

**FIGURE 7400 RIGIDLITE COUPLING**

<table>
<thead>
<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
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<td></td>
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<td>in./mm</td>
<td>PSI/bar</td>
<td>lbs./kN</td>
<td>in./mm</td>
<td>in./mm</td>
<td>in./mm</td>
<td>Qty.</td>
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<td>2</td>
</tr>
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<td>649</td>
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<td>1 1/4</td>
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<td>1 1/4</td>
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<td>1 1/4</td>
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<td>1 1/4</td>
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<td>9.41</td>
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<td>300</td>
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<td>1 1/4</td>
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<td>9 1/4</td>
<td>2</td>
<td>5/8 x 3</td>
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<td>5/8 x 3</td>
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<td>5/8 x 3</td>
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<td>5/8 x 3</td>
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<td>5/8 x 3</td>
</tr>
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<td>8.625</td>
<td>300</td>
<td>17,528</td>
<td>0-1/32</td>
<td>10 1/4</td>
<td>12 1/4</td>
<td>2</td>
<td>5/8 x 3</td>
</tr>
</tbody>
</table>

* DN 50 and DN 200 sizes are VdS approved. § – For additional Bolt Torque information, see page 204.

**NOTE:**
Range of Pipe End Separation values are for roll grooved pipe and may be doubled for cut groove pipe. Other sizes available, contact an Anvil Representative for more information.

For additional details see “Coupling Data Chart Notes” on page 17.
For Installation & Assembly directions see page 170.
FIG. 7003
Hingelok® Coupling

The Fig. 7003 Hingelok Coupling is specially designed for applications requiring a quick connection and/or disconnection of a pipe joint. The Fig. 7003 Hingelok Coupling is ideal for those applications where frequent pipe removal is required for maintenance or any other reason. Fig. 7003 Hingelok Coupling provides for system working pressure ratings up to 300 psi (20.7 bar).

The Fig. 7003 Hingelok Coupling halves are permanently hinged to provide an assembly that eases handling and installation. The two coupling halves are hinged for ease of handling and are secured by a cam-action handle. Sizes 1” to 4” use toggle link plates and sizes 5” to 8” use a toggle bolt to attach the cam-action handle to the housings. The cam-action locking handle permits rapid installation without the need for additional tools and maintains secure closure of the coupling into the pipe grooves. Final assembly of the locking pin to the Hingelok Coupling adds an extra measure of security required in critical pipe joint applications.

MATERIAL SPECIFICATIONS

HOUSING:
Ductile Iron conforming to ASTM A 536, 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 Anvil Representative.

HANDLE:
Sizes 1” - 4”: Cold Rolled Carbon Steel Handles
Sizes 5” - 8”: Cast Ductile Iron Handles

LINKS:
Sizes 1” - 4”: Cold Rolled Carbon Steel Links
Sizes 5” - 8”: Heat Treated Steel Links

LOCKING PIN:
Locking Pin: Spring Steel

GASKETS: Materials
Properties as designated in accordance with ASTM D 2000

Grade “E” EPDM (Green color code)
-40°F to 230°F (Service Temperature Range)(-40°C to 110°C)
Recommended for water service, diluted acids, alkalies solutions, oil-free air and many other chemical services.
NOT FOR USE IN PETROLEUM APPLICATIONS.

Grade “T” Nitrile (Orange color code)
-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.

Grade “O” Fluoro-Elastomer (Blue color code)
Size Range: 1” - 8” (C style only)
20°F to 300°F (Service Temperature Range)(-29°C to 149°C)
Recommended for high temperature resistance to oxidizing acids, petroleum oils, hydraulic fluids, halogenated hydrocarbons and lubricants.

Grade “L” Silicone (Red color code)
Size Range: 1” - 8” (C style only)
-40°F to 350°F (Service Temperature Range)(-40°C to 177°C)
Recommended for dry, hot air and some high temperature chemical services. DO NOT USE GRUVLOK XTREME LUBRICANT WITH GRADE “L” SILICONE GASKET.

GASKET TYPE:
Standard C Style (1” - 8”)
Flush Gap (1” - 8”)

LUBRICATION:
Standard Gruvlok
Gruvlok Xtreme™ (Do Not use with Grade “L”)
### FIG. 7003
Hingelok® Coupling

#### FIGURE 7003 HINGELOK COUPLING

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>in./mm</td>
<td>PSI/bar</td>
<td>Lbs./KN</td>
<td>in./mm</td>
<td>°</td>
<td>in./°-in.</td>
<td>in./mm</td>
</tr>
<tr>
<td>1&quot;</td>
<td>1.315</td>
<td>300</td>
<td>407</td>
<td>0-⅛z</td>
<td>1° 22'</td>
<td>0.29</td>
<td>3</td>
</tr>
<tr>
<td>1½</td>
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<td>300</td>
<td>649</td>
<td>0-⅛z</td>
<td>1° 5'</td>
<td>0.23</td>
<td>3⅛</td>
</tr>
<tr>
<td>1½</td>
<td>1.900</td>
<td>300</td>
<td>851</td>
<td>0-⅛z</td>
<td>0° 57'</td>
<td>0.20</td>
<td>3⅓</td>
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<tr>
<td>2</td>
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<td>0-⅛z</td>
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<td>0° 37'</td>
<td>0.13</td>
<td>5⅛</td>
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<tr>
<td>3</td>
<td>3.500</td>
<td>300</td>
<td>2,886</td>
<td>0-⅛z</td>
<td>0° 31'</td>
<td>0.11</td>
<td>5⅝</td>
</tr>
<tr>
<td>4</td>
<td>4.500</td>
<td>300</td>
<td>4,771</td>
<td>0-⅛z</td>
<td>1° 12'</td>
<td>0.25</td>
<td>7</td>
</tr>
<tr>
<td>5</td>
<td>5.563</td>
<td>300</td>
<td>7,292</td>
<td>0-⅛z</td>
<td>0° 58'</td>
<td>0.20</td>
<td>8⅛</td>
</tr>
<tr>
<td>6</td>
<td>6.625</td>
<td>300</td>
<td>10,341</td>
<td>0-⅛z</td>
<td>0° 49'</td>
<td>0.17</td>
<td>9⅜</td>
</tr>
<tr>
<td>8</td>
<td>8.625</td>
<td>300</td>
<td>17,528</td>
<td>0-⅛z</td>
<td>0° 37'</td>
<td>0.13</td>
<td>12</td>
</tr>
</tbody>
</table>

**NOTES:**
- *1" and 1½" are import products.
- Range of Pipe End Separation and Angular Deflection values are for roll grooved pipe and may be doubled for cut groove pipe. See page 204 for details. Refer to page 210 for Misalignment & Deflection Calculations and page 211 for Curve Layout Calculations.

**SPECIAL NOTE:**
Fig. 7003 Hingelok Couplings are not designed for eccentric loading and therefore are not recommended for use at the end of concrete pumping booms or vertical risers above 30 feet (9.1 meters). Shockload must be considered and is to be included in the maximum working pressure listed above. Coupling keys, gasket cavity, and pipe grooves must be kept free of all foreign matter. Proper anchoring practice must always be exercised.

**CAUTION:**
Hammering or banging on the handle or coupling housing could cause serious damage to the locking device and coupling assembly. The result may be an unsuitable pipe joint and unusable coupling assembly.

When re-using, always check for gasket damage, housing hinge and handle for looseness, distortion, bending or any other damage.

For additional details see “Coupling Data Chart Notes” on page 17. See Installation & Assembly directions on page 174. Not for use in copper systems.

---

**X**

**Y**

**Z**
FIG. 7010
Reducing Coupling

The Fig. 7010 Reducing Coupling makes it possible to directly connect two different pipe sizes, eliminating the need for two couplings and a reducing fitting. The specially designed reducing coupling gasket with a center rib assures proper positioning of the gasket and prevents the smaller pipe from telescoping into the larger during assembly. Fig. 7010 Reducing Coupling allows for working pressure ratings up to 500 PSI (34.5 bar). Not recommended for vacuum applications.

MATERIAL SPECIFICATIONS

ANSI BOLTS & HEAVY HEX NUTS:
Heat treated, oval neck track head bolts conforming to ASTM A 183 Grade 2 with a minimum tensile strength of 110,000 psi and heavy hex nuts of carbon steel conforming to ASTM A 563 Grade A or Grade B, or J995 Grade 2. Bolts and nuts are provided zinc electroplated as standard.

METRIC BOLTS & HEAVY HEX NUTS:
Heat treated, zinc electroplated oval-neck track head bolts made of carbon steel with mechanical properties per ISO 898-1 Class 8.8. Hex nuts are zinc electroplated followed by a yellow chromate dip.

HOUSING:
Ductile Iron conforming to ASTM A 536, Grade 65-45-12, or Malleable Iron conforming to ASTM A 47, Grade 32510.

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 Anvil Representative.

GASKETS: Materials
Properties as designated in accordance with ASTM D 2000
Grade “E” EPDM (Green color code)
-40°F to 230°F (Service Temperature Range)(-40°C to 110°C)
Recommended for water service, diluted acids, alkalies solutions, oil-free air and many other chemical services.
NOT FOR USE IN PETROLEUM APPLICATIONS.
Grade “T” Nitrile (Orange color code)
-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.

LUBRICATION:
Standard Gruvlok
Gruvlok Xtreme™ (Do Not use with Grade “L”)
# FIGURE 7010

Reducing Coupling

**FIGURE 7010 REduCing COUPLING**

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<td>In./mm</td>
<td>In./mm</td>
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<td>Degree(°-Minutes')</td>
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<td>in./mm</td>
<td>in./mm</td>
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<td>1° 12'</td>
<td>20.8</td>
<td>159</td>
<td>225</td>
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<td>500</td>
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<td>0-3/32</td>
<td>0° 49'</td>
<td>14.1</td>
<td>210</td>
<td>295</td>
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<tr>
<td>150 x 125</td>
<td>168.3</td>
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**NOTES:**

- Fig. 7010 Reducing Coupling should not be used with end caps in systems where a vacuum may be developed. Contact your Anvil Representative for details.
- Range of Pipe End Separation and Angular Deflection values are for roll grooved pipe and may be doubled for cut groove pipe. See page 204 for details.
- Refer to page 210 for Misalignment & Deflection Calculations and page 211 for Curve Layout Calculations.
- For additional details see “Coupling Data Chart Notes” on page 17.
- For additional Bolt Torque information, see page 204.
- See Installation & Assembly directions on page 175.

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**FOR ADDITIONAL DETAILS, SEE “COUPLING DATA CHART NOTES” ON PAGE 17.**