

**HDPE Coupling  
Fig. 7305**



The Gruvlok Figure 7305 HDPE Coupling is a cost effective, easy to assemble, mechanical joint for HDPE pipe conforming to ASTM F714, D2447, D3000, or D3035 with wall thicknesses ranging from SDR 32.5 to SDR 7.3. The Gruvlok coupling method also eliminates the need for costly fusion equipment.

Each coupling uses four bolts to drive sharply machined teeth into the outside of the HDPE pipe. When the teeth effectively grip into the pipe, it provides a secure and rigid mechanical connection with pressure capabilities exceeding that of the HDPE pipe itself. The banks of teeth are positioned away from the gasket to enhance the gasket's sealing ability throughout the operating temperature range.

The Figure 7305 HDPE coupling also provides a low profile contoured housing with ramps along the outside diameter. This allows the coupling to slide over most obstacles when long lengths of the pipeline are relocated.

**WARNING:**

1. Gruvlok products for HDPE pipe must be installed using Gruvlok Xtreme Temperature Lubricant.
2. The listed gasket temperature rating may exceed the manufacturer's temperature rating for HDPE pipe. Consult with the HDPE pipe manufacturer for appropriate service temperatures before use.
3. The Figure 7305 HDPE Coupling is intended for use on HDPE Pipe only. Use of other plastic pipe materials is prohibited.

## Material Specifications

**Housing**

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

**Coating**

Rust inhibiting paint  
Color: Orange

Other Colors Available  
(IE: RAL3000 and RAL9000)

For other Coating requirements contact an ASC Engineered Solutions™ Representative.

**Hardware**

Bolts: SAE J429, Grade 5, Zinc Electroplated

Heavy Hex Nuts: ASTM A563, Grade A, Zinc Electroplated

Washers: Zinc Coated, Hardened Steel Washers per ASTM F436

**Gaskets**

Properties in accordance with ASTM D 2000

**Grade E EPDM** (Green color code)

Service Temperature Range: -30°F to 230°F (-34°C to 110°C).

Recommended for water service, dilute acids, alkaline solutions, oil free air and many chemical services.

NOT FOR USE IN PETROLEUM APPLICATIONS.

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

Service Temperature Range: -20°F to 180°F (-29°C to 82°C).

Recommended for petroleum applications, air with oil vapor, vegetable and mineral oils.

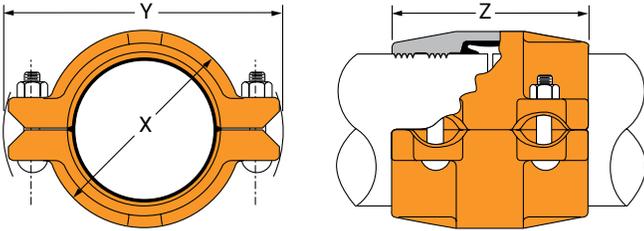
NOT FOR USE WITH HOT WATER OR HOT AIR.

For specific chemical applications, reference the Gruvlok Gasket Recommendations section of the Gruvlok catalog.



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

## HDPE Coupling Fig. 7305



| Nominal Size | Pipe O.D.       | Coupling Dimensions                   |                                       |                                       | Coupling Bolts |                                     | Approx. Wt. Ea. |
|--------------|-----------------|---------------------------------------|---------------------------------------|---------------------------------------|----------------|-------------------------------------|-----------------|
|              |                 | X                                     | Y                                     | Z                                     | Qty.           | Size                                |                 |
| In./DN(mm)   | In./DN(mm)      | In./DN(mm)                            | In./DN(mm)                            | In./DN(mm)                            |                | In.                                 | Lbs./Kg         |
| 2<br>50      | 2.375<br>60.3   | 3 <sup>3</sup> / <sub>8</sub><br>86   | 5 <sup>1</sup> / <sub>2</sub><br>140  | 4 <sup>5</sup> / <sub>8</sub><br>117  | 4              | 1/2 x 2 <sup>3</sup> / <sub>8</sub> | 4.5<br>2.0      |
| 3<br>80      | 3.500<br>88.9   | 4 <sup>5</sup> / <sub>8</sub><br>117  | 6 <sup>3</sup> / <sub>4</sub><br>171  | 4 <sup>5</sup> / <sub>8</sub><br>117  | 4              | 1/2 x 3                             | 8.5<br>3.9      |
| 4<br>100     | 4.500<br>114.3  | 5 <sup>3</sup> / <sub>4</sub><br>146  | 8<br>203                              | 5 <sup>3</sup> / <sub>4</sub><br>146  | 4              | 1/2 x 3                             | 12.0<br>5.4     |
| 6<br>150     | 6.625<br>168.3  | 7 <sup>7</sup> / <sub>8</sub><br>200  | 11<br>279                             | 5 <sup>7</sup> / <sub>8</sub><br>149  | 4              | 5/8 x 3 <sup>1</sup> / <sub>2</sub> | 18.0<br>8.2     |
| 8<br>200     | 8.625<br>219.1  | 10 <sup>3</sup> / <sub>8</sub><br>262 | 13 <sup>1</sup> / <sub>4</sub><br>337 | 6 <sup>1</sup> / <sub>8</sub><br>156  | 4              | 5/8 x 3 <sup>3</sup> / <sub>4</sub> | 30.0<br>13.6    |
| 10<br>250    | 10.750<br>273.1 | 12 <sup>5</sup> / <sub>8</sub><br>319 | 15 <sup>3</sup> / <sub>4</sub><br>400 | 6 <sup>1</sup> / <sub>2</sub><br>165  | 4              | 3/4 x 4 <sup>3</sup> / <sub>4</sub> | 43.0<br>19.5    |
| 12<br>300    | 12.750<br>323.9 | 14 <sup>1</sup> / <sub>2</sub><br>368 | 17 <sup>7</sup> / <sub>8</sub><br>454 | 7 <sup>1</sup> / <sub>8</sub><br>181  | 4              | 3/4 x 4 <sup>3</sup> / <sub>4</sub> | 58.0<br>26.3    |
| 14<br>350    | 14.000<br>355.6 | 16 <sup>5</sup> / <sub>8</sub><br>416 | 20 <sup>3</sup> / <sub>8</sub><br>518 | 10 <sup>1</sup> / <sub>8</sub><br>256 | 4              | 1 x 5 <sup>1</sup> / <sub>2</sub>   | 108.0<br>49.1   |
| 16<br>400    | 16.000<br>406.4 | 18 <sup>1</sup> / <sub>2</sub><br>467 | 21 <sup>3</sup> / <sub>8</sub><br>541 | 10 <sup>1</sup> / <sub>8</sub><br>256 | 4              | 1 x 4 <sup>1</sup> / <sub>2</sub>   | 97.2<br>44.2    |
| 18<br>450    | 18.000<br>457.2 | 20 <sup>3</sup> / <sub>8</sub><br>515 | 23 <sup>1</sup> / <sub>2</sub><br>595 | 10 <sup>1</sup> / <sub>8</sub><br>256 | 4              | 1 x 4 <sup>1</sup> / <sub>2</sub>   | 111.1<br>50.5   |

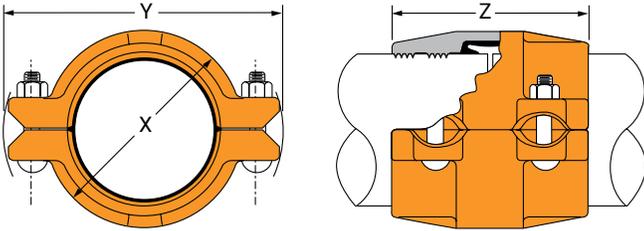
**Note:**  
The pressure rating of the Figure 7305 HDPE Coupling is determined by the working pressure of the HDPE pipe installed. Consult with the HDPE pipe manufacturer for the appropriate working pressure before use. HDPE working pressures are determined by wall thickness, pipe composition, and applicable service temperature.



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## HDPE Pipe Fig. 7305



| Nominal Size | O.D. Actual     | O.D. Tolerance +/- | Out of Roundness Tolerance +/- | Pipe Wall Thickness |               |               |               |               |               |               |
|--------------|-----------------|--------------------|--------------------------------|---------------------|---------------|---------------|---------------|---------------|---------------|---------------|
|              |                 |                    |                                | SDR 7.3             | SDR 9         | SDR 11        | SDR 15.5      | SDR 17        | SDR 21        | SDR 32.5      |
| In./DN(mm)   | In./mm          | In./mm             | In./mm                         | In./mm              | In./mm        | In./mm        | In./mm        | In./mm        | In./mm        | In./mm        |
| 2<br>50      | 2.375<br>60.3   | 0.006<br>0.15      | 0.035<br>0.89                  | 0.325<br>8.3        | 0.264<br>6.7  | 0.216<br>5.5  | 0.153<br>3.9  | 0.140<br>3.6  | 0.113<br>2.9  | —<br>—        |
| 3<br>80      | 3.500<br>88.9   | 0.016<br>0.41      | 0.040<br>1.02                  | 0.479<br>12.2       | 0.389<br>9.9  | 0.318<br>8.1  | 0.226<br>5.7  | 0.206<br>5.2  | 0.167<br>4.2  | 0.108<br>2.7  |
| 4<br>100     | 4.500<br>114.3  | 0.020<br>0.51      | 0.040<br>1.02                  | 0.616<br>15.6       | 0.500<br>12.7 | 0.409<br>10.4 | 0.290<br>7.4  | 0.265<br>6.7  | 0.214<br>5.4  | 0.138<br>3.5  |
| 6<br>150     | 6.625<br>168.3  | 0.030<br>0.76      | 0.050<br>1.27                  | 0.908<br>23.1       | 0.736<br>18.7 | 0.602<br>15.3 | 0.427<br>10.8 | 0.327<br>8.3  | 0.265<br>6.7  | 0.204<br>5.2  |
| 8<br>200     | 8.625<br>219.1  | 0.039<br>0.99      | 0.075<br>1.91                  | 1.182<br>30.0       | 0.958<br>24.3 | 0.784<br>19.9 | 0.556<br>14.1 | 0.507<br>12.9 | 0.340<br>8.6  | 0.265<br>6.7  |
| 10<br>250    | 10.750<br>273.1 | 0.048<br>1.22      | 0.075<br>1.91                  | 1.473<br>37.4       | 1.194<br>30.3 | 0.977<br>24.8 | 0.694<br>17.6 | 0.632<br>16.1 | 0.512<br>13.0 | 0.331<br>8.4  |
| 12<br>300    | 12.750<br>323.9 | 0.057<br>1.45      | 0.075<br>1.91                  | 1.747<br>44.4       | 1.417<br>36   | 1.159<br>29.4 | 0.823<br>20.9 | 0.750<br>19.1 | 0.607<br>15.4 | 0.392<br>10.0 |
| 14<br>350    | 14.000<br>355.6 | 0.063<br>1.60      | 0.075<br>1.91                  | 1.918<br>48.7       | 1.556<br>39.5 | 1.273<br>32.3 | 0.903<br>22.9 | 0.824<br>20.9 | 0.667<br>16.9 | 0.431<br>10.9 |
| 16<br>400    | 16.000<br>406.4 | 0.072<br>1.83      | 0.075<br>1.91                  | 2.192<br>55.7       | 1.778<br>45.2 | 1.455<br>37.0 | 1.032<br>26.2 | 0.941<br>23.9 | 0.762<br>19.4 | 0.492<br>12.5 |
| 18<br>450    | 18.000<br>457.2 | 0.081<br>2.06      | 0.075<br>1.91                  | 2.466<br>62.6       | 2.000<br>50.8 | 1.636<br>41.6 | 1.161<br>29.5 | 1.059<br>26.9 | 0.857<br>21.8 | 0.554<br>14.1 |

**Note:**  
HDPE Pipe Dimensions per ASTM F714, ASTM D2447, and ASTM D3035  
See Installation & Assembly directions on next page.



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## Fig. 7305 HDPE 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.

## 1 Pipe Preparation

Ensure the HDPE pipe ends are square cut to  $\frac{1}{8}$ " maximum for 2" to 4" sizes and  $\frac{5}{32}$ " maximum for 6" sizes and larger. Ensure the gasket seating surface on each pipe end is clean and smooth for proper gasket sealing. Mark each pipe at a distance from the end as follows:

| Size Inches     | Distance to Mark |
|-----------------|------------------|
| In./mm          | In./mm           |
| 2-4 (51-102)    | 2 (25.4)         |
| 5-12 (127-305)  | 1½ (38.1)        |
| 14-18 (355-457) | 1¾ (44.5)        |

**CAUTION:** For proper coupling performance, the gasket seating surface of each pipe end must be free of scratches, indentations, projections, or other imperfections that could prevent proper sealing of the gasket.

## 2 Check & Lubricate Gasket

Check to assure the gasket material is acceptable for the intended service. The Gasket color code is green for EPDM and orange for Nitrile (Buna-N).

**CAUTION:** Use only Guvlok Xtreme™ Lubricant. Guvlok Xtreme Lubricant contains silicone. If silicone is unacceptable for the application contact Guvlok for the lubrication recommendation. Apply a thin coating of Guvlok Xtreme Lubricant to the gasket lip and the exterior surface of the gasket.

## 3 Gasket Installation

Slip the gasket over one of the pipe ends. Make sure the gasket does not overhang the pipe end. Align the second pipe and while keeping the pipes in the butted position slide the gasket back over the second pipe end. The gasket must be positioned centrally between the lines on the pipe ends.

## 4 Housings

Place the Figure 7305 housing casting over the gasket, making sure the tongue on one casting is aligned with the recess of the other casting.

## 5 Tighten Nuts

Insert the bolts and secure the nuts alternately and uniformly until the bolt pads make contact. Torque all bolts to the required bolt torque levels shown in the Specified Bolt Torque Table. Alternate and even tightening of the bolts will significantly reduce the torque needed to close the coupling.

**CAUTION:** To ensure proper performance, the Figure 7305 HDPE coupling should always be installed with the bolt pads making metal to metal contact.



## Specified Bolt Torque

Specified bolt torque is for the oval neck track bolts used on Guvlok couplings. The nuts must be tightened alternately and evenly until fully tightened.

**CAUTION:** Use of an impact wrench is not recommended because the torque output can vary significantly due to many variables including air pressure supply, battery strength and operational variations.

**CAUTION:** Proper torquing of coupling bolts is required to obtain specified performance. Over torquing the bolts may result in damage to the bolt and/or casting which could result in pipe joint separation. Under torquing the bolts may result in lower pressure retention capabilities, lower bend load capabilities, joint leakage and pipe joint separation. Pipe joint separation may result in significant property damage and serious injury.

Specified Bolt Torque

| Coupling Bolts | Minimum    |        | Maximum |     |
|----------------|------------|--------|---------|-----|
|                | In./DN(mm) | In./mm | Lbs./kg |     |
| ½ x 2¾         |            | 80     |         | 100 |
|                |            | 110    |         | 150 |
| ½ x 3          |            | 80     |         | 100 |
|                |            | 110    |         | 150 |
| ⅝ x 3½         |            | 100    |         | 130 |
|                |            | 135    |         | 175 |
| ⅝ x 3¾         |            | 100    |         | 130 |
|                |            | 135    |         | 175 |
| ¾ x 4¾         |            | 130    |         | 180 |
|                |            | 175    |         | 245 |
| 1 x 5½         |            | 200    |         | 250 |
|                |            | 270    |         | 340 |



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