



## / HDPE SYSTEMS /

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As the ductile iron coupling is much stronger than HDPE pipe itself, pressure ratings of HDPE couplings are determined by the pressure rating of HDPE pipe used. Pressure ratings of HDPE pipe vary depending on DR or SDR (standard dimension ratio) and design stress of the material.

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### Pressure Ratings (psi) - IPS Size

Pipe Dimension Ratio (DR)	PE4710 PE100	PE3608 PE3408
DR 7.3	317	265
DR 9	250	200
DR 11	200	160
DR 13.5	160	130
DR 17	125	100
DR 21	100	80
DR 26	80	65
DR 32.5	63	50

Design stress: PE4710 1000 psi, PE3608 & 3408 800 psi

DR (Pipe Dimension Ratio)

Where: DR = D/t

D = pipe outside diameter, in.

t = pipe minimum wall thickness, in.

### Pressure Ratings (Bar) - ISO Size

Pipe Dimension Ratio (SDR)	PE100	PE80
SDR 9	20	16
SDR 11	16	10
SDR 17	10	6.3
SDR 26	6.3	4

Design stress: PE100 8.0 MPa, PE80 5.0 MPa

SDR (Standard Dimension Ratio)

Where: DR = D/t

D = pipe outside diameter, mm

t = pipe minimum wall thickness, mm

HDPE couplings are designed to join IPS HDPE pipe, DR32.5 to 7.3, conforming to ASTM D2513, D3350 and or ANSI/AWWA C901 and ISO HDPE pipe, SDR 9 to 26, conforming to ISO 4427-1/2.

### Coupling Ductile Iron Housing Specifications

- ASTM A 536 – Standard specification for ductile iron castings, Grade 65-45-12

### Bolt/Nut Specifications

- **ANSI:** Carbon steel oval neck bolts & nuts 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 7584 Bar (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.
- **Metric:** Carbon steel oval neck track head bolts (Gold colour 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.
- Stainless steel bolts and nuts are available upon request.

### Gasket Specifications

- **Grade "E" EPDM** gaskets have a Green colour code stripe identification and conform to ASTM D 2000 for service temperatures from -34°C to 110°C (-30°F to 230°F). They are recommended for hot water not to exceed 110°C (230°F), plus a variety of dilute acids, oil free air, and many chemical services. They are not recommended for petroleum services.
- **Grade "T" Nitrile** (Colour code: Orange stripe) Recommended for petroleum products, air with oil vapors, vegetable and mineral oils within the specified temperature range. Also good for water services under 66°C (150°F). Temperature range: -29°C to +82°C (-20°F to +180°F). Do not use for HOT WATER above 66°C (150°F) or HOT DRY AIR above 60°C (140°F).

GRINNELL recommends the use of a silicone based lubricant for the HDPE series.

### Coatings

- Orange – Non-lead paint (standard)
- Red – Non-lead paint (standard, regional)
- Hot-Dipped, Zinc galvanised (optional)

\* Shurjoint product specifications can be found at [www.shurjoint.com](http://www.shurjoint.com)

General notes: Additional information is included in our data sheets and is available upon request. It is the Designer's responsibility to select products suitable for the intended service and to ensure that pressure ratings and performance data is not exceeded. Always read and understand the installation constructions. Never remove any piping components nor correct or modify any piping deficiencies without first depressurizing and draining the system. Material and gasket selection should be verified with the gasket recommendation listing for the specific application.

## Shurjoint Figure 9095 HDPE Couplings IPS Pipe Size

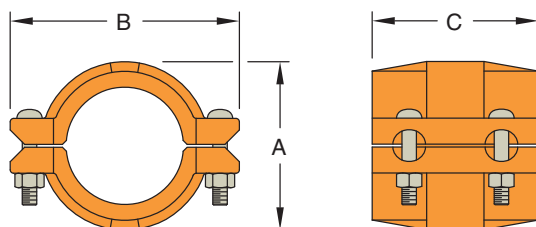
(Page 1 of 2)

*IPS Sizes Shurjoint Tech Data Sheet: Q-01*



The Shurjoint Figure 9095 HDPE Coupling is specially designed for joining sections of high-density polyethylene (HDPE) piping. The Figure 9095 features a four-bolt coupling design with machined gripping teeth to positively secure high-density polyethylene piping and create a leak-tight joint.

The contoured housing features an integrated ramp design that helps avoid obstacles while relocating pipe runs. This coupling is ideal for mining, irrigation, and tunnelling applications.



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### IPS Size

Part Number	IPS Pipe Size		Dimensions - mm Inches			Coupling Bolt Size (Qty. 4) Inches	Approx. Weight kg Lbs.
	Nominal mm Inches	O.D. mm Inches	A	B	C		
909520ES	50	60.3	86.0	133.0	117.0	—	2.6
	2	2.375	3.39	5.24	4.61	1/2 x 2 3/8	5.7
909530ES	80	88.9	117.0	165.0	102.0	—	3.6
	3	3.500	4.61	6.50	4.02	1/2 x 2 3/4	7.9
909540ES	100	114.3	146.0	203.0	146.0	—	5.2
	4	4.500	5.75	7.99	5.75	1/2 x 3	11.4
909560ES	150	168.3	200.0	273.0	149.0	—	8.2
	6	6.625	7.87	10.75	5.87	5/8 x 3 1/2	18.0
909580ES	200	219.1	264.0	333.0	152.0	—	12.5
	8	8.625	10.39	13.11	5.98	5/8 x 3 1/2	27.5
909510ES	250	273.0	318.0	397.0	165.0	—	20.0
	10	10.750	12.52	15.63	6.50	3/4 x 4 3/4	44.0
909512ES	300	323.9	365.0	448.0	200.0	—	25.5
	12	12.750	14.37	17.64	7.87	3/4 x 4 3/4	56.1
909514ES	350	355.6	413.0	492.0	257.0	—	41.2
	14	14.000	16.26	19.37	10.12	1 x 6	90.6
909516ES	400	406.4	467.0	543.0	257.0	—	44.2
	16	16.000	18.39	21.38	10.12	1 x 6	97.2
909518ES	450	457.2	515.0	595.0	260.0	—	50.5
	18	18.000	20.28	23.43	10.24	1 x 6	111.1
909521ES	500	508.0	568.0	651.0	260.0	—	61.8
	20	20.000	22.36	25.63	10.24	1 x 6	136.0

For information on alternative sizes, contact a GRINNELL Sales Representative.

See page 164 for HDPE coupling specifications and pages 234 - 245 for gasket information.

See pages 164, 256 for pipe wall thickness and standard dimension ratio information.

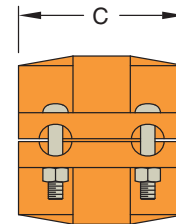
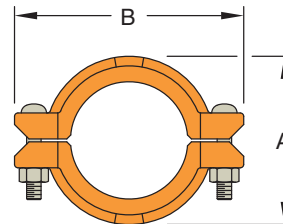
Refer to the Shurjoint technical data sheet for complete technical information and installation instructions. More information about Shurjoint Piping Products can be found on page 14 in the General Data section of this book or on [www.shurjoint.com](http://www.shurjoint.com).

For instructions on part numbers, ordering information, and availability, refer to page 15 or contact a GRINNELL Sales Representative.

## Shurjoint Figure 9095 HDPE Couplings ISO Pipe Size

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ISO Sizes Shurjoint Tech Data Sheet: Q-04



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### ISO Size

ISO Pipe OD Size		Dimensions - mm			Coupling Bolt Size (Qty. 4) mm	Approx. Weight kg
Min. mm	Max. mm	A	B	C		
50	50.5	72	115	105	M10 x 55	1.5
63	63.6	85	128	105	M10 x 55	1.9
75	75.7	97	140	105	M10 x 55	2.4
90	90.9	113	169	105	M12 x 75	3.3
110	111.0	139	181	112	M12 x 75	4.0
160	161.5	190	232	118	M12 x 75	5.6
180	181.7	211	253	118	M12 x 75	7.5
200	201.8	236	305	127	M16 x 90	9.4
225	226.4	261	330	127	M16 x 90	11.3
250	252.3	289	351	134	M16 x 110	12.7
280	281.7	319	406	134	M16 x 90	18.4
315	317.9	354	438	134	M20 x 120	16.7
355	357.2	412	489	256	M24 x 110	36.7
400	402.4	462	540	256	M24 x 110	45.5
450	452.7	515	595	256	M24 x 110	57.7

For information on alternative sizes, contact a GRINNELL Sales Representative.

See page 164 for HDPE coupling specifications and pages 234 - 245 for gasket information.

See pages 164, 256 for pipe wall thickness and standard dimension ratio information.

Refer to the Shurjoint technical data sheet for complete technical information and installation instructions. More information about Shurjoint

Piping Products can be found on page 14 in the General Data section of this book or on [www.shurjoint.com](http://www.shurjoint.com).

For instructions on part numbers, ordering information, and availability, refer to page 15 or contact a GRINNELL Sales Representative.

## Shurjoint Figure 9097 HDPE Transition Couplings

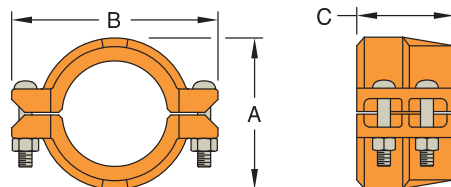
### IPS & ISO Pipe Sizes

The Shurjoint Figure 9097 HDPE Transition Coupling provides for an efficient transition from grooved piping systems to high-density polyethylene (HDPE) piping. The Figure 9097 features a four-bolt coupling design with one side of machine gripping teeth and a grooved end creating a leak-tight joint between high-density polyethylene and grooved piping systems.

The contoured housing features the same integrated ramp design as the Shurjoint Figure 9095, which helps avoid obstacles while relocating pipe runs. This coupling is ideal for mining, irrigation, and tunnelling applications.

*IPS Sizes Shurjoint Tech Data Sheet: Q-02*  
*ISO Sizes Shurjoint Tech Data Sheet: Q-05*

**10**  
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#### IPS Size

Part Number	IPS Pipe Size		Dimensions - mm Inches			Coupling Bolt Size (Qty. 4) Inches	Approx. Weight kg Lbs.
	Nominal mm Inches	O.D. mm Inches	A	B	C		
909720ES	50	60.3	86.0	152.0	79.0	—	2.0
	2	2.375	3.39	5.99	3.11	1/2 x 2 3/8	4.4
909730ES	80	88.9	114.0	181.0	79.0	—	2.7
	3	3.500	4.49	7.13	3.11	1/2 x 3	5.9
909740ES	100	114.3	146.0	216.0	95.0	—	3.8
	4	4.500	5.75	8.50	3.74	1/2 x 3	8.4
909760ES	150	168.3	203.0	286.0	95.0	—	5.7
	6	6.625	8.00	11.26	3.74	5/8 x 3 1/2	12.5
909780ES	200	219.1	267.0	346.0	108.0	—	9.7
	8	8.625	10.51	13.63	4.25	5/8 x 3 1/2	21.3
909710ES	250	273.0	321.0	432.0	127.0	—	16.0
	10	10.750	12.64	17.00	5.00	3/4 x 4 3/4	35.2
909712ES	300	323.9	375.0	495.0	127.0	—	19.6
	12	12.750	14.76	19.49	5.00	3/4 x 4 3/4	43.1

For information on alternative sizes, contact a GRINNELL Sales Representative.

See page 164 for HDPE coupling specifications and pages 234 - 245 for gasket information.

See pages 164, 256 for pipe wall thickness and standard dimension ratio information.

Refer to the Shurjoint technical data sheet for complete technical information and installation instructions. More information about Shurjoint Piping Products can be found on page 14 in the General Data section of this book or on [www.shurjoint.com](http://www.shurjoint.com).

For instructions on part numbers, ordering information, and availability, refer to page 15 or contact a GRINNELL Sales Representative.

#### ISO Size

ISO Pipe OD Size		Dimensions - mm			Coupling Bolt Size (Qty. 4) mm	Approx. Weight kg
Min. mm	Max. mm	A	B	C		
63.0	60.3	86	146	73	M10 x 55	1.5
75.0	73.0	97	146	73	M10 x 55	1.9
90.0	88.9	114	178	73	M12 x 75	2.3
110.0	114.3	144	203	76	M12 x 75	2.8
160.0	165.1	194	254	76	M12 x 75	3.9
160.0	168.3	198	257	76	M12 x 75	3.9
200.0	219.1	256	321	84	M16 x 90	6.4
250.0	273.0	321	432	127	M20 x 120	11.9
315.0	323.9	375	495	127	M20 x 120	12.7

For information on alternative sizes, contact a GRINNELL Sales Representative.

See page 164 for HDPE coupling specifications and pages 234 - 245 for gasket information.

See pages 164, 256 for pipe wall thickness and standard dimension ratio information.

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For instructions on part numbers, ordering information, and availability, refer to page 15 or contact a GRINNELL Sales Representative.



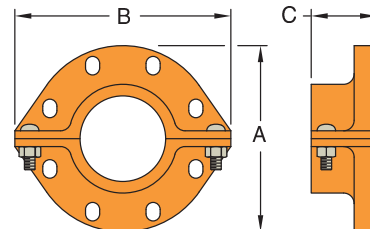
## Shurjoint Figure 9094 Flange Couplings IPS (ANSI) & ISO (PN10/16) Pipe Sizes

IPS Sizes Shurjoint Tech Data Sheet: Q-03

ISO Sizes Shurjoint Tech Data Sheet: Q-06



The Shurjoint Figure 9094 HDPE Flange Coupling provides for an efficient transition from high-density polyethylene (HDPE) piping to ANSI class 125#/150# or PN 10/16 flanged piping system. This coupling is ideal for mining, irrigation, and tunnelling applications.



### IPS Size / ANSI Class 125/150

Part Number	IPS Pipe Size		Dimensions - mm Inches			Draw Bolt/ Nut		Flange Mating Bolts ‡		Approx. Weight kg Lbs.
	Nominal mm Inches	O.D. mm Inches	A	B	C	Qty	Size Inches	Qty	Size Inches	
-	80	88.9	197.0	225.0	79.0	2	-	4	-	4.8
	3	3.500	7.75	8.86	3.10	2	5/8 x 2 1/8	4	5/8 x 3 1/4	10.6
909440ES	100	114.3	229.0	260.0	79.0	2	-	8	-	6.8
	4	4.500	9.00	10.25	3.10	2	5/8 x 2 1/8	8	5/8 x 3 1/4	15.0
909460ES	150	168.3	279.0	311.0	95.0	2	-	8	-	9.8
	6	6.625	11.00	12.25	3.75	2	5/8 x 2 1/8	8	3/4 x 3 1/2	21.5
909480ES	200	219.1	343.0	375.0	87.0	2	-	8	-	13.1
	8	8.625	13.50	14.75	3.42	2	5/8 x 2 1/8	8	3/4 x 3 3/4	28.8
-	250	273.0	406.0	533.0	108.0	4	-	12	-	19.5
	10	10.750	16.00	21.0	4.25	4	3/4 x 2 3/8	12	1 x 6	42.9
-	300	323.9	483.0	610.0	108.0	4	-	12	-	23.4
	12	12.750	19.02	24.0	4.25	4	3/4 x 2 3/8	12	1 x 6	51.5

‡ Mating bolts and nuts are not supplied. Flange mating bolts must be at least SAE J429, Grade 5 or stronger.

It is the responsibility of the purchaser to verify correct length for the intended application.

For information on alternative sizes, contact a GRINNELL Sales Representative.

See page 164 for HDPE coupling specifications and pages 234 - 245 for gasket information.

See pages 164, 256 for pipe wall thickness and standard dimension ratio information.

Refer to the Shurjoint technical data sheet for complete technical information and installation instructions. More information about Shurjoint Piping Products can be found on page 14 in the General Data section of this book or on [www.shurjoint.com](http://www.shurjoint.com).

For instructions on part numbers, ordering information, and availability, refer to page 15 or contact a GRINNELL Sales Representative.

### ISO Size / PN 10/16

ISO/ PN10/16 Pipe OD Size		Dimensions - mm			Draw Bolt/ Nut		Flange Mating Bolts ‡		Approx. Weight kg
HDPE mm	Steel mm	A	B	C	Qty	Size mm	Qty	Size mm	
63	60.3	165	196.9	78.6	2	M16 x 54	4	M16	4.3
90	88.9	200	228	79	2	M16 x 54	8	M16	4.8
110	114.3	220	251	79	2	M16 x 54	8	M16	6.8
160	165.1	285	317	95	2	M20 x 60	8	M20	9.8
200	219.1	340	372	87	2	M20 x 60	12 (PN 16)	M20	13.1
250	273.0	405	532	108	4	M24 x 100	12	M24	19.5
315	323.9	460	587	108	4	M24 x 100	12	M24	28.5

‡ Mating bolts and nuts are not supplied. Flange mating bolts must be at least SAE J429, Grade 5 or stronger.

It is the responsibility of the purchaser to verify correct length for the intended application.

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See pages 164, 256 for pipe wall thickness and standard dimension ratio information.

Refer to the Shurjoint technical data sheet for complete technical information and installation instructions. More information about Shurjoint Piping Products can be found on page 14 in the General Data section of this book or on [www.shurjoint.com](http://www.shurjoint.com).

For instructions on part numbers, ordering information, and availability, refer to page 15 or contact a GRINNELL Sales Representative.