

## 7705 STANDARD FLEXIBLE COUPLING



For pressure rating, listing, and approval information, refer to data sheet or visit SHURJOINT website [www.shurjoint.com](http://www.shurjoint.com) for details or contact your SHURJOINT representatives.

The Model 7705 Standard Flexible Coupling is a standard flexible coupling for use in a variety of general piping applications of moderate pressure services. The model 7705 couplings features flexibility that can deal with misalignment, distortion, thermal stress, vibration and noise and also resist seismic tremors. With the use of Model 7705 couplings you can even design a curved layout. See Typical Applications – Flexible Couplings on Shurjoint cut sheet #B-19. All Model 7705 couplings are comprised of two identical ductile iron housings segments, EPDM rubber gasket and plated track bolts & nuts. Housings segments are supplied with our standard painted finishes, i.e. orange or RAL3000 red. Optional finishes such as hot dipped zinc galvanized and custom epoxy coatings are available.



7705 couplings should always be installed so that the coupling bolt pads make metal to metal contact.

### material specification

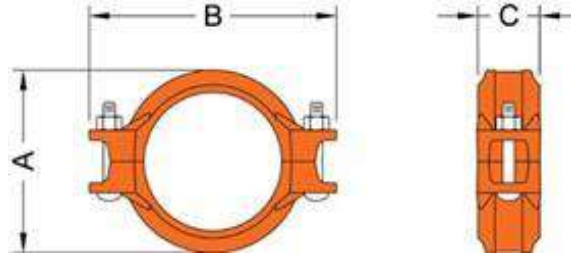
- **Housing:**  
Ductile Iron to ASTM A536, Gr. 65-45-12, min. tensile strength 65,000 psi (448 MPa).
- **Surface Finish:**  
Standard painted finishes in orange or RAL3000 red.  
Hot dip zinc galvanized (Option).  
Epoxy Coatings in RAL3000 red or other colors (Option)
- **Rubber Gasket:**  
Grade E-pw EPDM (Color code: Double Green stripe) approved under NSF/ANSI 61 and NSF/ANSI 372 for potable water service to +180°F (+82°C). Also good for services for water with acid, water with chlorine, deionized water, seawater and waste water, dilute acids, oil-free air and many chemicals.

Not recommended for petroleum oils, minerals oils, solvents and aromatic hydrocarbons. Maximum Temperature Range: -30°F (-34°C) to +230°F (+110°C)\*. \*EPDM seat for water services are not recommended for steam services unless valves or components are accessible for frequent replacement.

- (Option) Grade “E” EPDM (Color code: Green stripe)  
Good for cold & hot water up to +230°F (+110°C). Also good for services for water with acid, water with chlorine or chloramines, deionized water, seawater and waste water, dilute acids, oil-free air and many chemicals. Not recommended for petroleum oils, minerals oils, solvents and aromatic hydrocarbons. Maximum Temperature Range: -30°F (-34°C) to +230°F (+110°C)\*.  
\*EPDM seat for water services are not recommended for steam services unless valves or components are accessible for frequent replacement.
- Other options: Grade “T” - Nitrile  
Grade “O” – Fluoroelastomer.  
Grade “L” - Silicone.

For additional details contact Shurjoint.

- **Bolts & Nuts:**  
Heat treated carbon manganese steel track bolts to ASTM A449-83a (or A183 Gr.2), minimum tensile strength 110,000 psi (758 MPa). Zinc electroplated, with heavy-duty hexagonal nuts to ASTM A563.



Model 7705 Standard Flexible Coupling

Normal Size	Pipe O.D.	Max. Working Pressure (CWP)*	Max. End Load (CWP)	Axial Displacement †	Angular Movement ***		Dimensions			Bolt Size		Weight
					Deg. Per Coupling	Per Pipe	A	B	C	No	Size	
in	in	psi	lbf	in	(°)	in/ft	in	in	in			lbs
mm	mm	bar	kN	mm		mm/m	mm	mm	mm			kg
1	1.315	500	670	0.0625	2° - 45'	0.58	2.24	3.94	1.81	2	3/8 x 1 3/4	1.3
25	33.4	35	3.12	1.6		48	57	100	46		M10 x 45	0.6
1 1/4	1.660	500	1080	0.0625	2° - 10'	0.46	2.60	4.06	1.81	2	3/8 x 2 1/8	1.5
32	42.2	35	4.94	1.6		38	66	103	46		M10 x 55	0.7
1 1/2	1.900	500	1410	0.0625	1° - 54'	0.4	2.83	4.25	1.81	2	3/8 x 2 1/8	1.6
40	48.3	35	6.41	1.6		33	72	108	46		M10 x 55	0.7
2	2.375	500	2210	0.0625	1° - 31'	0.32	3.31	5.08	1.85	2	3/8 x 2 1/8	1.8
50	60.3	35	9.99	1.6		27	84	129	47		M10 x 55	0.8
2 1/2	2.875	500	3240	0.0625	1° - 15'	0.26	3.90	5.59	1.85	2	3/8 x 2 1/8	2.0
65	73.0	35	14.64	1.6		22	99	142	47		M10 x 55	0.9
76.1	3.000	500	3530	0.0625	1° - 12'	0.25	4.02	5.79	1.85	2	3/8 x 2 1/8	2.1
	76.1	35	15.91	1.6		21	102	147	47		M10 x 55	1.0
3	3.500	500	4800	0.0625	1° - 02'	0.22	4.57	6.46	2.05	2	1/2 x 3	2.8
80	88.9	35	21.71	1.6		18	116	164	52		M12 x 75	1.3
101.6	4.000	500	6280	0.0625	0° - 54'	0.19	5.07	7.24	2.05	2	1/2 x 3	3.6
	101.6	35	28.36	1.6		16	129	184	52		M12 x 75	1.6
108.0	4.250	500	7080	0.1250	1° - 42'	0.36	5.43	7.56	2.05	2	1/2 x 3	4.1
	108.0	35	32.05	3.2		30	138	192	52		M12 x 75	1.9
4	4.500	500	7940	0.1250	1° - 36'	0.34	5.71	7.76	2.05	2	1/2 x 3	4.1
100	114.3	35	35.89	3.2		28	145	197	52		M12 x 75	1.9
133.0	5.250	450	9730	0.1250	1° - 23'	0.29	6.50	9.09	2.05	2	5/8 x 3 1/2	5.1
	133.0	31	43.05	3.2		24	165	231	52		M16 x 90	2.3
139.7	5.500	450	10680	0.1250	1° - 18'	0.28	6.69	9.76	2.05	2	5/8 x 3 1/2	5.9
	139.7	31	47.49	3.2		23	170	248	52		M16 x 90	2.7
5	5.563	450	10930	0.1250	1° - 18'	0.27	6.77	9.17	2.05	2	5/8 x 3 1/2	5.9
125	141.3	31	48.59	3.2		23	172	233	52		M16 x 90	2.7

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					Deg. Per Coupling	Per Pipe	A	B	C	No	Size	
in	in	psi	lbf	in	(°)	in/ft	in	in	in		in	lbs
mm	mm	bar	kN	mm		mm/m	mm	mm	mm		mm	kg
159.0	6.250	450	13790	0.1250	1° - 09'	0.24	7.48	9.96	2.05	2	5/8 x 3 1/2	6.6
	159.0	31	61.52	3.2							20	190
165.1	6.500	450	14920	0.1250	1° - 07'	0.24	7.72	10.28	2.09	2	5/8 x 3 1/2	6.8
	165.1	31	66.33	3.2							20	196
6	6.625	450	15500	0.1250	1° - 05'	0.23	7.87	10.55	2.09	2	5/8 x 3 1/2	7.0
150	168.3	31	68.93	3.2							19	200
8	8.625	300	17510	0.1250	0° - 50'	0.18	10.24	13.27	2.44	2	5/8 x 3 1/2	12.8
200	219.1	20	75.37	3.2							15	260
8 (7705H)	8.625	450	26270	0.1250	0° - 50'	0.18	10.47	13.07	2.44	2	3/4 x 4 3/4	15.7
200	219.1	31	116.82	3.2							15	266
10	10.750	300	27210	0.1250	0° - 40'	0.14	13.50	13.78	2.56	2	3/4 x 4 3/4	18.0
250	273.0	20	117.01	3.2							12	343
12	12.750	300	38280	0.1250	0° - 34'	0.12	15.35	15.75	2.56	2	7/8 x 6 1/2	23.8
300	323.9	20	164.71	3.2							10	390
200 JIS	8.516	300	17079	0.1250	0° - 51'	0.18	10.00	13.70	2.36	2	3/4 x 4 3/4	12.8
	216.3	20	73.45	3.2							15	254
250 JIS	10.528	300	26103	0.1250	0° - 41'	0.15	13.27	15.28	2.56	2	3/4 x 4 3/4	17.6
	267.4	20	112.26	3.2							12	337
300 JIS	12.539	300	37027	0.1250	0° - 35'	0.12	15.31	17.48	2.56	2	7/8 x 6 1/2	22.6
	318.5	20	159.26	3.2							10	389

All DIN size 7705 couplings up to DN150 size and the DN200 7705H coupling are VdS approved in addition to cULus and FM approvals.

\* Working Pressure is based on roll grooved standard wall carbon steel pipe.

† Allowable Axial Displacement and Angular Movement (deflection) figures are for roll grooved standard steel pipe. Values for cut grooved pipe will be double that of roll grooved. These values are maximums; for design and installation purposes these figures should be reduced by 50% for 3/4"/DN20 – 3 1/2"/DN90; 25% for 4"/DN100 and larger to compensate for jobsite conditions.

\*\* Deflection or angular movement given is the maximum value that a coupling allows. When using the given maximum angles for a curved layout, proper bracing should be used to counter pressure thrust that will occur when the system is pressurized.

Flexible couplings can be used for angular movement and or thermal expansion, though please note individual coupling(s) cannot be used to their maximums for both types of movement within a system at the same time.

### General note

- Maximum Working Pressure (CWP) listed is the maximum cold water pressure for general piping services tested to ASTM F1476 and or AWWA C606 methods. Figures listed are based on roll- or cut-grooved standard wall carbon steel pipe. For other pipe schedules or pipe materials, contact Shurjoint for additional information.
- Max. End Load is calculated based on the maximum working pressure (CWP).
- Listed and or Approved Pressures are pressure ratings for fire protection systems, tested and approved by various approval bodies. Please always refer to the latest approval data posted on the Shurjoint website.
- Field Joint Test: For one time only, the system may be tested hydrostatically at 1 1/2 times the maximum working pressure listed (AWWA C606 5.2.3).
- Warning: Piping systems must always be depressurized and drained before attempting disassembly and or removal of any components.
- The 10 Year Limited Warranty applies to manufacturing defects only and does not cover severe service/temperature applications or wear parts.
- Shurjoint reserves the right to change specifications, designs and or standard without notice and without incurring any obligations.