

MODEL 7707 HEAVY DUTY FLEXIBLE COUPLING

The Model 7707 Flexible Coupling is designed for use in a variety of general piping applications of moderate or high pressure services. Working pressure is usually dictated by the wall thickness and rating of the pipe being used. The Model 7707 couplings feature flexibility that can accommodate misalignment, distortion, thermal stress, vibration and noise and also resist seismic tremors. The utilization of Model 7707 couplings can accommodate a curved layout. See Typical Applications – Flexible Couplings on **Shurjoint** cutsheet #B-19.

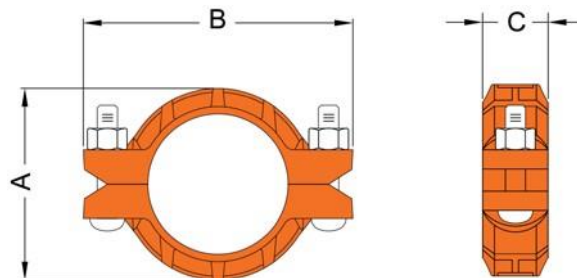
The Model 7707 couplings are comprised of two housing segments, EPDM gaskets and plated track bolts and nuts. Housing segments are supplied with our standard painted finishes, i.e. orange or RAL3000 red. Optional finishes such as hot dipped zinc galvanized and epoxy coatings are also available.



7707 couplings should always be installed so that the coupling bolt pads make metal to metal contact.



For Fire Protection pressure rating, listing, and approval information, refer to Data Sheet B-42 or visit **SHURJOINT** website, www.shurjoint.com for details or contact your **SHURJOINT** Representative.



**10
YEAR
LIMITED
WARRANTY**

Full warranty terms can be found on www.shurjoint.com

Model 7707 Heavy Duty Flexible Coupling

Nominal Size	Pipe O.D.	Max. Working Pressure (CWP)*	Max. End Load (CWP)	Angular Movement **†			Dimensions			Bolt		
				Axial Displacement †	Degree Per Coupling	Per Pipe	A	B	C	No.	Size	Weight
in	in	PSI	Lbs	in	(°)	in/ft	in	in	in		in	Lbs
mm	mm	Bar	kN	mm		mm/m	mm	mm	mm		mm	Kgs
¾	1.050	1000	865	0.0625	3° – 23'	0.71	2.13	3.74	1.81	2	¾ x 2½	1.3
20	26.7	69	3.79	1.6		58	54	95	46		M10x55	0.6
1	1.315	1000	1360	0.0625	2° – 45'	0.58	2.40	4.02	1.81	2	¾ x 2½	1.7
25	33.4	69	6.15	1.6		48	61	102	46		M10x55	0.8
1¼	1.660	1000	2160	0.0625	2° – 10'	0.45	2.76	4.45	1.81	2	½ x 3	2.1
32	42.2	69	9.64	1.6		38	70	113	46		M12x75	1.0
1½	1.900	1000	2830	0.0625	1° – 54'	0.40	3.00	4.57	1.81	2	½ x 2¾	2.1
40	48.3	69	12.64	1.6		33	76	116	46		M12x60	1.0
2	2.375	1000	4430	0.0625	1° – 31'	0.31	3.50	5.35	1.81	2	½ x 3	2.6
50	60.3	69	19.69	1.6		26	90	136	46		M12x75	1.2
2½	2.875	1000	6490	0.0625	1° – 15'	0.26	4.00	5.98	1.85	2	½ x 3	2.9
65	73.0	69	28.86	1.6		22	102	152	47		M12x75	1.3
76.1 mm	3.000	1000	7065	0.0625	1° – 12'	0.25	4.06	6.02	1.85	2	½ x 3	2.9
	76.1	69	31.37	1.6		21	103	153	47		M12x75	1.3
3	3.500	1000	9620	0.0625	1° – 02'	0.21	4.88	6.34	1.85	2	½ x 3	3.3
80	88.9	69	42.81	1.6		18	124	161	47		M12x75	1.5
4	4.500	1000	15900	0.1250	1° – 36'	0.33	6.18	8.03	2.05	2	¾ x 3½	4.6
100	114.3	69	70.76	3.2		27	157	204	52		M16x90	2.1
139.7 mm	5.500	1000	23750	0.1250	1° – 18'	0.27	7.32	9.41	2.09	2	¾ x 3½	6.8
	139.7	69	105.71	3.2		23	186	239	53		M16x90	3.1



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Nominal Size	Pipe O.D.	Max. Working Pressure (CWP)*	Max. End Load (CWP)	Axial Displacement †	Angular Movement**†		Dimensions			Bolt		
					Degree Per Coupling	Per Pipe	A	B	C	No.	Size	Weight
					in <i>mm</i>	in <i>mm</i>	PSI <i>Bar</i>	Lbs <i>kN</i>	in <i>mm</i>	(°)	in/ft <i>mm/m</i>	in <i>mm</i>
5 <i>125</i>	5.563 <i>141.3</i>	1000 <i>69</i>	24295 <i>108.14</i>	0.1250 <i>3.2</i>	1° – 18'	0.27 <i>22</i>	7.32 <i>186</i>	9.65 <i>245</i>	2.09 <i>53</i>	2	⅝ x 3½ <i>M16x90</i>	7.2 <i>3.3</i>
165.1 mm	6.500 <i>165.1</i>	1000 <i>69</i>	33170 <i>147.64</i>	0.1250 <i>3.2</i>	1° – 07'	0.23 <i>19</i>	8.11 <i>211</i>	10.24 <i>260</i>	2.09 <i>53</i>	2	¾ x 4¾ <i>M20x120</i>	7.9 <i>3.6</i>
	6 <i>150</i>	6.625 <i>168.3</i>	1000 <i>69</i>	34455 <i>153.42</i>	0.1250 <i>3.2</i>	1° – 05'	0.22 <i>19</i>	8.24 <i>214</i>	10.75 <i>273</i>	2.09 <i>53</i>	2	¾ x 4¾ <i>M20x120</i>
8 <i>200</i>	8.625 <i>219.1</i>	800 <i>55</i>	46720 <i>207.26</i>	0.1250 <i>3.2</i>	0° – 50'	0.18 <i>15</i>	10.86 <i>276</i>	13.23 <i>336</i>	2.44 <i>62</i>	2	¾ x 4¾ <i>M20x120</i>	14.5 <i>6.6</i>
10 <i>250</i>	10.750 <i>273.0</i>	800 <i>55</i>	72575 <i>321.78</i>	0.1250 <i>3.2</i>	0° – 40'	0.14 <i>11</i>	13.50 <i>343</i>	16.10 <i>409</i>	2.56 <i>65</i>	2	⅞ x 6½ <i>---</i>	23.3 <i>10.6</i>
12 <i>300</i>	12.750 <i>323.9</i>	800 <i>55</i>	102090 <i>452.95</i>	0.1250 <i>3.2</i>	0° – 34'	0.12 <i>10</i>	15.35 <i>390</i>	18.50 <i>470</i>	2.60 <i>66</i>	2	⅞ x 6½ <i>---</i>	26.4 <i>12.0</i>
200 JIS	8.516 <i>216.3</i>	800 <i>55</i>	45545 <i>202.00</i>	0.1250 <i>3.2</i>	0° – 51'	0.18 <i>15</i>	10.86 <i>276</i>	13.03 <i>331</i>	2.36 <i>60</i>	2	¾ x 4¾ <i>M20x120</i>	13.9 <i>6.3</i>
250 JIS	10.528 <i>267.4</i>	800 <i>55</i>	69610 <i>308.71</i>	0.1250 <i>3.2</i>	0° – 41'	0.14 <i>12</i>	13.27 <i>337</i>	15.87 <i>403</i>	2.60 <i>66</i>	2	⅞ x 6½ <i>---</i>	22.4 <i>10.2</i>
300 JIS	12.539 <i>318.5</i>	800 <i>55</i>	98740 <i>437.98</i>	0.1250 <i>3.2</i>	0° – 35'	0.12 <i>10</i>	15.31 <i>389</i>	18.11 <i>460</i>	2.60 <i>66</i>	2	⅞ x 6½ <i>---</i>	25.5 <i>11.6</i>

* 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 ¾" – 3½"; 25% for 4" 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.

Performance Data

The following tables show the maximum working pressures (CWP) of **Shurjoint** Model 7707 Heavy Duty Flexible Coupling used on both carbon steel and stainless steel pipes. **Shurjoint** ductile iron couplings can be used in conjunction with stainless steel pipe in non-corrosive environment as the flow media does not come in direct contact with the coupling housings but rather only the gasket.

Model 7707 on Carbon Steel Pipe					
Nom. Size	Cut-Grooved		Roll-Grooved		
	XS	STD	STD	Sch. 10	Sch. 7
in / mm	PSI / Bar	PSI / Bar	PSI / Bar	PSI / Bar	PSI / Bar
¾	1000	1000	1000* / 750	750* / 600	500
20	69	69	69* / 52	52* / 42	35
1	1000	1000	1000* / 750	750* / 600	500
25	69	69	69* / 52	52* / 42	35
1¼	1000	1000	1000* / 750	750* / 600	500
32	69	69	69* / 52	52* / 42	35
1½	1000	1000	1000* / 750	750* / 600	500
40	69	69	69* / 52	52* / 42	35
2	1000	1000	1000* / 750	750* / 600	500
50	69	69	69* / 52	52* / 42	35
2½	1000	1000	1000* / 750	600	500
65	69	69	69* / 52	42	35
3	1000	1000	1000* / 750	600	500
80	69	69	69* / 52	42	35
4	1000	1000	1000* / 750	600	400
100	69	69	69* / 52	42	28
5	1000	1000	1000* / 750	500	350
125	69	69	69* / 52	35	24
6	1000	1000	1000* / 700	450	300
150	69	69	69* / 48	31	20
8	800	800	800* / 600	350	250
200	55	55	55* / 42	24	17
10	800	800	800* / 550	300	200
250	55	55	55* / 38	20	14
12	800	800	800* / 500	300	200
300	55	55	55* / 35	20	14

Model 7707 on Stainless Steel Pipe					
Nom. Size	Cut-Grooved		Roll-Grooved		
	Sch. 80S	Sch. 40S	Sch. 40S	Sch. 10S	Sch. 5S
in / mm	PSI / Bar	PSI / Bar	PSI / Bar	PSI / Bar	PSI / Bar
¾	750	750	750	500	325
20	52	52	52	35	22
1	750	750	750	500	325
25	52	52	52	35	22
1¼	750	750	750	500	325
32	52	52	52	35	22
1½	750	750	750	500	325
40	52	52	52	35	22
2	750	750	750	500	325
50	52	52	52	35	22
2½	750	750	750	500	325
65	52	52	52	35	22
3	750	750	750	500	325
80	52	52	52	35	22
4	750	750	750	500	250
100	52	52	52	35	17
5	750	750	650	500	NR
125	52	52	45	35	
6	750	750	500	300	NR
150	52	52	35	20	
8	600	600	450	300	NR
200	42	42	31	20	
10	600	600	400	125	NR
250	42	42	28	9	
12	600	600	400	125	NR
300	42	42	28	9	

Note: * Maximum line pressure, including surge, to which a joint should be subjected.

MATERIAL SPECIFICATIONS

• Housing:

Ductile Iron to ASTM A536, Gr. 65-45-12 and or to ASTM A395, Gr. 65-45-15, min. tensile strength 65,000 psi (448 MPa).

• Surface Finish:

Standard painted finishes in orange or RAL3000 red.

- ☐ Hot dip zinc galvanized (Option).
- ☐ Tailored epoxy coatings including 3M Scotchkote #134 for waste water, hydrocarbons, harsh chemicals and sea water services, Drynamels #4900 for exterior (outdoor) architectural applications and others (Option).

For additional details contact **Shurjoint**.

• Rubber Gasket:

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, 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 gaskets for water services are not recommended for steam services unless couplings or components are accessible for frequent gasket replacement.

- ☐ (Option) **Grade “T” Nitrile** (Color 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 +150°F (+66°C).
Temperature range: -20°F to +180°F (-29°C to +82°C).
Do not use for HOT WATER above +150°F (+66°C) or HOT DRY AIR above +140°F (+60°C)

- ☐ Other options: 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. Plain washers are always supplied for epoxy coated couplings.

- ☐ Type 304 or 316 track bolts with heavy duty nuts (Option)

General Notes:

- **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 1½ 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.