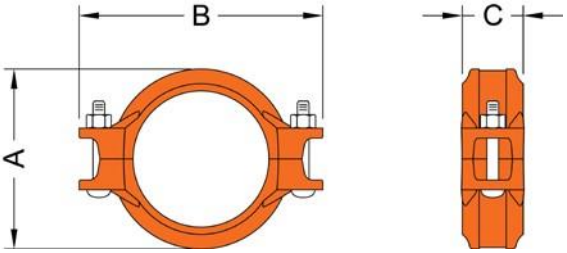
MODEL 7705 STANDARD FLEXIBLE COUPLING

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.

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 7705 Standard Flexible Coupling

Nominal 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		
in *mm*	in *mm*	PSI *Bar*	Lbs *kN*	in *mm*	(º)	in/ft *mm/m*	in *mm*	in *mm*	in *mm*	in *mm*	Lbs *Kgs*
1 *25*	1.315 *33.4*	500 *35*	670 *3.12*	0.0625 *1.6*	2º - 45'	0.58 *48*	2.24 *57*	3.94 *100*	1.81 *46*	⅜ x 1¾ *M10 x 45*	1.3 *0.6*
1¼ *32*	1.660 *42.2*	500 *35*	1080 *4.94*	0.0625 *1.6*	2º - 10'	0.46 *38*	2.60 *66*	4.06 *103*	1.81 *46*	⅜ x 2⅛ *M10 x 55*	1.5 *0.7*
1½ *40*	1.900 *48.3*	500 *35*	1410 *6.41*	0.0625 *1.6*	1º - 54'	0.4 *33*	2.83 *72*	4.25 *108*	1.81 *46*	⅜ x 2⅛ *M10 x 55*	1.6 *0.7*
2 *50*	2.375 *60.3*	500 *35*	2210 *9.99*	0.0625 *1.6*	1º - 31'	0.32 *27*	3.31 *84*	5.08 *129*	1.85 *47*	⅜ x 2⅛ *M10 x 55*	1.8 *0.8*
2½ *65*	2.875 *73.0*	500 *35*	3240 *14.64*	0.0625 *1.6*	1º - 15'	0.26 *22*	3.90 *99*	5.59 *142*	1.85 *47*	⅜ x 2⅛ *M10 x 55*	2.0 *0.9*
76.1 mm	3.000 *76.1*	500 *35*	3530 *15.91*	0.0625 *1.6*	1º - 12'	0.25 *21*	4.02 *102*	5.79 *147*	1.85 *47*	⅜ x 2⅛ *M10 x 55*	2.1 *1.0*
3 *80*	3.500 *88.9*	500 *35*	4800 *21.71*	0.0625 *1.6*	1º - 02'	0.22 *18*	4.57 *116*	6.46 *164*	2.05 *52*	½ x 3 *M12 x 75*	2.8 *1.3*
101.6 mm	4.000 *101.6*	500 *35*	6280 *28.36*	0.0625 *1.6*	0º - 54'	0.19 *16*	5.07 *129*	7.24 *184*	2.05 *52*	½ x 3 *M12 x 75*	3.6 *1.6*
108.0 mm	4.250 *108.0*	500 *35*	7080 *32.05*	0.1250 *3.2*	1º - 42'	0.36 *30*	5.43 *138*	7.56 *192*	2.05 *52*	½ x 3 *M12 x 75*	4.1 *1.9*
4 *100*	4.500 *114.3*	500 *35*	7940 *35.89*	0.1250 *3.2*	1º - 36'	0.34 *28*	5.71 *145*	7.76 *197*	2.05 *52*	½ x 3 *M12 x 75*	4.1 *1.9*
133.0 mm	5.250 *133.0*	450 *31*	9730 *43.05*	0.1250 *3.2*	1º - 23'	0.29 *24*	6.50 *165*	9.09 *231*	2.05 *52*	⅝ x 3½ *M16 x 90*	5.1 *2.3*
139.7 mm	5.500 *139.7*	450 *31*	10680 *47.49*	0.1250 *3.2*	1º - 18'	0.28 *23*	6.69 *170*	9.76 *248*	2.05 *52*	⅝ x 3½ *M16 x 90*	5.9 *2.7*
5 *125*	5.563 *141.3*	450 *31*	10930 *48.59*	0.1250 *3.2*	1º - 18'	0.27 *23*	6.77 *172*	9.17 *233*	2.05 *52*	⅝ x 3½ *M16 x 90*	5.9 *2.7*

Model 7705 Standard Flexible Coupling

Nominal Size	Pipe O.D.	Max. Working Pressure (CWP)*	Max. End Load (CWP)	Axial Displacement †	Angular Movement **†		Dimensions				
					Deg. Per Coupling	Per Pipe	A	B	C	Bolt Size	Weight
in *mm*	in *mm*	PSI *Bar*	Lbs *kN*	in *mm*	(º)	in/ft *mm/m*	in *mm*	in *mm*	in *mm*	in *mm*	Lbs *Kgs*
159.0 mm	6.250 *159.0*	450 *31*	13790 *61.52*	0.1250 *3.2*	1º - 09'	0.24 *20*	7.48 *190*	9.96 *253*	2.05 *52*	⅝ x 3½ *M16 x 90*	6.6 *3.0*
165.1 mm	6.500 *165.1*	450 *31*	14920 *66.33*	0.1250 *3.2*	1º - 07'	0.24 *20*	7.72 *196*	10.28 *261*	2.09 *53*	⅝ x 3½ *M16 x 90*	6.8 *3.1*
6 *150*	6.625 *168.3*	450 *31*	15500 *68.93*	0.1250 *3.2*	1º - 05'	0.23 *19*	7.87 *200*	10.55 *268*	2.09 *53*	⅝ x 3½ *M16 x 90*	7.0 *3.2*
8 *200*	8.625 *219.1*	300 *20*	17510 *75.37*	0.1250 *3.2*	0º - 50'	0.18 *15*	10.24 *260*	13.27 *337*	2.44 *62*	⅝ x 3½ *M16 x 90*	12.8 *5.8*
8 (7705H) *200*	8.625 *219.1*	450 *31*	26270 *116.82*	0.1250 *3.2*	0º - 50'	0.18 *15*	10.47 *266*	13.07 *332*	2.44 *62*	¾ x 4¾ *M20 x 120*	15.7 *7.1*
10 *250*	10.750 *273.0*	300 *20*	27210 *117.01*	0.1250 *3.2*	0º - 40'	0.14 *12*	13.50 *343*	13.78 *350*	2.56 *65*	¾ x 4¾ *M20 x 120*	18.0 *8.2*
12 *300*	12.750 *323.9*	300 *20*	38280 *164.71*	0.1250 *3.2*	0º - 34'	0.12 *10*	15.35 *390*	15.75 *400*	2.56 *65*	⅞ x 6½ *---*	23.8 *10.8*
200 JIS	8.516 *216.3*	300 *20*	17079 *73.45*	0.1250 *3.2*	0º - 51'	0.18 *15*	10.00 *254*	13.70 *348*	2.36 *60*	¾ x 4¾ *M20 x 120*	12.8 *5.8*
250 JIS	10.528 *267.4*	300 *20*	26103 *112.26*	0.1250 *3.2*	0º - 41'	0.15 *12*	13.27 *337*	15.28 *388*	2.56 *65*	¾ x 4¾ *M20 x 120*	17.6 *8.0*
300 JIS	12.539 *318.5*	300 *20*	37027 *159.26*	0.1250 *3.2*	0º - 35'	0.12 *10*	15.31 *389*	17.48 *444*	2.56 *65*	⅞ x 6½ *---*	22.6 *10.3*

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 ¾"/DN20 – 3½"/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.

Performance Data

The following tables show the maximum working pressures (CWP) of ***Shurjoint*** Model 7705 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 7705 on Carbon Steel Pipe

Nom. Size	Cut-Grooved		Roll-Grooved		
in / *mm*	XS PSI / *Bar*	STD PSI / *Bar*	STD PSI / *Bar*	Sch. 10 PSI / *Bar*	Sch. 7 PSI / *Bar*
1 *25*	600 *42*	600 *42*	500 *35*	400 *28*	300 *20*
1¼ *32*	600 *42*	600 *42*	500 *35*	400 *28*	300 *20*
1½ *40*	600 *42*	600 *42*	500 *35*	400 *28*	300 *20*
2 *50*	600 *42*	600 *42*	500 *35*	400 *28*	300 *20*
2½ *65*	600 *42*	600 *42*	500 *35*	400 *28*	300 *20*
3 *80*	600 *42*	600 *42*	500 *35*	400 *28*	300 *20*
4 *100*	600 *42*	600 *42*	500 *35*	400 *28*	300 *20*
5 *125*	450 *31*	450 *31*	450 *31*	350 *24*	250 *17*
6 *150*	450 *31*	450 *31*	450 *31*	350 *24*	250 *17*
8 *200*	450 *31*	450 *31*	300 *20*	250 *17*	200 *14*
10 *250*	350 *24*	350 *24*	300 *20*	200 *14*	175 *12*
12 *300*	350 *24*	350 *24*	300 *20*	200 *14*	175 *12*

Model 7705 on Stainless Steel Pipe

Nom. Size	Cut-Grooved		Roll-Grooved		
in / *mm*	Sch. 80S PSI / *Bar*	Sch. 40S PSI / *Bar*	Sch. 40S PSI / *Bar*	Sch. 10S PSI / *Bar*	Sch. 5S PSI / *Bar*
1 *25*	600 *42*	600 *42*	450 *31*	300 *20*	250 *17*
1¼ *32*	600 *42*	600 *42*	450 *31*	300 *20*	250 *17*
1½ *40*	600 *42*	600 *42*	450 *31*	300 *20*	250 *17*
2 *50*	600 *42*	600 *42*	450 *31*	300 *20*	250 *17*
2½ *65*	600 *42*	600 *42*	450 *31*	300 *20*	250 *17*
3 *80*	600 *42*	600 *42*	450 *31*	300 *20*	250 *17*
4 *100*	600 *42*	600 *42*	450 *31*	300 *20*	200 *14*
5 *125*	450 *31*	450 *31*	300 *20*	200 *14*	NR
6 *150*	450 *31*	450 *31*	300 *20*	125 *9*	NR
8 *200*	450 *31*	450 *31*	300 *20*	100 *7*	NR
10 *250*	350 *24*	350 *24*	200 *14*	NR	NR
12 *300*	350 *24*	350 *24*	200 *14*	NR	NR

SHURJOINT®

7705 **C-01**

MATERIAL SPECIFICATIONS

• Housing:

Ductile Iron to ASTM A536, Gr. 65-45-12 and or 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).
- ☐ Epoxy Coatings in RAL3000 red or other colors (Option)

• 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.

LISTINGS / APPROVALS

The information provided below is based on the latest listing and approval data at the time of publication. Listings/Approvals are subject to change and/or additions by the approvals agencies. Contact ***Shurjoint*** for the performance on other pipes and the latest listings and approvals

Standard Pipe

Nom. Size	cULus Sch. 5	cULus/FM Sch. 10/40	VdS	LPCB	Nom. Size	cULus/FM Sch. 10/40	VdS	LPCB	Nom. Size	cULus/FM Sch. 10/40	VdS	LPCB
in / *mm*	psi / *Bar*	psi / *Bar*	Bar	psi / *Bar*	in / *mm*	psi / *Bar*	Bar	psi / *Bar*	in / *mm*	psi / *Bar*	bar	psi / *Bar*
1 *25*	-	300 *20*	16	-	*4* *100*	300 *20*	16	300 *20*	8 (7705H) *200*	450 *31*	16	-
1¼ *32*	175 *12*	300 *20*	16	-	133.0 mm	-	16	-	*10* *250*	175 *12*	-	-
1½ *40*	175 *12*	300 *20*	16	-	139.7 mm	300 *20*	16	300 *20*	*12* *300*	-	-	-
2 *50*	175 *12*	300 *20*	16	300 *20*	5 *125*	300 *20*	-	-	-	-	-	-
2½ *65*	175 *12*	300 *20*	-	-	159.0 mm	-	16	-	-	-	-	-
76.1 mm	-	300 *20*	16	300 *20*	165.1 mm	300 *20*	-	300 *20*	-	-	-	-
3 *80*	175 *12*	300 *20*	16	300 *20*	*6* *150*	300 *20*	16	-	-	-	-	-
108.0 mm	-	-	16	-	*8* *200*	300 *20*	-	300 *20*	-	-	-	-

* For listings and approval information and ratings on non-standard pipe please refer to the actual listings and or approval information found on our web site or contact ***Shurjoint*** for assistance.

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.

Shurjoint *product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact* ***Shurjoint*** *Technical Service.* ***Shurjoint*** *reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligations to make such changes and modifications on* ***Shurjoint*** *products previously subsequently sold.*