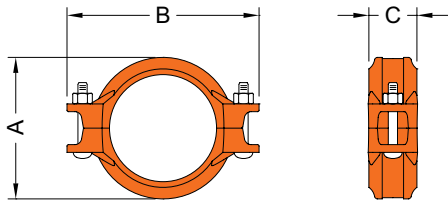


# 7705

Standard Flexible Coupling



Ensure coupling bolt pads  
make metal-to-metal contact.

Job Name:	
Job Location:	
Engineer:	
Contractor:	
Tag:	
PO#:	
Rep:	
Wholesale Dist.:	

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

## DIMENSIONS

NOMINAL SIZE	PIPE O.D.	MAX. WORKING PRESSURE (CWP*)	MAX. END LOAD (CWP)	AXIAL DISPLACEMENT †	ANGULAR MOVEMENT** †		DIMENSIONS			BOLT SIZE	WEIGHT
					DEGREE PER COUPLING	PER PIPE	A	B	C		
in	in	PSI	lb	in	(°)	in/ft	in	in	in	in	lb
mm	mm	Bar	kN	mm		mm/m	mm	mm	mm	mm	kg
1	1.315	500	670	0.0625	2° - 45'	0.58	2.24	3.94	1.81	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	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	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	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	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 mm	3.000	500	3530	0.0625	1° - 12'	0.25	4.02	5.79	1.85	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	1.85	1/2 x 3	2.8
80	88.9	35	21.71	1.6		18	116	164	47	M12 x 75	1.3
101.6 mm	4.000	500	6280	0.0625	0° - 54'	0.19	5.07	7.24	1.85	1/2 x 3	3.6
	101.6	35	28.36	1.6		16	129	184	47	M12 x 75	1.6
108.0 mm	4.250	500	7080	0.1250	1° - 42'	0.36	5.43	7.56	2.05	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	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 mm	5.250	450	9730	0.1250	1° - 23'	0.29	6.50	9.09	2.05	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 mm	5.500	450	10680	0.1250	1° - 18'	0.28	6.69	9.76	2.05	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	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
159.0 mm	6.250	450	13790	0.1250	1° - 09'	0.24	7.48	9.96	2.05	5/8 x 3-1/2	6.6
	159.0	31	61.52	3.2		20	190	253	52	M16 x 90	3.0
165.1 mm	6.500	450	14920	0.1250	1° - 07'	0.24	7.72	10.28	2.09	5/8 x 3-1/2	6.8
	165.1	31	66.33	3.2		20	196	261	53	M16 x 90	3.1
6	6.625	450	15500	0.1250	1° - 05'	0.23	7.87	10.55	2.09	5/8 x 3-1/2	7.0
150	168.3	31	68.93	3.2		19	200	268	53	M16 x 90	3.2
8	8.625	300	17510	0.1250	0° - 50'	0.18	10.24	13.27	2.44	5/8 x 3-1/2	12.8
200	219.1	20	75.37	3.2		15	260	337	62	M16 x 90	5.8
8 (7705H)	8.625	450	26270	0.1250	0° - 50'	0.18	10.47	13.07	2.44	3/4 x 4-3/4	15.7
200	219.1	31	116.82	3.2		15	266	332	62	M20 x 120	7.1
10	10.750	300	27210	0.1250	0° - 40'	0.14	13.50	13.78	2.56	3/4 x 4-3/4	18.0
250	273.0	20	117.01	3.2		12	343	350	65	M20 x 120	8.2

continued.

NOMINAL SIZE	PIPE O.D.	MAX. WORKING PRESSURE (CWP)*	MAX. END LOAD (CWP)	AXIAL DISPLACEMENT †	ANGULAR MOVEMENT** †		DIMENSIONS			BOLT SIZE	WEIGHT
					DEGREE PER COUPLING	PER PIPE	A	B	C		
in	in	PSI	lb	in	(°)	in/ft	in	in	in	in	lb
mm	mm	Bar	kN	mm		mm/m	mm	mm	mm	mm	kg
12	12.750	300	38280	0.1250	0° - 34'	0.12	15.35	15.75	2.56	7/8 x 6-1/2	23.8
300	323.9	20	164.71	3.2		10	390	400	65	---	10.8
200 JIS	8.516	300	17079	0.1250	0° - 51'	0.18	10.00	13.70	2.36	3/4 x 4-3/4	12.8
	216.3	20	73.45	3.2		15	254	348	60	M20 x 120	5.8
250 JIS	10.528	300	26103	0.1250	0° - 41'	0.15	13.27	15.28	2.56	3/4 x 4-3/4	17.6
	267.4	20	112.26	3.2		12	337	388	65	M20 x 120	8.0
300 JIS	12.539	300	37027	0.1250	0° - 35'	0.12	15.31	17.48	2.56	7/8 x 6-1/2	22.6
	318.5	20	159.26	3.2		10	389	444	65	---	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 3/4" - 3-1/2"; 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.

## 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.

#### (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)
- Hot dip zinc galvanized (Optional). 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.

## 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.

### CARBON STEEL PIPE

NOM. SIZE	CUT-GROOVED		ROLL-GROOVED		
	XS	STD	STD	SCH. 10	SCH. 5
in	psi	psi	psi	psi	psi
mm	Bar	Bar	Bar	Bar	Bar
1	600	600	500	400	250
25	42	42	35	28	17
1-1/4	600	600	500	400	250
32	42	42	35	28	17
1-1/2	600	600	500	400	250
40	42	42	35	28	17
2	600	600	500	400	250
50	42	42	35	28	17
2-1/2	600	600	500	400	250
65	42	42	35	28	17
3	600	600	500	400	250
80	42	42	35	28	17
4	600	600	500	400	200
100	42	42	35	28	14
5	450	450	450	350	NR
125	31	31	31	24	NR
6	450	450	450	350	NR
150	31	31	31	24	NR
8	450	450	300	250	NR
200	31	31	20	17	NR
10	350	350	300	200	NR
250	24	24	20	14	NR
12	350	350	300	200	NR
300	24	24	20	14	NR

### STAINLESS STEEL PIPE

NOM. SIZE	CUT-GROOVED		ROLL-GROOVED		
	SCH. 80S	SCH. 40S	SCH. 40S	SCH. 10S	SCH. 5S
in	psi	psi	psi	psi	psi
mm	Bar	Bar	Bar	Bar	Bar
1	750	750	750	500	250
25	52	52	52	35	17
1-1/4	750	750	750	500	250
32	52	52	52	35	17
1-1/2	650	650	650	500	250
40	45	45	45	35	17
2	500	500	500	500	250
50	34	34	34	35	17
2-1/2	500	500	500	500	250
65	34	34	34	35	17
3	500	500	500	400	250
80	34	34	34	28	17
4	500	500	500	400	200
100	34	34	34	28	14
5	450	450	450	350	NR
125	31	31	31	24	NR
6	300	300	300	300	NR
150	21	21	21	21	NR
8	300	300	300	300	NR
200	21	21	21	21	NR
10	200	200	200	75	NR
250	14	14	14	5	NR
12	200	200	200	50	NR
300	14	14	14	3	NR

## 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

UL / CUL					
NOM. SIZE	SCH 40	SCH 10	*SPECIALTY	SCH 5	BS13 87(M)
in	psi	psi	psi	psi	psi
mm	Bar	Bar	Bar	Bar	Bar
1	300	300			
25	20	20			
1-1/4	300	300	300 / 175	175	300
32	20	20	20 / 12	12	20
1-1/2	300	300	300 / 175	175	300
40	20	20	20 / 12	12	20
2	300	300	300 / 175	175	300
50	20	20	20 / 12	12	20
2-1/2	300	300	300 / 175	175	300
65	20	20	20 / 12	12	20
3	300	300	300 / 175	175	300
80	20	20	20 / 12	12	20
4	300	300	300 / 175		300
100	20	20	20 / 12		20
5	300	300			300
125	20	20			20
6	300	300			300
150	20	20			20
8	300	300			
200	20	20			
10	250	175			
250	17	12			
12	250				
300	17				

VDS	
NOM. SIZE	PRESSURE
in	psi
mm	Bar
1	232
25	16
1-1/4	232
32	16
1-1/2	232
40	16
2	232
50	16
76.1 mm	232
65	16
3	232
80	16
4	232
100	16
139.7 mm	232
125	16
6	232
150	16
8	232
200	16

LPCB	
NOM. SIZE	PRESSURE
in	psi
mm	Bar
2	290
50	20
76.1 mm	290
65	20
3	290
80	20
4	290
100	20
139.7 mm	290
125	20
165.1 mm	290
150	20
8	290
200	20

FM			
NOM. SIZE	SCH 40	SCH 10	*SPECIALTY
in	psi	psi	psi
mm	Bar	Bar	Bar
1	300	300	300 / 175
25	20	20	20 / 12
1-1/4	300	300	300 / 175
32	20	20	20 / 12
1-1/2	300	300	300 / 175
40	20	20	20 / 12
2	300	300	300 / 175
50	20	20	20 / 12
2-1/2	300	300	300 / 175
65	20	20	20 / 12
3	300	300	300 / 175
80	20	20	20 / 12
4	300	300	300 / 175
100	20	20	20 / 12
5	300	300	
125	20	20	
6	300	300	
150	20	20	
8	300	300	
200	20	20	
10	*250 / 175	175	
250	*17 / 12	12	
12	*250 / 175	175	
300	*17 / 12	12	

*EL5	300 psi	1" - 4"
*DF,XL,XL-II	300 psi	1-1/4" - 4"
*EL	300 psi	1-1/4" - 2"
*EF	175 psi	1-1/2" - 3"
*SPS	175 psi	1-1/4" - 3"

\*250 psi Sch 40 / 30 cut groove  
 †175 psi Sch 40 / 30 roll groove

*BLT, DT, FF	300 psi	1" - 2"
*XL	300 psi	1" - 3"
*DF	300 psi	1" - 4"
*EF	300 psi	1-1/2" - 4"
*EL	300 psi	1" - 2"
*Gal-7	175 psi	1" - 1-1/2"

## 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 1.5 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.