

MODEL C305 RIGID COUPLING FOR COPPER TUBING

The Model C305 Rigid Coupling is ideal for joining copper tubing (CTS) in sizes 2" - 6". The C305 provides a fast, easy, economical and durable method of joining copper tubing without the use of heat or lead. The C305 features an angle pad design for a rigid joint and easy swing-over installation. The C305 features a pressure responsive EPDM *GapSeal* gasket which seals both the outside of the tubing and the gap between the tubing ends isolating the fluid from coupling housings. The C305 is rated up to 300 psi (20 bar), depending on the type and size of copper tubing used.

Applicable copper tubing:

- 1) ASTM B-88 Type K, Type L, and Type M Seamless copper water tube.
- 2) ASTM B306 Copper Drainage Tuber (DWV).
- 3) BS EN 1057 copper tubing.
- 4) AS1432 Type A, Type B and Type D Copper tubing.



C305 couplings should always be installed so that the coupling bolt pads make metal to metal contact



Roll Set

As copper tubing is thinner than carbon steel pipe, always use a roll set specifically designed for use on copper tubing.



C305



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

TYPE K, L, M (ASTM B-88) & TYPE DWV (ASTM B306)

Model C305 Rigid Coupling For Copper Tubing									
Nominal Size	Pipe O.D.	Max. Working Pressure (CWP)*	Max. End Load (CWP)	Pipe End Separation	A	<u>Dimensions</u> B	с	Bolt Size	Weight
in	in	PSI	Lbs	in	in	in	in	in	Lbs
mm	mm	Bar	kN	mm	mm	mm	mm		kgs
2	2.125	300	1060	0.06	3.17	4.63	1.89	3% × 2 1/2	1.8
50	54.0	20	4.58	1.5	81	118	48	78 X Z 78	0.8
21/2	2.625	300	1620	0.06	3.66	5.28	1.89	36 x 21/2	2.0
65	66.7	20	6.98	1.5	93	134	48	78 X Z 78	0.9
3	3.125	300	2290	0.06	4.21	6.06	1.89	1/ × 2	2.8
80	79.4	20	9.90	1.5	107	154	48	72 X 3	1.3
4	4.125	300	4000	0.06	5.20	7.28	1.89	1/ x 2	3.5
100	104.8	20	17.24	1.5	132	185	48	72 X J	1.6
5	5.125	300	6180	0.06	6.26	8.66	1.89	54 x 214	4.6
125	130.2	20	26.61	1.5	159	220	48	78 X 372	2.2
6	6.125	300	8830	0.06	7.24	9.76	1.89	54 x 214	5.5
150	155.6	20	38.01	1.5	184	248	48	78 X 372	2.5

*Working pressure is for connection with roll-grooved Type K copper tubing.

Notes / Options: Couplings with rubber gaskets are likely to function as an insulator. Where electrical continuity is required, the *Shurjoint* Model 96 Continuity Clip will restore electrical continuity to the system. The continuity clip satisfies IEE Wiring Regulations.







BS EN 1057

Model C305 Rigid Coupling For Copper Tubing										
Nominal	Pipe	Pipe End	Dimensions Bolt / Nut							
Size	U.D.	Separation	A	В	<u>ل</u>	Size	weight			
mm	mm	mm	mm	mm	mm	mm	Kgs			
50	54.0	1.5	81	118	48	M10 x 55	0.8			
65	66.7	1.5	93	134	48	M10 x 55	0.9			
80	76.1	1.5	104	136	48	M10 x 55	1.3			
100	108.0	3.2	138	176	48	M12 x 75	1.6			
125	133.0	3.2	165	220	48	M16 x 90	2.2			
150	159.0	3.2	190	248	48	M16 x 90	2.5			

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).
- Coating:

Epoxy coated in copper color.

• Rubber Gasket:

Grade E-pw EPDM (Color code: Double Green stripe) certified 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 or chloramines, deionized water, seawater and waste water, dilute acids, oil-free air and many chemicals.

• 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.

For additional details contact Shurjoint.

COPPER TUBING ROLL GROOVE SPECIFICATIONS



Type K, L, M (ASTM B-88) & Type DWV (ASTM B306)

1	2	3	4	5	6	7	8
Nominal	Pipe OD Basic	Gasket Seat "A"	Groove Width "B"	Groove Dia. "C"	Groove Depth	Min. Allowed	Max. Allowed
Size	Size	±0.79 / ±0.03	±0.79 / ±0.03	+0/-0.51 / +0/-0.02	(ref.) d	Wall Thick."t"	Flare Dia.
in	in	in	in	in	in	in	in
mm	mm	mm	mm	mm	mm	mm	mm
2	2.125	0.610	0.300	2.029	0.048	0.064	2.220
50	54.0	15.5	7.6	51.5	1.2	1.6	56.4
21/2	2.625	0.610	0.300	2.525	0.050	0.065	2.720
65	66.7	15.5	7.6	64.1	1.3	1.7	69.1
3	3.125	0.610	0.300	3.025	0.050		3.220
80	79.4	15.5	7.6	76.8	1.3	DWV	81.8
4	4.125	0.610	0.300	4.019	0.053		4.220
100	104.8	15.5	7.6	102.1	1.4	DWV	107.2
5	5.125	0.610	0.300	4.999	0.053		5.220
125	130.2	15.5	7.6	127.0	1.4	DWV	132.6
6	6.125	0.610	0.300	5.999	0.063		6.220
150	155.6	15.5	7.6	152.3	1.6	DWV	158.0



C305

BS EN 1057

1	2		3	4	5	6	8
Nominal	Pipe O.D.		Gasket Seat "A"	Groove Width "B"	Groove Dia. "C"	Groove Depth	Max. Allowed
Size	Min.	Max.	±0.8	+0.8 / -0	+0/-0.5	(ref.) "d"	Flare Dia.
mm	mm	mm	mm	mm	mm	mm	mm
50	53.99	54.07	15.87	7.6	51.53	1.25	56.39
65	66.60	66.75	15.87	7.6	64.14	1.27	69.09
80	76.15	76.30	15.87	7.6	73.53	1.35	78.61
100	108.00	108.25	15.87	7.6	104.93	1.60	110.54
125	133.25	133.50	15.87	7.6	129.67	1.85	135.79
150	159.25	159.50	15.87	7.6	155.68	1.85	161.80

Nominal Size (Column 1): Nominal drawn copper tubing size.

Pipe O.D. (Column 2): Maximum allowable tolerances from square cut ends is 0.03" for 2" thru 3"; 0.045" for 4" thru 6"; and 0.060" for sizes 8". Gasket Seating Surface (Column 3): The gasket seating surface shall be free from deep scores, marks, or ridges that would prevent a positive seal.

Groove Width (Column 4): Groove width is to be measured between vertical flanks of the groove side walls.

Groove Diameter (Column 5): The 'C' diameters are average values. The groove must be of uniform depth around the entire pipe circumference.

Groove Depth (Column 6): The 'd' is for reference use only. The groove dimension shall be determined by the groove diameter 'C'.

Minimum Wall Thickness (Column 7): The minimum wall thickness that may be roll grooved.

Flare Diameter (Column 8): The pipe end that may flare when the groove is rolled shall be within this limit when measured at the extreme end of the pipe.

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-grooved Type K-ASTM B-88 copper tubing. For more information on other types contact Shurjoint.
- Max. End Load is calculated based on the maximum working pressure (CWP).
- 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.