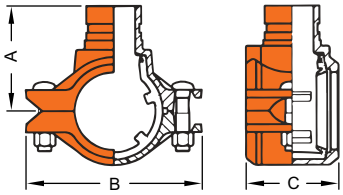
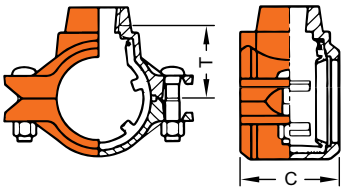
SHURJOINT®
SUBMITTAL SHEET

C-7
Outlet Coupling



GROOVED OUTLET



THREADED OUTLET

10 WARRANTY SHURJOINT®
FM APPROVED
c UL us LISTED

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

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

The Model C-7 Outlet Coupling combines the features of a coupling and a reducing outlet. The C-7 is a joining device with an integral reducing outlet, eliminating the need for a mechanical tee or a reducing tee and couplings. The C-7 is available with grooved, male threaded or female threaded outlets. The C-7 coupling is recommended for fire sprinkler services and other applications up to 300 psi (20 Bar) depending on the size and schedule of pipe being used. The C-7 can be used for dry pipe systems or vacuum services up to -10 inHg or 254 mmHg which may occur when the system is drained. All Model C-7 couplings are comprised of an upper and lower ductile iron housings segment, 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.

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

DIMENSIONS

NOMINAL SIZE			MAX. WORKING PRESSURE (CWP)‡	AXIAL DISPLACEMENT	MAX. END LOAD (CWP)	DIMENSIONS				BOLT SIZE	WEIGHT
RUN PIPE	OUTLET					T**	A	B	C		
	FPT	GR / MPT									
in	in	in	PSI	in	lb	in	in	in	in	in	lb
mm	mm	mm	Bar	mm	kN	mm	mm	mm	mm	mm	kg
1-1/2	1/2 3/4 1	---	500	0.81-0.88	1050	2.06 2.06 1.94	---	4.50	2.75	3/8 x 2-1/8	2.6 2.6 2.9
40	15 20 25	--- ---	35	20-22	4.7	52 52 49	---	114.3	70.0	M10 x 55	1.2 1.2 1.3
2	1/2 3/4 1	--- --- 1	500	0.81-0.88	2180	2.32 2.32 2.20	--- --- 3.50	5.00	2.75	3/8 x 2-1/8	3.1 3.1 3.3
50	15 20 25	--- --- 33.4	35	20-22	9.7	59 59 56	--- --- 89.0	127.0	70.0	M10 X 55	1.4 1.4 1.5
2-1/2	1/2 3/4 1 1-1/4 ---	--- --- --- 1-1/4 1-1/2	500	1.25-1.50	3200	2.20 2.56 2.44 2.36 ---	--- --- --- 3.70 3.70	6.33	3.25	1/2 x 2-3/8	4.8 4.6 4.4 5.1 5.9
65	15 20 25 32 ---	--- --- --- 42.2 48.3	35	32-38	14.2	56 65 62 60 ---	--- --- --- 94.0 94.0	161.0	83.0	M12 X 60	2.2 2.1 2.0 2.3 2.4
3	3/4 1 1-1/4* 1-1/2	--- 1 1-1/4* 1-1/2	500	1.25-1.50	4750	2.83 2.75 2.75 2.75	--- 4.00 4.00 4.00	6.87	3.25	1/2 x 3	5.9 6.2 6.2 6.4
80	20 25 32 40	--- 33.4 42.2 48.3	35	32-38	21.0	72 70 70 70	--- 102.0 102.0 102.0	175.0	83.0	M12 X 75	2.7 2.8 2.8 2.9
4	3/4 1 1-1/2 2	--- 1 1-1/2 2	500	1.63-1.81	7840	3.70 3.58 3.31 3.50	--- 4.88 4.88 4.88	8.31	3.66	5/8 x 3-1/2	9.2 9.5 9.5 9.9
100	20 25 40 50	--- 33.4 48.3 60.3	35	41-46	34.9	94 91 84 89	--- 124.0 124.0 124.0	211.0	93.0	M16 X 90	4.2 4.3 4.3 4.5

continued.

aalberts integrated piping systems

C-7
Outlet Coupling

NOMINAL SIZE			MAX. WORKING PRESSURE (CWP)‡	AXIAL DISPLACEMENT	MAX. END LOAD (CWP)	DIMENSIONS				BOLT SIZE	WEIGHT
RUN PIPE	OUTLET					T**	A	B	C		
	FPT	GR / MPT									
in	in	in	PSI	in	lb	in	in	in	in	in	lb
mm	mm	mm	Bar	mm	kN	mm	mm	mm	mm	mm	kg
6	3/4 1 1-1/2 2 ---	--- --- 1-1/2 2 2-1/2*	400	1.63-1.81	14000	4.76 4.76 4.76 4.40 ---	--- --- 6.06 6.06 6.00	10.86 10.86 10.86 10.86 11.04	3.70 3.70 3.70 3.70 4.09	5/8 x 3-1/2 5/8 x 3-1/2 5/8 x 3-1/2 5/8 x 3-1/2 3/4 x 4-3/4	13.2 13.2 13.6 14.3 18.7
150	20 25 40 50 ---	--- --- 48.3 60.3 76.1	28	41-46	62.3	121 121 121 111 ---	--- --- 154.0 154.0 152.5	276.0 276.0 276.0 276.0 280.5	94.0 94.0 94.0 94.0 104.0	M16 X 90 M16 X 90 M16 X 90 M16 X 90 M20 X 120	6.0 6.0 6.2 6.5 8.5

FPT: Female threaded outlet Gr: Grooved outlet MPT: Male threaded outlet.
*** T: Center of run pipe to end of outlet pipe (dimensions approximate). Female threaded outlet only.*
** Working pressure is based on roll grooved standard wall carbon steel pipe.*

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 (optional)
- Epoxy coatings in RAL3000 red or other colors (optional)

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.

(Option) Grade "T" Nitrile (Color code: Orange stripe)
- Recommended for petroleum products, air with oil vapors, vegetable and mineral oil.
- 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 dry systems we recommend the use of the Shurjoint GapSeal gasket.
- 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 C-7 Outlet 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. 7
in	psi	psi	psi	psi	psi
mm	Bar	Bar	Bar	Bar	Bar
1-1/2 x *	500	500	500	350	300
40 x *	35	35	35	24	20
2 x *	500	500	500	350	300
50 x *	35	35	35	24	20
2-1/2 x *	500	500	500	350	300
65 x *	35	35	35	24	20
3 x *	500	500	500	350	300
80 x *	35	35	35	24	20
4 x *	500	500	500	350	300
100 x *	35	35	35	24	20
6 x *	400	400	400	350	300
150 x *	28	28	28	24	20

*** = all branch sizes, threaded and grooved*

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
1-1/2 x *	500	500	350	300	250
40 x *	35	35	24	20	17
2 x *	500	500	350	300	250
50 x *	35	35	24	20	17
2-1/2 x *	500	500	350	300	250
65 x *	35	35	24	20	17
3 x *	500	500	350	300	250
80 x *	35	35	24	20	17
4 x *	500	500	350	300	250
100 x *	35	35	24	20	17
6 x *	400	400	300	300	250
150 x *	28	28	20	20	17

*** = all branch sizes, threaded and grooved*

C-7
Outlet Coupling

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

FEMALE THREAD

FM				
NOM. SIZE	SCH 40	SCH 10	*SPECIALTY	
in	psi	psi	psi	Pipe Type
mm	Bar	Bar	Bar	
1-1/2 x 1/2	300	300	300	f, h, s
40 x 15	20	20	20	
1-1/2 x 3/4	300	300	300	
40 x 20	20	20	20	
1-1/2 x 1	300	300	300	
40 x 25	20	20	20	
2 x 1/2	300	300	300	
50 x 15	20	20	20	
2 x 3/4	300	300	300	
50 x 20	20	20	20	
2 x 1	300	300	300	
50 x 25	20	20	20	
3 x 3/4	300	300	300	a, b, c, d, e, g, j, k, l, m, n, p, q, r, t, u
80 x 20	20	20	20	
3 x 1	300	300	300	
80 x 25	20	20	20	
4 x 3/4	300	300	300	
100 x 20	20	20	20	
4 x 1	300	300	300	
100 x 25	20	20	20	
6 x 1	300	300	300	
150 x 25	20	20	20	
6 x 1-1/2	300	300	300	
150 x 40	20	20	20	

GROOVED & MALE THREAD

FM				
NOM. SIZE	SCH 40	SCH 10	*SPECIALTY	
in	psi	psi	psi	Pipe Type
mm	Bar	Bar	Bar	
2 x 1	300	300	300	f, h, s
50 x 25	20	20	20	
2-1/2 x 1-1/4	300	300	300	a, b, c, d, e, g, j, k, l, m, n, p, q, r, t, u
65 x 32	20	20	20	
2-1/2 x 1-1/2	300	300	300	
65 x 40	20	20	20	
2 x 1-1/2	300	300	300	
50 x 40	20	20	20	
3 x 1	300	300	300	
80 x 25	20	20	20	
3 x 1-1/2	300	300	300	
80 x 40	20	20	20	
4 x 1-1/2	300	300	300	
100 x 40	20	20	20	
4 x 2	300	300	300	
100 x 50	20	20	20	
6 x 1-1/2	300	300	300	
150 x 40	20	20	20	
6 x 2	300	300	300	
150 x 50	20	20	20	

FEMALE THREAD

UL / CUL		
NOM. SIZE	SCH 40	SCH 10
in	psi	psi
mm	Bar	Bar
1-1/2 x 1/2	300	300
40 x 15	20	20
1-1/2 x 3/4	300	300
40 x 20	20	20
1-1/2 x 1	300	300
40 x 25	20	20
2 x 1/2	300	300
50 x 15	20	20
2 x 3/4	300	300
50 x 20	20	20
2 x 1	300	300
50 x 25	20	20
2-1/2 x 1/2	300	300
65 x 15	20	20
2-1/2 x 3/4	300	300
65 x 20	20	20
2-1/2 x 1	300	300
65 x 25	20	20
3 x 3/4	300	300
80 x 20	20	20
3 x 1	300	300
80 x 25	20	20
4 x 3/4	300	300
100 x 20	20	20
4 x 1	300	300
100 x 25	20	20
6 x 1	300	300
150 x 25	20	20
6 x 1-1/2	300	300
150 x 40	20	20

GROOVED & MALE THREAD

UL / CUL		
NOM. SIZE	SCH 40	SCH 10
in	psi	psi
mm	Bar	Bar
2 x 1	300	300
50 x 25	20	20
2-1/2 x 1-1/4	300	300
65 x 32	20	20
2-1/2 x 1-1/2	300	300
65 x 40	20	20
2 x 1-1/2	300	300
50 x 40	20	20
3 x 1	300	300
80 x 25	20	20
3 x 1-1/2	300	300
80 x 40	20	20
4 x 1-1/2	300	300
100 x 40	20	20
4 x 2	300	300
100 x 50	20	20
6 x 1-1/2	300	300
150 x 40	20	20
6 x 2	300	300
150 x 50	20	20

FM REMARKS
a. Min schedule cut groove pipe: 6 in. or smaller - Schedule 40.
b. Min schedule rolled groove pipe: 6 in. or smaller - Schedule 10.
c. With EPDM gasket (green stripe) Grade E or (purple stripe) Grade A.
d. Allied Tube & Conduit Corp Thinwall Pipe, "BLT" and “Dyna-Thread (1 - 2”). "XL", "XL-II", "Super- XL" and "Super-40" (1 - 3”).
e. Allied Tube & Conduit Corp Lightwall Pipe, "Dyna-Flow" and "Super-Flo" (1- 6”).
f. Allied Tube & Conduit Corp Schedule 5 Pipe, Dyna-Light (1 - 2”).
g. Bull Moose Thinwall Pipe ,"EDDY-Lite" and “EDDY-Thread”, (1 -2”).
h. Bull Moose Schedule 5 Pipe, "Ultra-EDDY", (1 -2”).
j. Bull Moose Lightwall Pipe, "EDDY-Flo" (1-1/4 - 4”).
k. BS 1387 pipe, medium and heavy wall and ISO 4200 pipe.
l. Welded Tube-Berkeley LLC Lightwall Pipe, Steady-Flow (1-1/4 - 4”).
m. Welded Tube-Berkeley LLC Thinwall Pipe, Steady-Thread (1-1/4 - 2”).
n. Western International Forest Products Thinwall Pipe, Rapid-Thread and Rapid Thread Light (1-2”).
p. Western International Forest Products Lightwall Pipe, Fire-Flow (1 - 4”).
q. Wheatland Tube Co. Lightwall pipe, "Mega-Flow" (1 - 6”).
r. Wheatland Tube Co. Thinwall pipe, "WLS", "Mega-Thread", "MLT" "GL" and EZ Thread (1-1/4 - 2”) "SL".
s. Wheatland Tube Co Schedule 5 Pipe, pipe . "WST" (1 - 2”).
t. Youngstown Tube Lightwall Pipe, Fire-Flo (1-1/2 - 4”).
u. Youngstown Tube Thinwall Pipe, EZ-Thread (1 - 2”).

C-7
Outlet Coupling

FLOW DATA
Values for flow of water at +60°F (+16°C).

$$Cv = \frac{Q}{\sqrt{\Delta P}}$$

Where:
Cv = Flow coefficient
Q = Flow (GPM)
ΔP = Pressure drop (psi)

Cv VALUES

NOMINAL SIZE	GROOVED OUTLET	THREADED OUTLET
in	Cv Values	Cv Values
mm		
1/2	---	---
15		
3/4	---	15
20		
1	25	25
25		
1-1/4	42	40
32		
1-1/2	53	60
40		
2	88	---
50		
2-1/2	125	---
65		

FLOW CHARACTERISTICS

NOMINAL SIZE	GROOVED OUTLET EQUIVALENT LENGTH	THREADED OUTLET EQUIVALENT LENGTH
in	feet	feet
mm	m	m
1/2	---	2.6
15		0.8
3/4	---	3.9
20		1.2
1	3	3
25	0.9	0.9
1-1/4	6.2	6.2
32	1.9	1.9
1-1/2	5.6	5.6
40	1.7	1.7
2	7.9	---
50	2.4	

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.