







Malleable Iron Unions • Class 150; 250; 300

BRONZE TO IRON								
Unions	Size		End to End		Unit Weight			
	NPS	DN	in	mm	Black		Galv.	
					lbs	kg	lbs	kg
 FIGURE 459 ■ Class 300 Union 300lb. wsp · 600lb. wog non-shock  <small>For Listings/Approval Details and Limitations, visit our website at www.anvilintl.com or contact an Anvil Sales Representative.</small>	1/8	6	1 ⁵ / ₁₆	33	0.14	0.06	0.14	0.06
	1/4	8	1 ¹³ / ₁₆	47	0.48	0.22	0.48	0.22
	3/8	10	1 ¹³ / ₁₆	47	0.42	0.19	0.42	0.19
	1/2	15	2 ¹ / ₁₆	52	0.64	0.29	0.64	0.29
	3/4	20	2 ¹ / ₄	57	1.00	0.45	1.00	0.45
	1	25	2 ⁹ / ₁₆	65	1.56	0.71	1.56	0.71
	1 ¹ / ₄	32	2 ³ / ₄	70	2.30	1.04	2.30	1.04
	1 ¹ / ₂	40	3	76	2.74	1.24	2.74	1.24
	2	50	3 ³ / ₈	86	4.34	1.97	4.34	1.97
	2 ¹ / ₂	65	3 ⁷ / ₈	98	5.05	2.29	5.05	2.29
	3	80	4 ¹ / ₄	108	7.66	3.47	7.66	3.47
4	100	4 ⁷ / ₈	124	17.70	8.03	17.70	8.03	
 FIGURE 551 ■ Class 300 Union male & female 300lb. wsp · 600lb. wog non-shock 	1/2	15	3	76	0.62	0.28	–	–
	3/4	20	3 ³ / ₁₆	81	0.92	0.42	–	–
	1	25	3 ⁵ / ₈	92	1.54	0.70	–	–
	1 ¹ / ₂	40	4 ¹ / ₄	108	2.60	1.18	–	–
	2	50	4 ⁵ / ₈	117	4.21	1.91	–	–
 FIGURE 552 Class 300 90° Elbow Female Union 300lb. wsp 	Size	Center to End				Unit Weight		
		NPS	DN	Elbow		Union		Black
	in			mm	in	mm	lbs	kg
	3/8	10	1 ¹ / ₁₆	27	2 ¹ / ₁₆	52	0.51	0.23
	1/2	15	1 ¹ / ₄	32	2 ⁵ / ₁₆	59	0.79	0.36
3/4	20	1 ⁷ / ₁₆	37	2 ³ / ₄	70	1.24	0.56	
1	25	1 ⁵ / ₈	41	3	76	1.88	0.85	

- See following page for pressure-temperature ratings.
- Anvil Malleable Iron Unions conform to ASME B 16.39.
- Dimensions conform to ASME B 16.39 for Class 150, 250 & 300 Unions.

wsp=working steam pressure wog=water, oil, gas

PROJECT INFORMATION		APPROVAL STAMP	
Project:		<input type="checkbox"/> Approved	
Address:		<input type="checkbox"/> Approved as noted	
Contractor:		<input type="checkbox"/> Not approved	
Engineer:		Remarks:	
Submittal Date:			
Notes 1:			
Notes 2:			

MALLEABLE IRON FITTINGS



Malleable Iron Threaded Pipe Unions Pressure - Temperature Ratings

Temperature		Pressure					
		Class 150		Class 250		Class 300	
(°F)	(°C)	psi	bar	psi	bar	psi	bar
-20° to 150°	-28.9° to 65.6°	300	20.7	500	34.5	600	41.4
200°	93.3°	265	18.3	455	31.4	550	37.9
250°	121.1°	225	15.5	405	27.9	505	34.8
300°	148.9°	185	12.8	360	24.8	460	31.7
350°	176.7°	150	10.3	315	21.7	415	28.6
400°	204.4°	110	7.6	270	18.6	370	25.5
450°	232.2°	75	5.2	225	15.5	325	22.4
500°	260.0°	-	-	180	12.4	280	19.3
550°	287.8°	-	-	130	9.0	230	15.9

Note: Unions with Copper or Copper Alloy seats are not intended for use where temperature exceeds 450°F



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Malleable Iron Threaded Fittings Pressure - Temperature Ratings

Temperature		Pressure							
		Class 150		Class 300					
				Sizes 1/4"-1" (6-25 mm)		Sizes 1 1/4"-2" (32-51 mm)		Sizes 2 1/2"-3" (64-76 mm)	
(°F)	(°C)	psi	bar	psi	bar	psi	bar	psi	bar
-20° to 150°	-28.9° to 65.6°	300	20.7	2,000	137.9	1,500	103.4	1,000	68.9
200°	93.3	265	18.3	1,785	123.1	1,350	93.1	910	62.7
250°	121.1	225	15.5	1,575	108.6	1,200	82.7	825	56.9
300°	148.9	185	12.8	1,360	93.8	1,050	72.4	735	50.7
350°	176.7	150	10.3	1,150	79.3	900	62.1	650	44.8
400°	204.4	-	-	935	64.5	750	51.7	560	38.6
450°	232.2	-	-	725	50.0	600	41.4	475	32.8
500°	260.0	-	-	510	35.2	450	31.0	385	26.5
550°	287.8	-	-	300	20.7	300	20.7	300	20.7

Anvil Class 150/300 Malleable Iron Fittings conform to ASME B16.3 and Unions conform to ASME B16.39.

ALL ELBOWS & TEES 3/8" (10 DN) and LARGER ARE 100% GAS TESTED AT A MINIMUM OF 100 PSI. (6.9 bar)

Standards and Specifications

	Dimensions	Material	Galvanizing*	Thread	Pressure Rating
MALLEABLE IRON FITTINGS					
Class 150/PN 20	ASME B16.3	ASTM A-197	ASTM A-153	ASME B1 20.1	ASME B16.3
Class 300/PN 50	ASME B16.3	ASTM A-197	ASTM A-153	ASME B1 20.1	ASME B16.3
MALLEABLE IRON UNIONS					
Class 150/PN 20	ASME B16.39	ASTM A-197	ASTM A-153	ASME B1 20.1	ASME B16.39
Class 250	ASME B16.39	ASTM A-197	ASTM A-153	ASME B1 20.1	ASME B16.39
Class 300/PN 50	ASME B16.39	ASTM A-197	ASTM A-153	ASME B1 20.1	ASME B16.39

* ASTM B 633, Type I, SC 4, may be supplied as alternate zinc coating per applicable ASME B16 product standard.

General Assembly of Threaded Fittings

- 1) Inspect both male and female components prior to assembly.
 - Threads should be free from mechanical damage, dirt, chips and excess cutting oil.
 - Clean or replace components as necessary.
- 2) Application of thread sealant
 - Use a thread sealant that is fast drying, sets-up to a semi hard condition and is vibration resistant. Alternately, an anaerobic sealant may be utilized.
 - Thoroughly mix the thread sealant prior to application.
 - Apply a thick even coat to the male threads only. Best application is achieved with a brush stiff enough to force sealant down to the root of the threads.
- 3) Joint Makeup
 - For sizes up to and including 2" pipe, wrench tight makeup is considered three full turns past handtight. Handtight engagement for 1/2" through 2" thread varies from 4 1/2 turns to 5 turns.
 - For 2 1/2" through 4" sizes, wrench tight makeup is considered two full turns past handtight. Handtight engagement for 2 1/2" through 4" thread varies from 5 1/2 turns to 6 3/4 turns.