Malleable Iron Unions • Class 150; 250; 300

Unions	Size		End to End		Unit Weight			
					Black		Galv.	
	NPS	*DN*	in	*mm*	lbs	*kg*	lbs	*kg*
BRONZE TO IRON								
☐ **FIGURE 463** ■ **Class 150 Union** 150lb. wsp · 300lb. wog non-shock  c UL us LISTED FM APPROVED (UL Listed Sizes: 1/4" - 2") (FM Approved Sizes: 1/4" - 3") Note: 3/4" x 1/2" size is not UL Listed or FM Approved.	1/8	*6*	1 5/16	*33*	0.15	*0.07*	0.15	*0.07*
	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*	1 15/16	*49*	0.42	*0.19*	0.42	*0.19*
	3/4	*20*	2 1/16	*52*	0.60	*0.27*	0.60	*0.27*
	3/4 x 1/2	*20 x 15*	2 1/16	*52*	0.55	*0.25*	0.55	*0.25*
	1	*25*	2 7/16	*62*	1.12	*0.51*	1.12	*0.51*
	1 1/4	*32*	2 5/8	*67*	1.74	*0.79*	1.74	*0.79*
	1 1/2	*40*	2 3/4	*70*	2.08	*0.94*	2.08	*0.94*
	2	*50*	2 15/16	*75*	3.00	*1.36*	3.00	*1.36*
	2 1/2	*65*	3 5/8	*92*	3.60	*1.63*	3.60	*1.63*
	3	*80*	3 3/4	*95*	4.95	*2.24*	4.95	*2.24*
☐ **FIGURE 554** ■ **Class 250 Union** 250 lb. wsp · 500lb. wog non-shock  c UL us LISTED FM APPROVED (UL Listed Sizes: 1/4" - 2") (FM Approved Sizes: 1/4" - 4")	1/8	*6*	1 5/16	*33*	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*	5.30	*2.40*	5.30	*2.40*
	3	*80*	4 1/4	*108*	7.60	*3.45*	7.60	*3.45*
	4	*100*	4 7/8	*124*	17.50	*7.94*	17.50	*7.94*

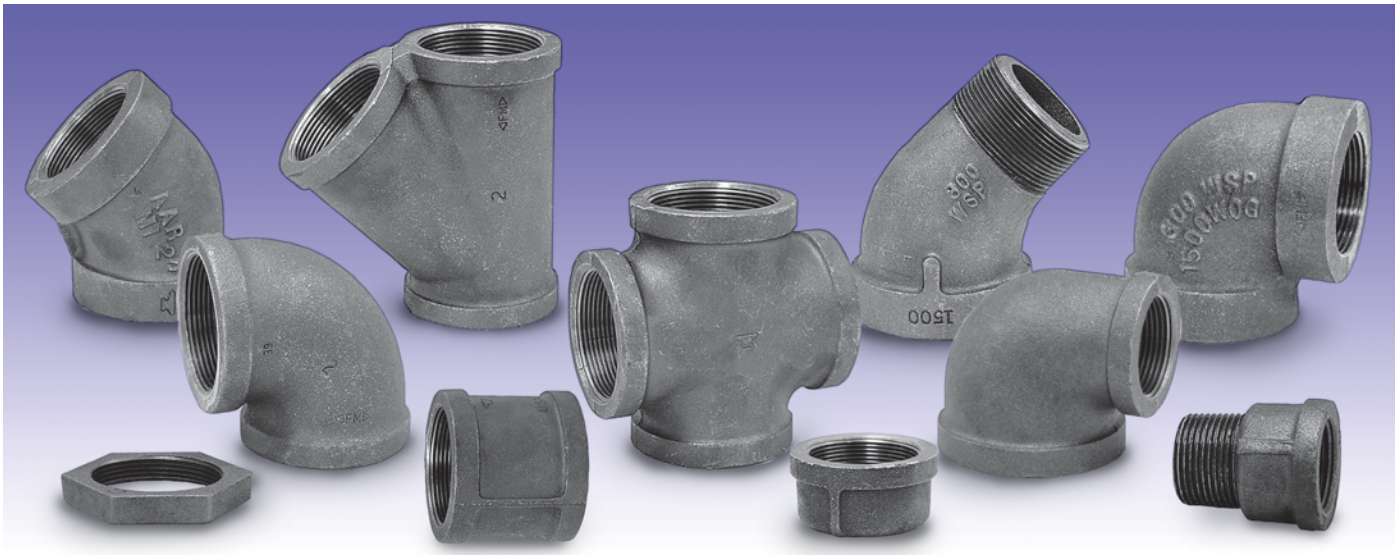
■ See following page for pressure-temperature ratings.

- Anvil Malleable Iron Unions conform to ASME B 16.39 and are in compliance with the requirements of the AAR (1994 AAR Manual of standards and Practices).
- 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:	☐ **Approved**
Address:	☐ **Approved as noted**
Contractor:	☐ **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

c UL us

FM APPROVED

For Listings/Approval Details and Limitations, visit our website at www.anvilintl.com or contact an Anvil Sales Representative.

Malleable Iron Threaded Fittings Pressure - Temperature Ratings

Temperature		Pressure							
		Class 150		Class 300					
				Sizes ¼"–1" *(6–25 mm)*		Sizes 1¼"–2" *(32–51 mm)*		Sizes 2½"–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 ⅜" *(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	Federal/Other
MALLEABLE IRON FITTINGS						
Class 150/PN 20	ASME B16.3•	ASTM A-197	ASTM A-153	ASME B1 20.1+	ASME B16.3•	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•	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•	

• an American National standard (ANSI), + ASME B1.20.1 was ANSI B2.1, ** Formerly WW-P-521, *** Formerly WW-U-531

**** 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.