







# MALLEABLE IRON FITTINGS



## 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
 <b>FIGURE 463</b> <b>■ Class 150 Union</b> 150lb. wsp · 300lb. wog non-shock   <small>For Listings/Approval Details and Limitations, visit our website at <a href="http://www.anvilintl.com">www.anvilintl.com</a> or contact an Anvil Sales Representative.</small>	1/8	6	1 <sup>5</sup> / <sub>16</sub>	33	0.15	0.07	0.15	0.07
	1/4	8	1 <sup>13</sup> / <sub>16</sub>	47	0.48	0.22	0.48	0.22
	3/8	10	1 <sup>13</sup> / <sub>16</sub>	47	0.42	0.19	0.42	0.19
	1/2	15	1 <sup>15</sup> / <sub>16</sub>	49	0.42	0.19	0.42	0.19
	3/4	20	2 <sup>1</sup> / <sub>16</sub>	52	0.60	0.27	0.60	0.27
	3/4 x 1/2	20 x 15	2 <sup>1</sup> / <sub>16</sub>	52	0.55	0.25	0.55	0.25
	1	25	2 <sup>7</sup> / <sub>16</sub>	62	1.12	0.51	1.12	0.51
	1 1/4	32	2 <sup>5</sup> / <sub>8</sub>	67	1.74	0.79	1.74	0.79
	1 1/2	40	2 <sup>3</sup> / <sub>4</sub>	70	2.08	0.94	2.08	0.94
	2	50	2 <sup>15</sup> / <sub>16</sub>	75	3.00	1.36	3.00	1.36
	2 1/2	65	3 <sup>5</sup> / <sub>8</sub>	92	3.60	1.63	3.60	1.63
	3	80	3 <sup>3</sup> / <sub>4</sub>	95	4.95	2.24	4.95	2.24
	 <b>FIGURE 554</b> <b>■ Class 250 Union</b> 250 lb. wsp · 500lb. wog non-shock   <small>For Listings/Approval Details and Limitations, visit our website at <a href="http://www.anvilintl.com">www.anvilintl.com</a> or contact an Anvil Sales Representative.</small>	1/8	6	1 <sup>5</sup> / <sub>16</sub>	33	0.14	0.06	–
1/4		8	1 <sup>13</sup> / <sub>16</sub>	47	0.48	0.22	0.48	0.22
3/8		10	1 <sup>13</sup> / <sub>16</sub>	47	0.42	0.19	0.42	0.19
1/2		15	2 <sup>1</sup> / <sub>16</sub>	52	0.64	0.29	0.64	0.29
3/4		20	2 <sup>1</sup> / <sub>4</sub>	57	1.00	0.45	1.00	0.45
1		25	2 <sup>9</sup> / <sub>16</sub>	65	1.56	0.71	1.56	0.71
1 1/4		32	2 <sup>3</sup> / <sub>4</sub>	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 <sup>3</sup> / <sub>8</sub>	86	4.34	1.97	4.34	1.97
2 1/2		65	3 <sup>7</sup> / <sub>8</sub>	98	5.30	2.40	5.30	2.40
3		80	4 <sup>1</sup> / <sub>4</sub>	108	7.60	3.45	7.60	3.45
4		100	4 <sup>7</sup> / <sub>8</sub>	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.
- 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
<b>MALLEABLE IRON FITTINGS</b>					
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
<b>MALLEABLE IRON UNIONS</b>					
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.