Table 14.4a. Pressure-Temperature Ratings of Soldered and Brazed Joints

Joining material [4]	Service temperature °F	Fitting type	Maximum working gage pressure (psi), for standard water tube sizes [1]				
			Nominal or standard size, inches				
			⅛ - 1	1¼ - 2	2¼ - 4	5 - 8	10 - 12
Alloy Sn50 50-50 Tin-Lead Solder [5]	100	Pressure [2]	200	175	150	135	100
		DWV [3]	-	95	80	70	-
	150	Pressure [2]	150	125	100	90	70
		DWV [3]	-	70	55	45	-
	200	Pressure [2]	100	90	75	70	50
		DWV [3]	-	50	40	35	-
	250	Pressure [2]	85	75	50	45	40
		DWV [3]	-	-	-	-	-
	Saturated steam	Pressure	15	15	15	15	15
Alloy Sb5 95-5 Tin-Antimony Solder	100	Pressure [2]	1090	850	705	660	500
		DWV [3]	-	390	325	330	-
	150	Pressure [2]	625	485	405	375	285
		DWV [3]	-	225	185	190	-
	200	Pressure [2]	505	395	325	305	230
		DWV [3]	-	180	150	155	-
	250	Pressure [2]	270	210	175	165	125
		DWV [3]	-	95	80	80	-
	Saturated steam	Pressure	15	15	15	15	15
Alloy E	100	Pressure [2]	710	555	460	430	325
		DWV [3]	-	255	210	215	-
	150	Pressure [2]	475	370	305	285	215
		DWV [3]	-	170	140	140	-

Joining material [4]	Service temperature °F	Fitting type	Maximum working gage pressure (psi), for standard water tube sizes [1]				
			Nominal or standard size, inches				
			⅛ - 1	1¼ - 2	2¼ - 4	5 - 8	10 - 12
	200	Pressure [2]	375	290	240	225	170
		DWV [3]	-	135	110	115	-
	250	Pressure [2]	320	250	205	195	145
		DWV [3]	-	115	95	95	-
	Saturated steam	Pressure	15	15	15	15	15
Alloy HB	100	Pressure [2]	1035	805	670	625	475
		DWV [3]	-	370	310	315	-
	150	Pressure [2]	710	555	460	430	325
		DWV [3]	-	255	210	215	-
	200	Pressure [2]	440	345	285	265	200
		DWV [3]	-	155	130	135	-
	250	Pressure [2]	430	335	275	260	195
		DWV [3]	-	155	125	130	-
	Saturated steam	Pressure	15	15	15	15	15
Joining materials melting at or above 1100°F [6]	**Pressure-temperature ratings consistent with the materials and procedures employed (see Table 14.3, annealed)**						
	Saturated steam	Pressure	120	120	120	120	120

For extremely low working temperatures in the 0°F to minus 200°F range, it is recommended that a joint material melting at or above 1100°F be employed (see reference [6] below).

[1] Standard water tube sizes per ASTM B 88.
[2] Ratings up to 8 inches in size are those given in ASME B16.22 *Wrought Copper and Copper Alloy Solder Joint Pressure Fittings* and ASME B16.18 *Cast Copper and Copper Alloy Solder Joint Fittings*. Rating for 10- to 12-inch sizes are those given in ASME B16.18 *Cast Copper and Copper Alloy Solder Joint Pressure Fittings*.
[3] Using ASME B16.29 *Wrought Copper and Wrought Copper Alloy Solder Joint Drainage Fittings – DWV*, and ASME B16.23 *Cast Copper Alloy Solder Joint Drainage Fittings – DWV*.
[4] Alloy designations are per ASTM B 32.
[5] The Safe Drinking Water Act Amendment of 1986 prohibits the use in potable water systems of any solder having a lead content in excess of 0.2%.
[6] These joining materials are defined as *brazing alloys* by the American Welding Society.