

ASME B16.34 (-29 TO +38°C) MAX. WORKING & TEST PRESSURES API598 & API6D

MATERIAL		PRESSURE (psig) by classes								
GROUP	ITEM	150	300	400	600	900	1500	2500	4500	
1.1 A105 A350 LF2/LF3/LF6 A216 WCB	Working Pressure	285	740	990	1480	2220	3705	6170	1110	
	Shell Test	450	1125	1500	2225	3350	5575	9275	16675	
	Seat Test	315	815	1090	1630	2445	4075	6790	12225	
1.2, 1.7, 1.9, 1.10, 1.11, 1.13, 1.14, 1.17 A352 LC2/LC3/LCC A217 WC5/WC6/WC9/C5 A182 F5/F5A	Working Pressure	290	750	1000	1500	2250	3750	6250	11250	
	Shell Test	450	1125	1500	2250	3375	5625	9375	16875	
	Seat Test	320	825	1100	1650	2475	4125	6875	12375	
1.3, 1.5 A182 F1 A352 LCB/LC1 A217 WC1	Working Pressure	265	695	925	1390	2090	3482	5803	10447	
	Shell Test	400	1050	1400	2100	3150	5225	8700	15625	
	Seat Test	295	765	1020	1530	2295	3820	6365	11460	
1.4, 1.8, 1.12 A350 LF1	Working Pressure	235	620	825	1235	1850	3085	5145	9260	
	Shell Test	375	950	1250	1875	2775	4650	7725	13900	
	Seat Test	260	685	910	1360	2035	3395	5660	10190	
2.1, 2.2, 2.4, 2.5 A182 F304/F304H A351 CF8/CF8M/CF8C A182 F316/316H	Working Pressure	275	720	960	1440	2160	3600	6000	10800	
	Shell Test	425	1100	1450	2175	3250	5400	9000	16200	
	Seat Test	305	795	1060	1585	2380	3960	6600	11880	
2.3 A182 F304L/F317L A182 F316L A351 CF3M/CF3	Working Pressure	230	600	800	1200	1800	3000	5000	9000	
	Shell Test	350	900	1200	1800	2700	4500	7500	13500	
	Seat Test	255	660	880	1320	1980	3300	5500	9900	
2.6, 2.7 A182 F310H	Working Pressure	275	720	895	1440	2160	3600	6000	10080	
	Shell Test	425	1100	1350	2175	3250	5400	9000	16200	
	Seat Test	305	795	985	1585	2380	3965	6600	11880	
2.8 F51/F55/F53/S31254/S31803/ S32760/CK3MCuN/CE8MN/ CD3MN/CD3MWCuN/A995 Gr. 4A/5A/6A	Working Pressure	290	740	1500	2000		3753			
	Shell Test	435	1110	2250	3000		5630			
	Seat Test	319	814	1650	3300		6193			

NOTE: ① For working pressure ratings at other temperatures and material group refer to ASME/ANSI B16.34 - 2009 or B16.5.
 ② Shell hydrostatic test pressure is 1.5 times the 100 deg F rating rounded off to the next higher 25psi.
 ③ High pressure seat hydrostatic test pressure is 1.1 times the 100 deg F rating rounded off to the next higher 5psi.
 ④ All ratings are for "Standard Class" valves.

MAX. WORKING PRESSURE (ASME B16.34 GROUP 1.1) AND PRESSURE TEST OF VALVES FROM API6D - API6A

PRESSURE CLASS OF VALVE		ANSI 150 PN20	ANSI 300 PN50	ANSI 400 PN 68	ANSI 600 PN 100	ANSI 800 (*)	ANSI 900 PN 150	ANSI 1500 PN 250	ANSI 2500 PN 420	API6A 2000	API6A 3000	API6A 5000	API6A 10000	ANSI/ASME For temp. below -29°C (-20°F) the rating is equal or less but not greater than the rating shown	
MAX. OPERATING PRESSURE	-29 to 38°C -20 to 100°F	Bar	19	49.6	66.2	99.3	138	149	248	414	207	345	690		
		Psig	275	720	960	1440	2000	2160	3600	6000	2000	3000	5000	10000	
PRESSURE TEST ①	HYDROSTATIC SHELL TEST	kPa	1900	4960	6620	9930	13800	14900	24800	41400	13800	20700	34500	69000	
		Bar	29	76	100	150	207	224	372	621	276	414	690	1035	
		Psig	425	1100	1450	2175	3000	3250	5400	9000	4000	6000	7500	15000	
		kPa	2900	7600	10000	15000	20700	22400	37200	62100	27600	41400	69000	103500	
	HYDROSTATIC SEATS TEST	Bar	21	55	73	110	152	166	276	455	138	207	345	690	
		Psig	300	800	1060	1600	2204	2400	4000	6600	2000	3000	5000	10000	
		Bar ± 1	6	6	6	6	6	6	6	6					
		kPa	80	80	80	80	80	80	80	80					
	AIR SEAT		Bar ± 1	6	6	6	6	6	6	6					
			kPa	80	80	80	80	80	80	80	80				

(*) Class 800 is not a normally tabulated ASME/ANSI B16.34 designation, but it is an intermediate class that is widely used for SW, BW, and threaded end valves.
 1 bar = 100 kPa 1 Psig = 0,06894757 bar 1 bar = 14.5 Psig. The test pressure listed above are not valve operating pressure. ① No visible leakage under all test pressures sequence.

FORGED/CAST/PLATE EQUIVALENTS

GROUP MATERIALS		PRODUCT FORMS		
MATERIAL GROUP NO.	NOMINAL DESIGNATION STEEL	FORGINGS SPEC-GR	CASTING SPEC-GR	PLATES SPEC-GR
1.1	Carbon - Si	A105	A216 WCB	A515 70
	C-Mn-Si	A350 LF2		A537 C1.1 A516 70
2.1	18 Cr - 8 Ni	A182 F304	A351 CF8	A240 304
		A182 F304H	A351 CF10	A240 304H
2.2	16 Cr - 12 Ni - 2 Mo	A182 F316	A351 CF8M	A240 316
		A182 F316H	A351 CF10M	A240 316H
	18 Cr - 13 Ni - 3 Mo	A182 F317		A240 317
		A182 F317H	A351 CF8A	A240 317H
2.3	19 Cr - 10 Ni - 3 Mo		A351 CG8M	
			A351 CG3M	
2.3	18 Cr - 8 Ni	A182 F304L		A240 304L
		A182 F316L	A351 CF3M	A240 316L

STANDARD IMPACT TEST TEMPERATURE*

GRADE	TEST TEMPERATURE °F (°C)	GRADE	TEST TEMPERATURE °F (°C)
LF1	-20 (-29)	LF6 Classes 1 and 2	-60 (-51)
LF2 Class 1	-50 (-46)	LF6 Class 3	0 (-18)
LF2 Class 2	-0 (-18)	LF9	-100 (-73)
LF3 Classes 1 and 2	-150 (-101)	LF787 Class 2	-75 (-59)
LF5 Classes 1 and 2	-75 (-59)	LF787 Class 3	-100 (-73)

* 10mm x 10mm specimens

For forged versus cast equivalent and ASME, ANSI, API valve material specification charts, cross reference charts, tables and standards go to: -

www.globalsupplyline.com.au/catalogue-gsl-valve-API603.html

For valve codes, pressure, temperature, equivalents, applications, suitability, body & trim materials, valve manufacturing & test standards etc., go to the technical section of our website.

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