

ASME B16.34/B16.5 (-29 TO +38°C) MAX. WORKING & TEST PRESSURES

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	11110
	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 A352 LC2/LC3/LCC A217 WC5/WC6/WC9	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
1.6	Working Pressure	225	590	785	1175	1768	2946	4911	8839
	Shell Test	350	900	1200	1775	2650	4425	7350	13225
	Seat Test	250	650	865	1295	1940	3230	5385	9695
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

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

MAX. WORKING PRESSURE AND PRESSURE TEST OF VALVES FROM API6D - API6A

MAXIMUM OPERATING PRESSURE	PRESSURE CLASS OF VALVE		ANSI 150	ANSI 300	ANSI 400	ANSI 600	ANSI 800	ANSI 900	ANSI 1500	ANSI 2500	ANSI 2000	ANSI 3000	ANSI 5000	ANSI 10000	For temperatures below -29°C (-20°F) the rating is equal or less but not greater than the rating shown								
			PN 20	PN 50	PN 68	PN 100	(*)	PN 150	PN 250	PN 420													
PRESSURE TEST Ⓞ	-29 to 38°C -20 to 100°F	Bar	19	49.6	66.2	99.3	138	149	248	414	138	207	345	690	<table border="1"> <thead> <tr> <th colspan="2">DURATION TEST</th> </tr> <tr> <th>VALVE SIZE</th> <th>MINUTES</th> </tr> </thead> <tbody> <tr> <td>2" thru 4"</td> <td>2</td> </tr> <tr> <td>6" thru 10"</td> <td>5</td> </tr> </tbody> </table>	DURATION TEST		VALVE SIZE	MINUTES	2" thru 4"	2	6" thru 10"	5
		DURATION TEST																					
		VALVE SIZE	MINUTES																				
	2" thru 4"	2																					
	6" thru 10"	5																					
	Psig	275	720	960	1440	2000	2160	3600	6000	6000	2000	3000	5000	10000									
	Kpa	1900	4960	6620	9930	13800	14900	24800	41400	13800	20700	34500	69000										
	HYDROSTATIC SHELL TEST	Bar	29	76	100	150	207	224	372	621	276	414	690	1035									
		Psig	425	1100	1450	2175	3000	3250	5400	9000	4000	6000	10000	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	152	228	630	760									
		Psig	300	800	1060	1600	2204	2400	4000	6600	2204	3306	9135	11020									
Kpa		2100	5500	7300	11000	15200	16600	27600	45500	15200	22800	63000	76000										
AIR SEAT	Bar ± 1	6	6	6	6	6	6	6	6	6	6	6	6										
	Psig ± 10	80	80	80	80	80	80	80	80	80	80	80	80										
	Kpa	600	600	600	600	600	600	600	600	600	600	600	600										

(*) 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. Ⓞ 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
	18 Cr - 8 Ni	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	A351 CF8A	A240 317
		A182 F317H	A351 CF8A	A240 317H
2.3	19 Cr - 10 Ni - 3 Mo		A351 CG8M A351 CG3M	
	18 Cr - 8 Ni	A182 F304L		A240 304L
	16 Cr - 12 Ni - 2 Mo	A182 F316L	A351 CF3M	A240 316L

STANDARD IMPACT TEST TEMPERATURE*

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

* 10mm x 10mm specimens

For forged versus cast equivalents as well as other ANSI, ASME, API valve material specification charts, cross reference charts and tables and standards go to our website.

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

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