Technical Data

ASME Pressure Temperature Ratings - Special Alloys

Allowable stress values for this material are established in ASME Code 2192. With this allowable stress values, and the methods from ASME B16.34, Annex F, the calculated values f Pressure-Temperature Ratings for ASTM A217, GR. C12A are tabulated below. 9Cr-Mo-V Cast Material equivalent to ASTM A182, GR. F91 are not included in ASME B-16.34 - 1996.

9 Cr.- Mo- V STEEL A217 GR. C12A (CASTING) A182 Gr. F91 (FORGING)

Temperature, °F	STANDARD CLASS - ASME B16.34							SPECIAL CLASS - ASME B16.34						
	WORKING PRESSURE BY CLASSES, PSIG							WORKING PRESSURE BY CLASSES, PSIG						
	150	300	600	900	1500	2500	4500	150	300	600	900	1500	2500	4500
HYDROSTATIC SHELL TEST	450	1125	2250	3375	5625	9375	16875	450	1125	2250	3375	5625	9375	1685
HYDROSTATIC SEAT TEST	325	825	1650	2475	4125	6875	12375	325	825	1650	2475	4125	6875	12375
-20 TO 100	290	750	1500	2250	3750	6250	11250	290	750	1500	2250	3750	6250	11250
200	260	750	1500	2250	3750	6250	11250	290	750	1500	2250	3750	6250	11250
300	230	730	1455	2185	3640	6070	10925	290	750	1500	2250	3750	6250	11250
400	200	705	1410	2115	3530	5880	10585	290	750	1500	2250	3750	6250	11250
500	170	665	1330	1995	3325	5540	9965	290	750	1500	2250	3750	6250	11250
600	140	605	1210	1815	3025	5040	9070	290	750	1500	2250	3750	6250	11250
650	125	590	1175	1765	2940	4905	8825	290	750	1500	2250	3750	6250	11250
700	110	570	1135	1705	2840	4730	8515	280	735	1465	2200	3665	6110	10995
750	95	530	1065	1595	2660	4430	7970	280	730	1460	2185	3645	6070	10930
800	80	510	1015	1525	2540	4230	7610	275	720	1440	2160	3600	600	10800
850	65	485	975	1460	2435	4060	7305	260	680	1355	2030	3385	5645	10160
900	50	450	900	1350	2245	3745	6740	230	600	1200	1800	3000	5000	9000
950	35	385	775	1160	1930	3220	5795	180	470	945	1415	2360	3930	7070
1000	20	365	725	1090	1820	3030	5450	160	420	840	1260	2105	3505	6310
1050 (1)	20	360	720		1800	3000	5400	160	420	840	1260	2105	3505	6310
1100 (1)	20	300	605	905	1510	2515	4525	145	375	755	1130	1885	3145	5655
1150 (1)	20	225	445	670	1115	1855	3345	105	280	555	835	1395	2320	4180
1200 (1)	20	145	290	430	720	1200	2160	70	180	360	540	900	1500	2700

(1) For weld end valves only. Flanged end ratings terminate at 1000ºF.

STAINLESS STEEL A351 GR. CF8M (CASTING) (2) A182 Gr. F316 (FORGING) (2) A240 Gr. 316 (PLATE) (2)

Temperature, °F	STANDARD CLASS - ASME B16.34							SPECIAL CLASS - ASME B16.34						
	WORKING PRESSURE BY CLASSES, PSIG							WORKING PRESSURE BY CLASSES, PSIG						
	150	300	600	900	1500	2500	4500	150	300	600	900	1500	2500	4500
HYDROSTATIC SHELL TEST	425	1100	2175	3250	5400	9000	16200	450	1125	2250	3375	5625	9375	16875
HYDROSTATIC SEAT TEST	325	800	1600	2400	3975	6600	11900	325	825	1650	2475	4125	6875	12375
-20 TO 100	275	720	1440	2160	3600	6000	10800	290	750	1500	2250	3750	6250	11250
200	235	620	1240	1860	3095	5160	9290	265	690	1380	2070	3450	5750	10350
300	215	560	1120	1680	2795	4660	8390	240	625	1250	1870	3120	5200	9360
400	195	515	1025	1540	2570	4280	7705	220	570	1140	1710	2850	4750	8550
500	170	480	955	1435	2390	3980	7165	205	530	1065	1595	2655	4430	7970
600	140	450	900	1355	2255	3760	6770	195	505	1005	1510	2520	4195	7555
650	125	445	890	1330	2220	3700	6660	190	495	985	1480	2465	4105	7395
700	110	430	870	1305	2170	3620	6515	185	485	970	1455	2420	4035	7265
750	95	425	855	1280	2135	3560	6410	180	475	950	1425	2380	3965	7135
800	80	420	845	1265	2110	3520	6335	180	470	945	1415	2355	3930	7070
850	65	420	835	1255	2090	3480	6265	180	465	930	1400	2330	3885	6990
900	50	415	830	1245	2075	3460	6230	175	465	925	1390	2315	3855	6945
950	35	385	775	1160	1930	3220	5795	175	460	915	1375	2290	3815	6870
1000	20	350	700	1050	1750	2915	5245	160	420	840	1260	2105	3505	6310
1050 (1)	20	345	685	1030	1720	2865	5155	160	420	840	1260	2105	3505	6310
1100 (1)	20	305	610	915	1525	2545	4575	145	380	765	1145	1905	3180	5720
1150 (1)	20	235	475	710	1185	1970	3550	115	295	590	885	1480	2465	4435
1200 (1)	20	185	370	555	925	1545	2775	90	230	465	695	1155	1930	3470
1250 (1)	20	145	295	440	735	1230	2210	70	185	370	555	920	1535	2765
1300 (1)	20	115	235	350	585	970	1750	55	145	290	435	730	1215	2185
1350 (1)	20	95	190	290	480	800	1440	45	120	240	360	600	1000	1800
1400 (1)	20	75	150	225	380	630	1130	35	95	190	285	470	785	1415
1450 (1)	20	60	115	175	290	485	875	30	75	145	200	365	610	1095
1500 (1)	20	40	85	125	205	345	620	20	50	105	155	260	430	770

(1) For weld end valves only. Flanged end ratings terminate at 1000 F.
(2) At temperatrees over 1000 °F, use only when the carbon content is 0.04% or higher.

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ASME Pressure Temperature Ratings (Imperial Units)

STAINLESS STEEL A351 GR. CF8C (CASTING)(2) A182 Gr. F347 (FORGING)(4) A182 Gr. F347H (FORGING) (3)

Temperature, °F	STANDARD CLASS - ASME B16.34							SPECIAL CLASS - ASME B16.34						
	WORKING PRESSURE BY CLASSES, PSIG							WORKING PRESSURE BY CLASSES, PSIG						
	150	300	600	900	1500	2500	4500	150	300	600	900	1500	2500	4500
HYDROSTATIC SHELL TEST	425	1100	2175	3250	5400	9000	16200	450	1125	2250	3375	5625	9375	16875
HYDROSTATIC SEAT TEST	325	800	1600	2400	3975	6600	11900	325	825	1650	2475	4125	6875	12375
-20 TO 100	275	720	1440	2160	3600	6000	10800	290	750	1500	2250	3750	6250	11250
200	255	660	1320	1980	3300	5500	9900	275	715	1430	2145	3580	5965	10735
300	230	615	1230	1845	3070	5120	9215	250	655	1310	1965	3280	5465	9835
400	200	575	1145	1720	2870	4780	8605	235	615	1235	1850	3085	5145	9255
500	170	540	1080	1620	2700	4500	8100	230	595	1190	1785	2980	4965	8935
600	140	515	1025	1540	2570	4280	7705	220	575	1145	1720	2865	4775	8600
650	125	505	1010	1510	2520	4200	7560	215	565	1125	1690	2815	4690	8440
700	110	495	990	1485	2470	4120	7415	210	550	1105	1655	2760	4600	8275
750	95	490	985	1475	2460	4100	7380	210	550	1095	1645	2745	4570	8230
800	80	485	975	1460	2435	4060	7310	210	545	1090	1630	2720	4530	8155
850	65	485	970	1455	2425	4040	7270	205	540	1080	1625	2705	4510	8115
900	50	450	900	1350	2245	3745	6740	205	540	1075	1615	2690	4485	8075
950	35	385	775	1160	1930	3220	5795	180	470	945	1415	2360	3930	7070
1000	20	365	725	1090	1820	3030	5450	160	420	840	1260	2105	3505	6310
1050	20(1)	360	720	1080	1800	3000	5400	160	420	840	1260	2105	3505	6310
1100	20(1)	325	645	965	1610	2685	4835	155	405	805	1210	2015	3360	6045
1150	20(1)	275	550	825	1370	2285	4115	130	345	685	1030	1715	2855	5145
1200	20(1)	170	345	515	855	1430	2570	80	215	430	645	1070	1785	3215
1250	20(1)	125	245	370	615	1030	1850	60	155	310	465	770	1285	2315
1300	20(1)	95	185	280	465	770	1390	45	115	230	345	580	965	1735
1350	20(1)	70	135	205	345	570	1030	35	85	170	255	430	715	1285
1400	20(1)	55	110	165	275	455	825	25	70	135	205	345	570	1030
1450	20(1)	40	80	125	205	345	615	20	50	105	155	255	430	770
1500	20(1)	35	70	105	170	285	515	15	45	85	130	215	355	645

(1) For weld end valves only. Flanged end ratings terminate at 1000ºF.
(2) At temperatrees over 1000°F, use only when the carbon content is 0.04% or higher.
(3) At temperatures over 1000°F, the material has to be heat treated by heating at 2000°F minimum temp.
(4) Not to be used over 1000°F.

DUPLEX STAILESS STEEL

A 182 Gr. F51 (1), F53 (1) (FORGING) A240 Gr. S31803, S32750 (1) (PLATE)

The equivalent casting grade to the A 182 Gr. F51 is **ASTM A 995 Gr. 4A**
The equivalent casting grade to the A 182 Gr. F53 is **ASTM A 995 Gr. 6A, or ASTM A351 Gr. CD3M-WCuN**
The casting grades are not published in ASME B16.34 - 1966. The references are mentioned for convenience.

Temperature, °F	STANDARD CLASS - ASME B16.34							SPECIAL CLASS - ASME B16.34						
	WORKING PRESSURE BY CLASSES, PSIG							WORKING PRESSURE BY CLASSES, PSIG						
	150	300	600	900	1500	2500	4500	150	300	600	900	1500	2500	4500
HYDROSTATIC SHELL TEST	450	1125	2250	3375	5625	9375	16875	450	1125	2250	3375	5625	9375	16875
HYDROSTATIC SEAT TEST	375	825	1650	2475	4125	6875	12375	375	825	1650	2475	4125	6875	12375
-20 TO 100	290	750	1500	2250	3750	6250	11250	290	750	1500	2250	3750	6250	11250
200	260	720	1440	2160	3600	6000	10800	290	750	1500	2250	3750	6250	11250
300	230	665	1330	1995	3325	5540	9970	285	740	1485	2225	3710	6185	11130
400	200	615	1230	1845	3070	5120	9215	265	685	1370	2055	3430	5715	10285
500	170	575	1150	1730	2880	4800	8640	245	645	1285	1930	3215	5355	9645
600	140	555	1115	1670	2785	4640	8350	240	620	1245	1865	3105	5180	9320

(1) This material becomes brittle after services at moderately elevated temperatures above 600ºF. Not to be used over 600ºF.

ASME Pressure Temperature Ratings (Imperial Units)

ALLOY 20 A351 GR. CN7M (CASTING)(2)(3) B462 Gr. N08020 (FORGING)(1)

Temperature, °F	STANDARD CLASS - ASME B16.34							SPECIAL CLASS - ASME B16.34						
	WORKING PRESSURE BY CLASSES, PSIG							WORKING PRESSURE BY CLASSES, PSIG						
	150	300	600	900	1500	2500	4500	150	300	600	900	1500	2500	4500
HYDROSTATIC SHELL TEST	350	900	1800	2700	4500	7500	13500	400	1025	2025	3025	5025	8375	15075
HYDROSTATIC SEAT TEST	275	675	1325	2000	3300	5500	9900	300	750	1475	2225	3700	6150	11050
-20 TO 100	230	600	1200	1800	3000	5000	9000	255	670	1335	2005	3345	5570	10030
200	200	520	1045	1565	2610	4350	7830	225	585	1165	1750	2915	4855	8740
300	190	490	980	1470	2450	4080	7345	210	545	1095	1640	2730	4555	8195
400	190	490	980	1470	2450	4080	7345	210	545	1095	1640	2730	4555	8195
500	170	490	980	1470	2450	4080	7345	210	545	1095	1640	2730	4555	8195
600	140	490	980	1470	2450	4080	7345	210	545	1095	1640	2730	4555	8195
650	125	490	980	1470	2450	4080	7345	210	545	1095	1640	2730	4555	8195
700	110	490	980	1470	2450	4080	7345	210	545	1095	1640	2730	4555	8195
750	95	490	980	1470	2450	4080	7345	210	545	1095	1640	2730	4555	8195
800	80	490	980	1470	2450	4080	7345	210	545	1095	1640	2730	4555	8195

(1) Use annealed material only.
(2) Use solution annealed material only.
(3) Ratings apply for 300ºF and lower.

MONEL 400

B 564 Gr. N04400 (1) (FORGING) B164 Gr. N04400 (1) BAR, S32750 (1) (PL ATE)

The equivalent casting grade to B 564 Gr. N04400 is **ASTM A 494 Gr. M-35-1 or ASTM A 494 Gr. M-30C**
Those castings are weldable grade.
The casting grades are not published in ASME B16.34 - 1966. The references are mentioned for convenience.

Temperature, °F	STANDARD CLASS - ASME B16.34							SPECIAL CLASS - ASME B16.34						
	WORKING PRESSURES BY CLASSES, PSIG							WORKING PRESSURE BY CLASSES, PSIG						
	150	300	600	900	1500	2500	4500	150	300	600	900	1500	2500	4500
HYDROSTATIC SHELL TEST	350	900	1800	2700	4500	7500	13500	400	1025	2025	3025	5025	8375	15075
HYDROSTATIC SEAT TEST	275	675	1325	2000	3300	5500	9900	300	750	1475	2225	3700	6150	11050
-20 TO 100	230	600	1200	1800	3000	5000	9000	255	670	1340	2010	3350	5580	10045
200	200	530	1055	1585	2640	4400	7920	225	590	1180	1770	2945	4910	8840
300	190	495	990	1485	2470	4120	7415	210	550	1100	1650	2755	4590	8260
400	185	480	955	1435	2390	3980	7165	205	535	1065	1600	2665	4440	7995
500	170	475	950	1435	2375	3960	7130	205	530	1060	1590	2650	4420	7955
600	140	475	950	1435	2375	3960	7130	205	530	1060	1590	2650	4420	7955
650	125	475	950	1435	2375	3960	7130	205	530	1060	1590	2650	4420	7955
700	110	475	950	1435	2375	3960	7130	205	530	1060	1590	2650	4420	7955
750	95	470	935	1405	2340	3900	7020	200	520	1045	1565	2610	4355	7835
800	80	460	915	1375	2290	3820	6875	195	510	1025	1535	2560	4265	7675
850	65	340	680	1020	1695	2830	5090	170	440	885	1325	2210	3685	6630
900	50	245	495	740	1235	2055	3705	125	320	645	965	1605	2680	4820

Note: (1) Use annealed material only.

ASME Pressure Temperature Ratings (Imperial Units)

ASTM A 494 Gr. N-12MV (CASTING OF HASTELLOY B) ASTM A 494 Gr. CW-12MV (CASTING OF HASTELLOY C)
This Castings are now considered by many industries as obsoletes. The old Hastelloy C is now substituted by Hastelloy C-276 and the old Hastelloy B is now substituted by Hastelloy B-2

Temperature, °F	STANDARD CLASS - ASME B16.34							SPECIAL CLASS - ASME B16.34						
	WORKING PRESSURES BY CLASSES, PSIG							WORKING PRESSURE BY CLASSES, PSIG						
	150	300	600	900	1500	2500	4500	150	300	600	900	1500	2500	4500
HYDROSTATIC SHELL TEST	350	900	1800	2700	4500	7500	13500	400	1025	2025	3025	5025	8375	15075
HYDROSTATIC SEAT TEST	275	675	1325	2000	3300	5500	9900	300	750	1475	2225	3700	6150	11050
-20 TO 100	230	600	1200	1800	3000	5000	9000	255	670	1340	2010	3350	5580	10045
200	205	540	1080	1620	2700	4500	8100	230	605	1205	1810	3015	5020	9040
300	195	505	1015	1520	2530	4220	7595	215	565	1130	1695	2825	4710	8480
400	185	480	960	1440	2400	4000	7200	205	535	1070	1605	2680	4465	8035
500	170	455	910	1370	2280	3800	6840	195	510	1020	1525	2545	4240	7635
600	140	440	880	1320	2195	3660	6590	190	490	980	1470	2450	4085	7355
650	125	425	850	1275	2125	3540	6370	180	475	950	1420	2370	3950	7110
700	110	420	840	1260	2100	3500	6300	180	470	940	1405	2345	3905	7030
750	95	415	825	1240	2065	3440	6190	175	460	920	1380	2305	3840	6910
800	80	410	815	1225	2040	3400	6120	175	455	910	1365	2275	3795	6830
850	65	400	795	1195	1990	3320	5975	170	445	890	1335	2225	3705	6670
900	50	395	790	1190	1980	3300	5940	170	440	885	1325	2210	3685	6630
950	35	385	775	1160	1930	3220	5795	165	435	870	1300	2170	3615	6510
1000	20	365	725	1090	1820	3030	5450	160	420	840	1260	2105	3505	6310

Note: (1) Use solution annealed material only.

FORGINGS
904L - ASTM B649 Gr. N08904 (1) (2)

Note:
There is not equivalent casting grade to 904L
The casting grade **A351 Gr. CK-3MCuN** can be recommended
This casting grade is published in ASME B16.34 under Group 2.8 and the ratings are better because Nitrogen is added to the common 904L alloy.

Temperature, °F	STANDARD CLASS - ASME B16.34							SPECIAL CLASS - ASME B16.34						
	WORKING PRESSURE BY CLASSES, PSIG							WORKING PRESSURE BY CLASSES, PSIG						
	150	300	600	900	1500	2500	4500	150	300	600	900	1500	2500	4500
HYDROSTATIC SHELL TEST	375	975	1925	2900	4825	8025	14425	425	1075	2150	3225	5375	8950	16100
HYDROSTATIC SEAT TEST	275	725	1425	2125	3550	5875	10575	325	800	1575	2375	3950	6575	11825
-20 TO 100	245	640	1280	1920	3205	5340	9610	275	715	1430	2145	3575	5960	10730
200	230	600	1200	1805	3005	5010	9020	255	670	1340	2015	3355	5590	10065
300	210	545	1085	1630	2720	4530	8155	235	605	1215	1820	3035	5055	9100
400	190	495	995	1490	2485	4140	7450	215	555	1110	1665	2770	4620	8315
500	170	495	915	1370	2285	3810	6860	195	510	1020	1530	2550	4250	7655
600	140	430	865	1295	2160	3600	6480	185	480	965	1445	2410	4020	7230
650	125	420	840	1265	2105	3510	6320	180	470	940	1410	2350	3915	7050
700	110	410	820	1230	2050	3420	6155	170	460	915	1375	2290	3815	6870

(1) Use solution annealed material only.
(2) For forgings, the chemical composition, mechanical properties, heat treating requirements, and grain size requirements shall conform to the applicable ASTM specification. The manufacturing procedures, tolerances,tests, certification, and markings shall be in accordance with ASTM B564.

ASME Pressure Temperature Ratings (Imperial Units)

FORGINGS

HASTELLOY C-276	**B 564 Gr. N10276 (1)(3)**
INCONEL 625	**B 564 Gr. N06625 (2)(4)**
INCOLOY 825	**B 564 Gr. N08825 (2)(5)**

Note:
The equivalent casting grade of Hastelloy C-276 is **A 494 or A990 Gr. CW-2M**
The equivalent casting grade of Inconel 625 is **A 494 Gr. CW-6MC**
The equivalent casting grade of Incoloy 825 is **A 494 Gr. CU5MCuC (N28820)**
The casting grades are not published in ASME B16.34 - 1996.
The references are mentioned for convenience.

Temperature, °F	STANDARD CLASS - ASME B16.34							SPECIAL CLASS - ASME B16.34						
	WORKING PRESSURE BY CLASSES, PSIG							WORKING PRESSURE BY CLASSES, PSIG						
	150	300	600	900	1500	2500	4500	150	300	600	900	1500	2500	4500
HYDROSTATIC SHELL TEST	450	1125	2250	3375	5625	9375	18675	450	1125	2250	3375	5625	9375	18675
HYDROSTATIC SHELL TEST	325	825	1650	2475	4125	6875	12375	325	825	1650	2475	4125	6875	12375
-20 TO 100	290	750	1500	2250	3750	6250	11250	290	750	1500	2250	3750	6250	11250
200	260	750	1500	2250	3750	6250	11250	290	750	1500	2250	3750	6250	11250
300	230	730	1445	2185	3640	6070	10925	290	750	1500	2250	3750	6250	11250
400	200	705	1410	2115	3540	5880	10585	290	750	1500	2250	3750	6250	11250
500	170	665	1330	1995	3325	5540	9965	285	740	1485	2225	3710	6185	11130
600	140	605	1210	1815	3025	5040	9070	275	725	1445	2170	3615	6025	10850
650	125	590	1175	1765	2940	4905	8825	270	710	1420	2130	3550	5915	10645
700	110	570	1135	1705	2840	4730	8515	265	695	1395	2090	3480	5805	10445
750	95	530	1065	1595	2660	4430	7970	265	690	1380	2075	3455	5760	10365
800	80	510	1015	1525	2540	4230	7610	265	685	1370	2055	3430	5715	10285
850	65	485	975	1460	2435	4060	7305	260	675	1350	2025	3335	5625	10125
900	50	450	900	1350	2245	3745	6740	230	600	1200	1800	3000	5000	9000
950	35	385	775	1160	1930	3220	5795	180	470	945	1415	2360	3930	7070
1000	20	365	725	1090	1820	3030	5450	160	420	840	1260	2105	3505	6310
1050 (1)	20	360	720	1080	1800	3000	5400	160	420	840	1260	2105	3505	6310
1100 (1)	20	325	645	965	1610	2685	4835	155	405	805	1210	2015	3360	6045
1150 (1)	20	275	550	825	1370	2285	4115	130	345	685	1030	1715	2860	5145
1200 (1)	20	185	370	555	925	1545	2775	90	240	480	725	1205	2010	3615
1250 (1)	20	145	295	440	735	1220	2200	75	190	380	575	955	1590	2865

(1) Use solution annealed material only.
(2) Use annealed material only.
(3) Not to be used over 1250ºF
(4) Not to be used over 1200ºF. Alloy N06625 in the annealed condition is subjected to severe loss of impact strength at room temperatures after exposure in the range of 1000ºF to1400ºF
(5) Not to be used over 1000ºF.

FORGINGS
904L - ASTM B649 Gr. N08904 (1)(2)

Note:
The equivalent casting grade to Hastelloy B-2 is **A 494 Gr. N-7M**
The casting grades are not published in ASME B16.34 - 1996.
The reference is mentioned for convenience.

Temperature, °F	STANDARD CLASS - ASME B16.34							SPECIAL CLASS - ASME B16.34						
	WORKING PRESSURE BY CLASSES, PSIG							WORKING PRESSURE BY CLASSES, PSIG						
	150	300	600	900	1500	2500	4500	150	300	600	900	1500	2500	4500
HYDROSTATIC SHELL TEST	450	1125	2250	3375	5625	9375	16875	450	1125	2250	3375	5625	9375	16875
HYDROSTATIC SEAT TEST	325	825	1650	2475	4125	6875	12375	325	825	1650	2475	4125	6875	12375
-20 TO 100	290	750	1500	2250	3750	6250	11250	290	750	1500	2250	3750	6250	11250
200	260	750	1500	2250	3750	6250	11250	290	750	1500	2250	3750	6250	11250
300	230	730	1455	2185	3640	6070	10925	290	750	1500	2250	3750	6250	11250
400	200	705	1410	2115	3530	5880	10585	290	750	1500	2250	3750	6250	11250
500	170	665	1330	1995	3325	5540	9965	290	750	1500	2250	3750	6250	11250
600	140	605	1210	1815	3025	5040	9070	290	750	1500	2250	3750	6250	11250
650	125	590	1175	1765	2940	4905	8825	290	750	1500	2250	3750	6250	11250
700	110	570	1135	1705	2840	4730	8515	280	735	1465	2200	3655	6110	10995
750	95	530	1065	1595	2660	4430	7970	280	730	1460	2185	3645	6070	10930
800	80	510	1015	1525	2540	4230	7610	275	720	1440	2160	3600	6000	10800

(1) Use solution annealed material only.
(2) For forgings, the chemical composition, mechanical properties, heat treating requirements, and grain size requirements shall conform to the applicable ASTM specification. The manufacturing procedures, tolerances,tests, certification, and markings shall be in accordance with ASTM B564.