



## ASTM Valve Castings Types and Equivalent Chemical Properties

Cast Alloy	Similar Wrought Designation	Specification	UNS No.	C	Cr	Ni	Mo	Cu	Fe	Cb	Other	Tensile (ksi)	Yield (ksi)	Elong
CA6NM	415, F6NM	ASTM-A743, A487	J91540	0.06	11.5-14.0	3.5-4.5	.4-1.0	–	BAL	–	–	110	80	17%
CA15	410	ASTM-A217, A743	J91150	0.15	11.5-14.0	1	0.5	0.5	BAL	–	–	90	65	18%
CB7Cu-1	17-4 PH	ASTM-A747, AMS-5398C	J92180	0.06	15.5-17.7	3.6-4.6	–	2.5-3.2	BAL	.15-.35	–	135 H1100 Condition	100	9%
CF3	304L	ASTM-A351, A743, A744	J92500	0.03	17.0-21.0	8.0-12.0	0.5	–	BAL	–	–	70	30	35%
CF3MN	316LN	ASTM-A743, A351	J92804	0.03	17.0-21.0	9.0-13.0	2.0-3.0	–	BAL	–	N- 0.10-0.20	75	37	35%
CF3M	316L	ASTM-A351, A743, A744	J92800	0.03	17.0-21.0	9.0-13.0	2.0-3.0	–	BAL	–	–	70	30	30%
CF8	304	ASTM-A351, A743, A744	J92600	0.08	18.0-21.0	8.0-11.0	0.5	–	BAL	–	–	70	30	35%
CF8C	347	ASTM-A351, A743, A744	J92710	0.08	18.0-21.0	9.0-12.0	0.5	–	BAL	8xC-1.0	–	70	30	30%
CF8M	316	ASTM-A351, A743, A744	J92900	0.08	18.0-21.0	9.0-12.0	2.0-3.0	–	BAL	–	–	70	30	30%
CG3M	317L	ASTM-A351, A743, A744	J92999	0.03	18.0-21.0	9.0-13.0	3.0-4.0	–	BAL	–	–	75	35	25%
CG8M	317	ASTM-A351, A743, A744	J93000	0.08	18.0-21.0	9.0-13.0	3.0-4.0	–	BAL	–	–	75	35	25%
CN7M	Alloy 20	ASTM-A351, A743, A744	N08007	0.07	19.0-22.0	27.5-30.5	2.0-3.0	3.0-4.0	BAL	–	–	62	25	35%
CN2MCuN	904L		N08904	0.02	19.0-23.0	23.0-28.0	4.0-5.0	1.0-2.0	BAL	–	–	65	28	35%
CK3MCuN	Avesta 254-SMO	ASTM-A351, A743, A744	J93254	0.025	19.5-20.5	17.5-19.5	6.00-7.00	0.50-1.00	BAL	–	N 0.18-0.24	80	38	35%
CN3MN	AL6XN	ASTM-A351, A743, A744	J94651	0.03	20.0-22.0	23.5-25.5	6.0-7.0	0.75	BAL	–	N 0.18-1.26	80	38	35%
CX2MW	Hastelloy C-22	ASTM A494	N26022	0.02	20.0-22.5	BAL	12.5-14.5	–	2.0-6.0	–	W-2.5-3.5	80	45	30%
CW2M	Hastelloy C4C	ASTM-A494, A990	N26455	0.02	15.0-17.5	BAL	15.0-17.5	–	2	–	–	72	40	20%
CW6M	Hastelloy C Modified	ASTM-A494	N30107	0.07	17.0-20.0	BAL	17.0-20.0	–	3	–	–	72	40	25%
CW6MC	Inconel 625	ASTM-A494, MIL-C-24615	N26625	0.06	20.0-23.0	BAL	8.0-10.0	–	5	3.15-4.5	–	70	40	25%
CW12MW	Hastelloy C	ASTM-A494	N30002	0.12	15.5-17.5	BAL	16.0-18.0	–	4.5-7.5	–	W-3.75-5.25, V-.20-.40	72	40	4%
CW12MW	Hastelloy C-276	ASTM-A494	N30002	0.02	15.5-17.5	BAL	16.0-18.0	–	4.5-7.5	–	W-3.75-5.25, V-.20-.40	72	40	4%
CY40	Inconel 600	ASTM-A494	N06040	0.4	14.0-17.0	BAL	–	–	11	–	–	70	28	30%
CZ100	Cast Nickel	ASTM-A494	N02100	1	–	95.0 min.	–	1.25	3	–	–	50	18	10%
N7M	Hastelloy B Modified	ASTM-A494	N30007	0.07	1	BAL	30.0-33.0	–	3	–	–	76	40	20%
N12MV	Hastelloy B	ASTM-A494	N30012	0.12	1	BAL	26.0-30.0	–	4.0-6.0	–	–	76	40	6%
M35-1	Monel 400	ASTM-A494, A990	N24135	0.35	–	BAL	–	26.0-33.0	3.5	0.5	Si 1.25	65	25	25%
M35-2	Monel	ASTM-A494	N04020	0.35	–	BAL	–	26.0-33.0	3.5	–	Si 2.0	65	30	25%
M35-B / M30H	H-Monel	ASTM-A494, QQ-N-288 Comp B	N24030	0.3	–	BAL	–	27.0-33.0	2.5	–	Si 2.7-3.9	700	60	10%
M35-C	Monel	QQ-N-288 Comp C	N24025	0.2	–	BAL	–	27.0-31.0	2.5	–	Si 3.3-3.7	120	80	10%
M35-D / M25S	S-Monel	ASTM A494, QQ-N-288 Comp D	N24025	0.25	–	BAL	–	27.0-31.0	2.5	–	Si 3.5-4.5	–	–	–
M30C / M35W	Weldable Monel	ASTM-A494, QQ-N-288 Comp E	N24130	0.3	–	BAL	–	26.0-33.0	3.5	–	Si 1.0-2.0, Cb 1.0-3.0	65	32.5	25%
952	Al Bronze Grade A	ASTM-B148	C95200	–	–	–	–	86.0 min	2.5-4.0	–	Al 8.5-9.5	65	25	20%
954	Aluminum-Bronze	ASTM-B148	C95400	–	–	1.5 max	–	83.0 min	3.0-5.0	–	Al 10.0-11.5	75	30	12%
955	Aluminum-Bronze	ASTM-B148	C95500	–	–	3.0-5.5	–	78.0 min	3.0-5.0	–	Al 10.0-11.5	90	40	6%
958	Ni-Al-Brz	ASTM-B148	C95800	–	–	4.0-5.0	–	79.0 Min	3.0-4.5	–	Al 8.5-9.5 Pb .03 max	85	35	15%

964	70*30 Copper-Nickel	ASTM-B369	C96400	0.15	-	28.0-32.0	-	BAL	.25-1.5	0.5-1.5	Mn 1.5	60	32	20%
CD4MCuN	Duplex Grade 1B	ASTM-A890, A995	J93372	0.04	24.5-26.5	4.75-6.0	1.75-2.25	2.75-3.25	BAL	-	N 0.10-0.25	100	70	16%
CD3MCuN	Duplex Grade 1C	ASTM-A890	J93373	0.03	24-26.7	5.6-6.7	2.9-3.8	1.4-1.9	BAL	-	N 0.22-0.33	100	65	25%
CE8MN	Duplex Grade 2A	ASTM-A351, A890, A995	J93345	0.08	22.5-25.5	8.0-11.0	3.00-4.50	-	BAL	-	N 0.10-0.30	95	65	25%
CD6MN	Duplex Grade 3A	ASTM-A890, A995	J93371	0.06	24.0-27.0	4.0-6.0	1.75-2.50	-	BAL	-	N 0.10-0.25	95	65	25%
CD3MN	Duplex Grade 4A	ASTM-A890, A995	J92205	0.03	21.0-23.5	4.5-6.5	2.5-3.5	1.00 max	BAL	-	N 0.10-0.30	90	60	25%
CE3MN	Duplex Grade 5A	ASTM-A890, A995	J93404	0.03	24.0-26.0	6.0-8.0	4.0-5.0	-	BAL	-	N 0.10-0.03	100	75	18%
CD3MWCuN	Grade 6A Zeron100	ASTM-A890, A995	J93380	0.03	24.0-26.0	6.5-8.5	3.0-4.0	0.5-1.0	BAL	-	N 0.02-0.03 W 0.5-1.0	100	65	25%
HH	ASTM-A297	ASTM-A297	J93503	0.20-0.50	24.0-28.0	11.0-14.0	0.5	1	BAL	-	-	75	35	10%
HK	ASTM-A297	ASTM-A297	J94224	0.20-0.60	24.0-28.0	18.0-22.0	0.5	1	BAL	-	-	65	35	10%
HN	HI-35	ASTM-A297	J94213	0.20-0.50	19.0-23.0	23.0-27.0	0.5	1	BAL	-	-	63	-	8%
HT	330 (15-35)	ASTM-A297	N08605	0.35-0.75	15.0-19.0	33.0-37.0	0.5	1	BAL	-	-	65	-	4%
HU	(19-39)	ASTM-A297	N08004	0.35-0.75	17.0-21.0	37.0-41.0	0.5	1	BAL	-	-	65	-	4%
HX	ACI HX	ASTM-A297	N06006	0.35-0.75	15.0-19.0	64.0-68.0	0.5	1	BAL	-	-	60	-	-
WCA	Carbon Steel	ASTM-A216	J02502	0.25	0.5	0.5	0.2	0.3	BAL	-	-	60-85	30	24%
WCB	Carbon Steel	ASTM-A216	J03002	0.3	0.5	0.5	0.2	0.3	BAL	-	-	70-95	36	22%
WCC	Carbon Steel	ASTM-A216	J02503	0.25	0.5	0.5	0.2	0.3	BAL	-	-	70-95	40	22%
LCB	Carbon Steel	ASTM-A352	J03003	0.3	0.5	0.5	0.2	0.3	BAL	-	-	65	35	24%
LCC	Carbon Steel	ASTM-A352	J02505	0.25	0.5	0.5	0.2	0.3	BAL	-	-	70	40	22%
LC2		ASTM-A352	J22500	0.25	-	2.00-3.00	0.45-0.65	-	BAL	-	-	70.0-95.0	40	24%
LC3		ASTM-A352	J31550	0.15	-	3.00-4.00	-	-	BAL	-	-	70.0-95.0	40	24%
WC6		ASTM-A217	J12072	0.05-0.20	1.00-1.50	-	0.45-0.65	0.5	BAL	-	-	70-95	40	20%
WC9		ASTM-A217	J21890	0.05-0.18	2.00-2.75	-	0.90-1.20	0.5	BAL	-	-	70-95	40	20%
C5		ASTM-A217	J42045	0.2	4.00-6.50	-	0.45-0.65	0.5	BAL	-	-	90-115	60	18%
C12		ASTM-A217	J82090	0.2	8.00-10.00	-	0.90-1.20	0.5	BAL	-	-	90-115	60	18%
C12A	Grade 91	ASTM-A217	J84090	0.08-0.12	8.0-9.5	0.4	0.85-1.05	-	BAL	0.060-0.10	N 0.030-0.070, V 0.18-0.25	85-110	60	18%
SC8625		ASTM A487, A148		0.3	0.40-0.80	0.40-0.80	0.15-0.30	0.5	BAL	-	-	105-130	85	17%

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