

Table A-3-1 Chemical Composition: Al Alloys

All single values are maximum composition percentages unless otherwise stated

Aluminum Die Casting Alloys (A)											
Commercial:	360	A360	380 (B)	A380 (B)	383	384 (B)	390*	13	A13	43	218
ANSI/AA:	360.0	A360.0	380.0	A380.0	383.0	384.0	B390.0	413.0	A413.0	C443.0	518.0
Nominal Comp:	Mg 0.5 Si 9.5	Mg 0.5 Si 9.5	Cu 3.5 Si 8.5	Cu 3.5 Si 8.5	Cu 2.5 Si 10.5	Cu 3.8 Si 11.0	Cu 4.5 Si 17.0	Si 12.0	Si 12.0	Si 5.0	Mg 8.0
Detailed Comp.											
Silicon											
Si	9.0-10.0	9.0-10.0	7.5-9.5	7.5-9.5	9.5-11.5	10.5-12.0	16.0-18.0	11.0-13.0	11.0-13.0	4.5-6.0	0.35
Iron											
Fe	2.0	1.3	2.0	1.3	1.3	1.3	1.3	2.0	1.3	2.0	1.8
Copper											
Cu	0.6	0.6	3.0-4.0	3.0-4.0	2.0-3.0	3.0-4.5	4.0-5.0	1.0	1.0	0.6	0.25
Magnesium											
Mg	0.4-0.6	0.4-0.6	0.10	0.10	0.10	0.10	0.45-0.65	0.10	0.10	0.10	7.5-8.5
Manganese											
Mn	0.35	0.35	0.50	0.50	0.50	0.50	0.50	0.35	0.35	0.35	0.35
Nickel											
Ni	0.50	0.50	0.50	0.5	0.30	0.50	0.10	0.50	0.50	0.50	0.15
Zinc											
Zn	0.50	0.50	3.0	3.0	3.0	3.0	1.5	0.50	0.50	0.50	0.15
Tin											
Sn	0.15	0.15	0.35	0.35	0.15	0.35	—	0.15	0.15	0.15	0.15
Titanium											
Ti	—	—	—	—	—	—	0.10	—	—	—	—
Others											
Each	—	—	—	—	—	—	0.10	—	—	—	—
Total											
Others	0.25	0.25	0.50	0.50	0.50	0.50	0.20	0.25	0.25	0.25	0.25
Aluminum											
Al	Balance	Balance	Balance	Balance	Balance	Balance	Balance	Balance	Balance	Balance	Balance

(A) Analysis shall ordinarily be made only for the elements mentioned in this table. If, however, the presence of other elements is suspected, or indicated in the course of routine analysis, further analysis shall be made to determine that the total of these other elements are not present in excess of specified limits. (B) With respect to mechanical properties, alloys A380.0, 383.0 and 384.0 are substantially interchangeable. Sources: ASTM B85-92a; Aluminum Association.

* Two other aluminum alloys, 361 & 369, are being utilized in limited applications where vibration and wear are of concern. Contact your alloy producer for more information.