



## Non-Ferrous Specifications

### Aluminum Alloy Castings

11/2014

Alloy/Grade	Description	Typical Range of Mechanical Properties		
		Tensile/Ksi	Yield/Ksi	Elongation/%
204.0-T4	Sand/Permanent Mold/Low Pressure Die Cast Alloy - T4 Heat Treatment	45	28	6
319.1-F	Sand Cast Alloy   No Heat Treatment	23	13	1.5
319.0-T6	Sand Cast Alloy   T6 Heat Treatment	31	20	1.5
C355.0-T6	Sand Cast Alloy   T6 Heat Treatment	36	25	2.5
C355.0-T61	Permanent Mold Alloy   T61 Heat Treatment	40	30	3
A356.0-T6	Sand Cast Alloy   T6 Heat Treatment	34	24	3.5
A356.0-T61	Permanent Mold/Low Pressure Die Cast Alloy - T61 Heat Treatment	45	34	4
443.0-F	Sand Cast Alloy   No Heat Treatment	17	7	3
535.0-F	Sand Cast Alloy   No Heat Treatment	48	45	2
771.0-T6	Sand Cast Alloy   T6 Heat Treatment	48	45	2
A360	Die Casting Alloy	44	25	2.5
A380	Die Casting Alloy	46	23	3.5

### Aluminum Forging Alloys

Alloy/Grade	Description	Typical Range of Mechanical Properties		
		Tensile/Ksi	Yield/Ksi	Elongation/%
2024-T86	Cu, Mn, Mg Alloy   T86 Heat Treatment	92	85	5
6061-T6	Si, Mn, Cu Mg Alloy   T6 Heat Treatment	37	32	13
7075-T67	Zn, Mg, Cu Alloy   T6 Heat Treatment	75	65	7



## Non-Ferrous Specifications

### Copper & Bronze Casting/Forging Alloys

Alloy/Grade	Description	Typical Range of Mechanical Properties		
		Tensile/Ksi	Yield/Ksi	Elongation/%
C91100	100% Copper - Electrolytic Grade	25	4	45
C83600	Leaded Red Brass	38	16.5	34
C85200	Leaded Yellow Brass	38	13	40
C86200	Manganese Bronze	94	48	22
C87200	Silicon Bronze	60	25	40
C95200	Aluminum Bronze	82	27	40

### Zinc Casting Alloys

Alloy/Grade	Description	Typical Range of Mechanical Properties		
		Tensile/Ksi	Yield/Ksi	Elongation/%
ZA-8	Zinc Aluminum   Approx. 8% Al.	54	42	6-10
ZA-12	Zinc Aluminum   Approx. 12% Al	58	46	4-7
ZA-27	Zinc Aluminum   Approx. 27% Al	61	55	1-3
Zamak 3	Zinc with 4% Alum. and other Alloys - Hot Chamber Die Cast.	41	32	10
Zamak 5	Zinc with 4% Alum. and other Alloys - Hot Chamber Die Cast.	48	39	7
Zamak 7	Zinc with 4% Alum. and other Alloys - Hot Chamber Die Cast.	41	32	13