

Specifications/Mechanical Properties

SPECIFICATION		MECHANICAL PROPERTIES				
Related International		Available Form	0.2% Proof Stress hbar	Tensile Strength hbar	Elongation % on 50mm	Typical Hardness Brinell
1080A - O - H4		Sheet Sheet	- -	9.0 max 0.5 - 12.0	29 - 35 5 - 8	19 29
1050A - H4 - H8 - H2		Sheet Tube Extrusion	- - -	10.0 - 13.5 13.5 8.5	4 - 8 - 13	30 30 24
1200 - O - H4 - H8 - M - H8		Sheet Sheet Sheet Extrusion Tube	- - - - -	7.0 - 10.5 11.0 - 14.0 14.0 6.0 14.0	20 - 30 3 - 6 2 - 4 18 -	22 34 42 23 34
3103 - H4		Sheet	-	14.0 - 17.5	3 - 7	44
5251 - M - O - H3 - H6 - O		Plate Sheet Sheet Sheet Tube	- 6.0 13.0 17.5 6.0	18.5 16.0 - 20.0 20.0 - 24.0 22.5 - 27.5 16.0 - 20.0	12 - 15 18 - 20 4 - 8 3 - 5 18	53 45 62 70 45
5005 - H4		Sheet	-	15.5 - 18.5	7	-
5083 - M - O - H2		Plate Sheet Sheet	13.0 12.5 23.5	27.5 27.5 - 35.0 31.0 - 37.5	- 12 - 16 5 - 10	77 72 95
6063 - M - T4 - T5 - T6 - T6		Extrusion Extrusion Extrusion Extrusion Tube	- 7.0 11.0 13.0 - 16.0 18.0	10.0 13.0 15.0 15.0 - 18.5 20.0	12 14 7 7 8	35 55 65 80 80
6101A - T6		Extrusion	17.5	20.0	7	70
6082 - T4 - T6 - T4 - T6 - T6		Sheet Sheet Extrusion Extrusion Tube	11.5 - 12.0 24.0 - 25.5 10.5 - 12.0 24.0 - 27.0 24.0 - 25.5	20.0 29.5 17.0 - 19.0 28.0 - 31.0 31.0	15 8 14 7 8	65 100 65 100 100
2014 - T4 - T6 - T4 - T6		Sheet Sheet Extrusion Extrusion	24.5 34.5 - 38.0 23.0 - 25.0 37.0 - 43.5	38.5 42.0 - 44.0 37.0 - 39.0 43.5 - 48.0	13 - 14 6 - 9 10 6	115 135 115 135
2011 - T3 - T6		Extrusion Extrusion	23.0 - 25.5 19.5 - 22.5	29.5 - 31.0 29.5 - 31.0	6 8	95 100

DESIGNATION

NON-HEAT TREATED ALLOYS

M - As manufactured
O - Soft
H2 - Quarter Hard
H3 - Quarter Hard

H4 - Half Hard
H6 - Half Hard
H8 - Fully Hard

TB - Solution treated and naturally aged
TE - Precipitation treated
TF - Solution and precipitation treated
TD - Solution treated, cold worked and naturally aged



General Characteristics

Cold Forming	Machining	Durability	Inert Gas Shielded Arc (MIG or TIG)	Resistance (Spot, Seam, Flash, Stud)	General Description
E V	F	E	E	G	99.8% Purity. Very malleable Excellent corrosion resistance.
V F	F G	V	E	V	99.5% Purity. Malleable Good corrosion resistance.
V	F	V	E	V	Electrical Purity. Very good conductivity.
E V F E F	F F G F G	V	E	V	99% Purity. Commercial grade, normally the cheapest form, used where strength is not important.
V	F	V	E	E	Slightly stronger than pure aluminium, other properties similar.
V V G G V	G G G V G	V	V	E	Medium strength alloy, work hardens rapidly. Resistant to marine atmosphere.
G	G	V	V	V	Architectural anodising quality.
G G F	E E E	V V F	E	E	Higher strength than 5251 while retaining corrosion resistance.
E V G F F	G G G V V	G V G G G	V	V	Medium strength alloy for architectural extrusions. Very good for complicated shapes, corrosion resistance and anodising.
G	V	G	V	V	Medium strength with good electrical conductivity.
G F G F F	V E V E E	V G V G G	V	V	Structural alloy with good strength and corrosion resistance.
G F G F	E	P	N	E	High strength alloy, low corrosion resistance.
F	E	P	N	N	Free-cutting alloy for use in automatic lathes.

MATERIALS ARE GRADED THUS:

E	- Excellent
V	- Very Good
G	- Good

F	- Fair
P	- Poor
N	- Not recommended

