ALUMINIUM SUMMARY OF GRADES

GRADE & TEMPERING	CHEMICAL COMPOSITION LIMITS %											MECHANICAL PROPERTIES						DESCRIPTION & TYPICAL APPLICATIONS
		AL %	Si %	Fe %	Cu	Mn	Mg	Cr	Zn	Ti	Others	Thickness mm	Tensile Strength >25mm Mpa Min	Yield Strength >25mm Mpa Min.	Elongation A5 min. %	*Corrosion Resistance	*Machining	
2011-T4	Min	REM	-	-	5.0	-	-	-	-	-	See Note	Round ALL	275	125	14	D,D	A,A	Free machining aluminium alloy due to the additions of lead and bismuth. Applications requiring high machining such as gears, machine parts and screw machining products not requiring decorative finishings.
	Max	-	0.40	0.70	6.00	-	-	-	0.30	-	-							
5083-H112	Min	REM	-	-	-	0.40	4.0	0.05	-	-	-	Round 6-40	275	125	10	A,C	C,B	Highest strength alloy among non-heat treatable alloys. Good resistance to corrosion. Used in shipbuilding, drilling rigs, general engineering and transport industries.Should not be used temperatures above 65C.
	Max	-	0.40	0.40	0.10	1.00	4.9	0.25	0.25	0.15	-	Plate 40-75	270	115	10	A,C	C,B	
6061-T6	Min	REM	0.40	-	0.15	-	0.80	0.04	-	-	-	Round ALL	260	240	8	B,B	B,C	6061 is heat treatable, structural alloy with medium strength and extrudability. It is easily weldable and has good corrosion resistance.
	Max	-	0.80	0.70	0.50	0.15	1.20	0.35	0.25	0.15	-							
7075-T6	Min	REM	-	-	1.2	-	2.1	0.18	5.1	-	-	Round ALL	77 Ksi	66Ksi	7	C,C	D,B	Highest strength in heat treatable alloys due to tight micro-structural control. Adequate machinability and improved stress corrosion control. Used for highly stressed structural parts & is excellent for drop drilling, good tool wear and differientiated thread rolling.
	Max.	-	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	-							

Note:
2011 others Bi 0.20 – 0.60% Pb 0.20 – 0.60%
Relative ratings in decreasing order of merit = A B C D (Where A=Highest). Two ratings e.g. AC are for annealed & hardest tempers.
Grades are stocked with differing tempering – Used as examples only for Mechanical Properties.

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