

Mechanical Properties & Chemical Composition of Alloy AA6063, AA6061 & AA6082 in temper T5 & T6

International Standard Compliance

Extrusion Dimension Tolerance: BS EN 755 Series, DIN 1748, DIN 17615, ASTM B221

Chemical Composition

	Alloy AA 6063	Alloy AA 6061	Alloy AA 6082
% Mg	0.45-0.90	0.80-1.20	0.62-0.70
% Si	0.20-0.60	0.40-0.80	0.95-1.05
% Cr	0.10	0.04-0.35	0.02
% Zn	0.10	0.25	0.02
% Fe	0.35	0.70	0.16-0.22
% Cu	0.10	0.15-0.40	0.03
% Mn	0.10	0.15	0.50-0.57
% Ti	0.10	0.15	0.02
Other impurities	0.05	0.05	0.02
Aluminium	REMAINDER	REMAINDER	REMAINDER

Mechanical Properties

	Alloy 6063		Alloy 6061		Alloy 6082	
	T5	T6	T5	T6	T5	T6
Ult. Tensile Strength	150	185	190	280	290	310
0.2% Proof stress	110	160	115	240	270	285
Hardness (Brinel)	55	75	60	90	70	95
Ult. Shear Strength	155		205		211	
Elongation on 50mm	8		8		10	
Density	3		3		3	
Melting Range	600-650		580-650		580-650	
Coefficient on Linear Expansion	23		24		24	
Modules of Elasticity	67000		69000		69000	
Fatigue Strength (50x10 6)	75		95		101	

TEMPER

T4 : Solution heat treatment & naturally aged to a substantially stable condition

T5 : Cooled from an elevated temperature Shaping process and then artificially aged hardened.

T6 : Solution heat treatment and age hardened.

FIRE RATING :

Aluminium Alloys non “combustible” and rated AA (the highest possible under the classification system - BS 476: Part 6.

EXTRUSION PRESS SIZES

1. 20 MN Press Billet diameter 203 mm (8)inches

MAXIMUM SIZE OF PROFILE

Solid : 240 mm CCD (Circumscribing Circle diameter)

Hollow : 200 mm CCD (Circumscribing Circle diameter)

ALLOY CHARACTERISTIC

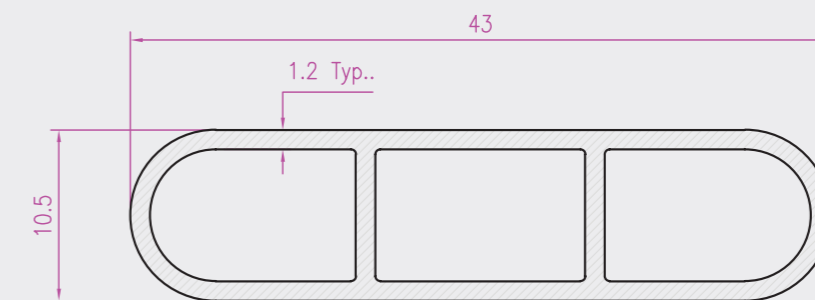
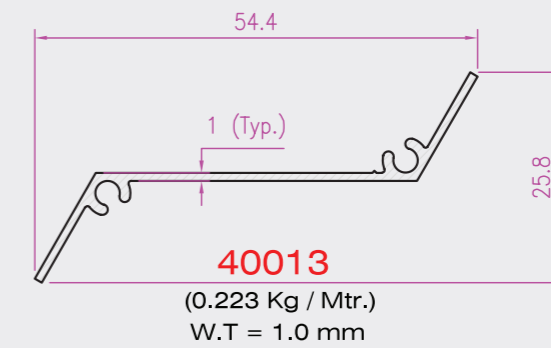
AA 6063 : The most popular extrusion alloy , takes a good surface finish, is corrosion resistant and can be heat treated or strength.

AA 6061: Most versatile alloy of heat treatable group is an improved magnesium silicide alloy with the ability to develop strength somewhat higher used in transportation & structural applications than 6063 alloy - good corrosion resistant –used in transportation and structural applications.

AA 6082: Similarly this alloy has good tensile strength having good extrudability; widely chosen for Auto mobile profiles structures with complex sections,

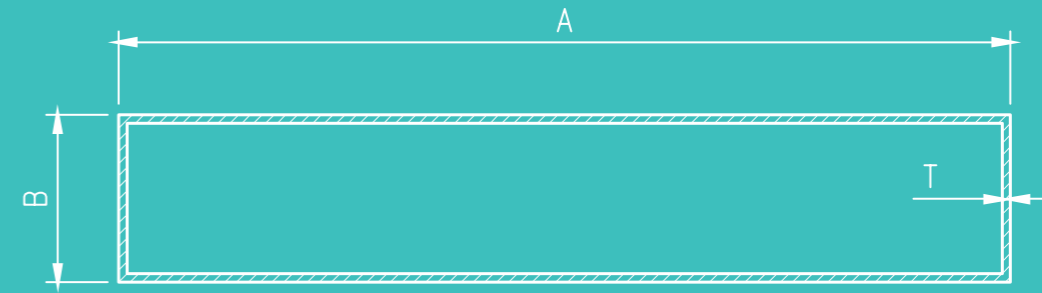
MISCELLANIES PROFILES

MISCELLANIES PROFILES



STANDARD RECTANGULAR TUBES

STANDARD RECTANGULAR TUBE



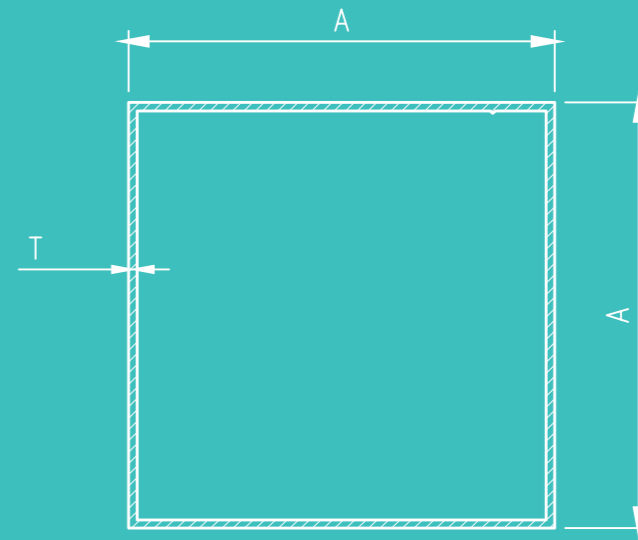
SL.NO	PROFILE NO.	A (mm)	B (mm)	T (mm)	Kg/mtr.
1	30305	220.0	50.0	1.9	2.873
2	30306	200.0	50.0	1.9	2.657
3	30301	100.0	40.0	2.0	1.469
4	30320	80.0	40.0	0.9	0.574
5	30303	80.0	15.0	0.75	0.379
6	30304	78.0	38.0	0.90	0.555



NOTE : NEW SECTIONS ARE ADDED DAY BY DAY. PLEASE CHECK & CONFIRM AVAILABILITY FOR SECTIONS OTHER THAN GIVEN ABOVE

STANDARD SQUARE TUBES

STANDARD SQUARE TUBES



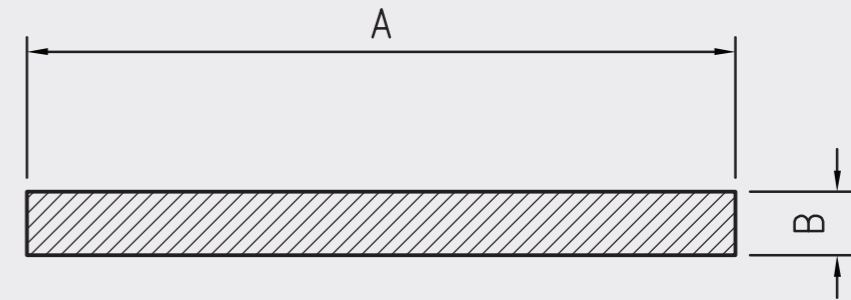
SL.NO	PROFILE NO.	A (mm)	T (mm)	Kg/mtr.
1	30003	50.0	1.8	0.937
2	30004	40.0	1.8	0.743
3	30001	40.0	0.8	0.339
4	30002	20.0	1.3	0.263



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STANDARD FLAT BAR

STANDARD FLAT

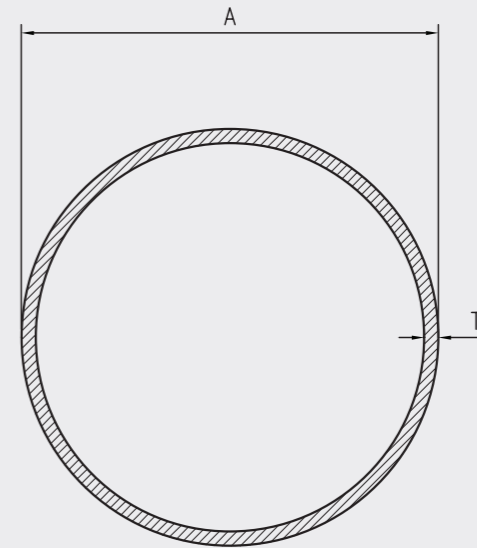


SL.NO	PROFILE NO.	A (mm)	B (mm)	Kg/mtr.
1	10301	150.0	6.0	2.430
2	10309	40.0	4.0	0.432
3	10302	25.0	3.0	0.203
4	10311	20.0	4.0	0.216
5	10303	20.0	3.0	0.162
6	10310	20.0	2.0	0.108

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STANDARD ROUND TUBES

ROUND TUBES



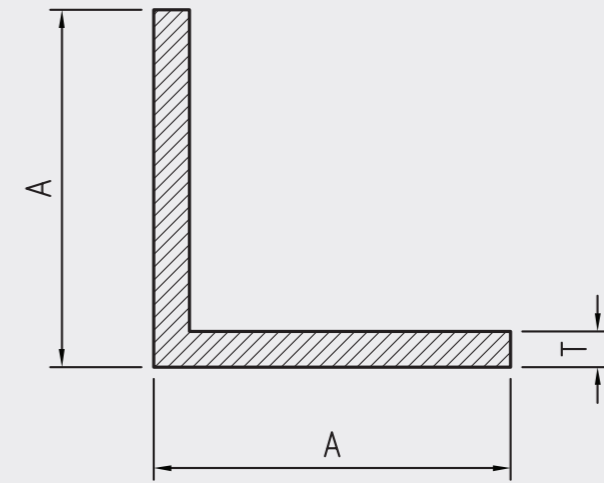
SL.NO	PROFILE NO.	A (mm)	B (mm)	Kg/mtr.
1	20003	88	2.5	1.813
2	20002	60.0	2.5	1.219
2	20001	50.0	1.7	0.696



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STANDARD EQUAL ANGLES

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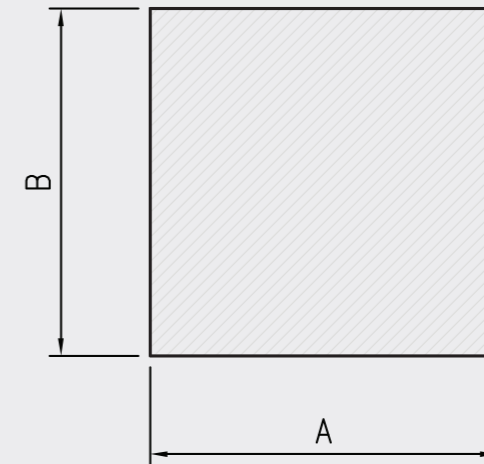


SL.NO	PROFILE NO.	A (mm)	T (mm)	Kg/mtr.
1	10701	40.0	4.0	0.821
2	10702	40.0	3.0	0.624
3	10703	30.0	3.0	0.462
4	10704	30.0	2.5	0.388

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STANDARD SQUARE BAR

STANDARD SQUARE BAR



SL.NO	PROFILE NO.	A (mm)	T (mm)	Kg/mtr.
4	1000	8.0	8.0	0.173



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