

M/s 7 star aluminium

TEMPER DESIGNATION TABLE

INDIA OR U.K	U.S.A. OR CANADA	Description of designation
O	O	Annealed
M	F	As fabricated , as manufactured or as cost
-	T3	Solution heat- treated , and cold worked
W	T4	Solution heat-treated,naturally aged and amenable to artificial ageing
P	T5	Artificially aged or Precipitation heat – treated
WP	T6	Solution heat-treated & precipitation heat-treated
	H-21 H-1	Strain hardened to specified strength
	H-22 H-32	¼ Hard stabilized
	H-24 H-34	½ Hard stabilized
	H-26 H-36	¾ Hard stabilized
	H-28 H-38	Fully hard , stabilized

ALUMINIUM ALLOY SPECIFICATION & SELECTION

ALLOY IS		Condi tion	0.2% proof stress	Ultim ate tensil e stren gth kgf/ mm ² mini mum	Elong ate % on 50m m mini mum	Typ ical bri nell har dne ss	Typical Application & properties
Specification OLD	NEW						
E1B	19500	M	-	6.5	23	18	Used in electrical conductors ,bus bars, rectangular and tubular connectors and high electrical conductivity applications.
E1C	19000	M	-	6.5	20	20	Used where formability is a major requirement and strength and stiffness are not. Used in chemical processing equipments, refrigeration and accessories for electrical conductors
E91E	63401	WP	16.5	20.5	7	-	Good for high strength, electrical bus bars, fittings conductors etc.
NE-3	31000	M	-	-	-	-	Jute bobbins & other specific applications.
HE-9	63400	M W WP	- 8 15.5	11 14 19	13 17 7	- 45 62	The best general properties, architectural sections such as window & door frames, curtain walling, hand rail wall facing ,trimmings & moulding, window sections in transport , irrigation tubing etc, anodizing finish in goods.
HE-15	24345	W WP	23.5 42.5	39.5 49.0	10 6.0		Aircraft , structures , truck frames etc. requiring very high strength, heat treatable, workability & corrosion resistance fair, weldability good for arc & resistance welding.
HE-20	65032	M W WP	- 11 23.5	11.0 19 28.5	12 14 7	- 60 90	General structural & architectural applications such as railings supports transportation components, etc. where both surface finish & strength are important can be anodized
HE-30	64430	M W WP	- 11 25	11 19 30	- 60 95	- 60 95	Structural applications of all kinds such as road and rail transport and vehicle bridges, cranes, roof towers, marine applications, rivets etc. good wear resistance & machinability

CHEMICAL COMPOSITION OF ALUMINIUM ALLOYS

New	US(A A)	Aluminium	Cop per	Magnes ium	Silico n	Iro n	Mangane se	Zin c	Ti. And/or grain- refineleme nts	Chromiu m
19000	1100	99.0 min	0.1	-	0.5	0.6	0.1	-	-	-
19500	1050	99.5 min	0.05	-	0.3	0.4	0.05	-	-	-
24345	2014	Remainder	3.8- 5.0	0.2-0.8	0.5-1. 2	0.7	0.3-1.2	0.2	*0.3	*0.3
3100	3003	Remainder	0.1	0.1	0.6	0.7	0.8-1.5	0.2	0.2	0.2
52000	5052	Remainder	0.1	1.7-2.6	0.6	0.5	0.5	0.2	0.2	0.25
53000	5086	Remainder	0.1	2.8-4.0	0.6	0.5	0.5	0.2	0.2	0.25
55000	5556	Remainder	0.1	4.5-5.5	0.6	0.7	1.5	0.2	0.2	0.25
63400	6063	Remainder	0.1	0.4-0.9	0.3-0. 7	0.6	0.3	0.2	0.2	0.1
64430	6351	Remainder	0.1	0.4-1.2	0.6-1. 3	0.6	0.4-1.0	0.1	0.2	0.25
65032	8061	Remainder	0.15 -0.4	0.7-1.2	0.4-0. 8	0.7	0.2-08 Min or cr	0.2	0.2	0.15-0.3 5

NOTE 1. Titanium and /or other grain refining elements and/or chromium may be present at the option or the supplied provided the total content does not exceed 0.3 percent.

2. composition limits are in percent maximum unless shown otherwise.

ALLOY EQUIVALENTS TABLE

(IS) India (New)	(BS)U.K.)(IS Old)	(AA) U.S.A.	ALCAN Canada	(DIN) Germany	ASTM	(JIS)Japan	(AFNOR) France	U.S.S.R.
19500	E IB	1050	IS	A1 99.5	99.6A	-	A-5	-
19000	E 1C	1100	2S	A1 99.0	99.0A	Al -3	A-4	A-2
-	E 1E	EC	CIS	E-Al 99.5	EC	Al -1	-	-
63401	E91E	6101	D50S	-	GS 10B		-	-
31000	NE 3	3003	3S	A1 MN	-	-	3003 (NP)	-
52000	NE 4	5052	M57S	A1 MG2	GR 20A	A2-Si	A-G3	AM
53000	NE 5	5086	54S	A1 MG 3.5	GM40A	-	-	-
55000	NE 6	5556	A56S	A1MG5	-	-	-	-
63400	HE 9	6063	50S	A1 MG Si 0.5	GS 10A	A2-S5	A-SC	-
62400	HE 10	6051	C51S	A1MG Si I	-	-	-	-
24345	HE 15	2014	20S	A1CU MG. SI	CS 41A	A3-SI	AU4SG	AK3
65032	HE 20	8061	65S	A1 MG Si Cu	GS 11A	A2-S4	-	-
64430	HE 30	6351	B 518	A1 Mg Si I	-	-	6081(NP)	-

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