

1° PART*

TECHNICAL DATA SHEET OF ALLOY 6060 AND ALUMINIUM PROFILE.												
6060 T5 9006/1 EX UNI 3569												
Correspondence to normative laws												
USA		Italy		Germany		-		France		Great Britain		Switzerland
A.A.		UNI		DIN		W.N.		Afnor		B.S.		S.N.
6060	9006/1 EX UNI 3569	AlMgSiO,5		3.3206		6060		6060		AlMgSi0.5		
Chemical composition												
Specification number						Impurity						
A.A.		Si	Fe	Cu	Mn	Mg	Cr	Zn	Zr	Ti	Each	Total
6060		0.3 0.6	0.1 0.3	0.10	0.10	0.35 0.6	0.05	0.15	-	0.10	0.05	0.15
Mechanical characteristics												
Specification number A.A.	Physical condition according to UNI 3565	Physical condition according to UNI 8278	Tensile strength at break Rm (N/mm)		Yield point Rp 0.2 N/mm²		Stretching to break point %			Hardness HB		
6060	R	O	140 max		80 max		20			40 max		
	TaN	T1	120		50		16			35		
	TaA	T5	185		145		11			55		
	TA	T6	205		165		10			60		

PHYSICAL PROPERTIES:

VOLUMIC MASS:		≈2,70 kg/dm ³
INFERIOR MELTING POINT:		≈605 °C
SPECIFIC HEAT:		≈0,92 J/(g · K)
THERMAL STATE CONDUCTIVITY 20°C:	STATE Ω	≈2,09 W/(cm · K)
	STATE T6	≈1,75 W/(cm · K)
THERMICAL LINEAR EXPANSION COEFFICIENT:	from 20° to 100° 23 · 10 ⁻⁶ · K ⁻¹	
	from 20° to 200° 24 · 10 ⁻⁶ · K ⁻¹	
	from 20° to 300° 25 · 10 ⁻⁶ · K ⁻¹	
RESISTIVITY AT 20°C	STATE Ω	≈3,14 μO · cm
	STATE T6	≈3,25 μO · cm
ELASTIC MODULUS:		≈66000 N/mm ²

HEAT TREATMENTS

T5 (standard)	Temper at the press following to artificial ageing from 170 to 185°C for 6 - 10 h to regime.
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TECHNOLOGICAL PROPRIETIES

PROCESSING AND BEHAVIOUR	SPECIFICATION	APPRAISAL
cold plastic forming	for states O,T1,T4	good
	for states T5,T6,T8 T10	scarce
weldability	with arc in inert gas (MIG e TIG) and with added metal in alloy Al-Si o Al-Mg	good
	electrical resistance	good
machinability	for states O T1,T4	redoubt
	for states T5,T6,T8 T10	from sufficient to good
polishibility	for states O T1,T4	sufficient
	for states T5,T6,T8 T10	good
corrosion proofness in environment	marine and industrial	good
	urban and rural	good
	internal and dry	optimal
aptitude at anodizing	as protection and decorative use	optimal

INERTIA MOMENTS AND STRENGTH

PROFILES	Jxcm ³	Jxcm ⁴	Wx ³	Wy ³	PROFILES	Jxcm ³	Jxcm ⁴	Wx ³	Wy ³
P120/10	1,93	1,93	1,29	1,29	P170/50	45,53	45,53	10,76	10,76
P120/18	1,28	1,28	0,91	0,91	P270/50	26,86	51,50	12,33	12,33
P220/18	0,80	2,16	0,67	0,67	P170/50bas	389,09	85,14	42,52	16,37
P130/25	4,10	4,10	1,90	1,90	Bas 40	7,87	9,07	3,75	4,53
P231/25	3,74	5,21	1,85	1,85	Bas 60	30,37	22,10	12,12	8,18
P232/25	4,54	4,54	3,26	3,26	Bas 80	94,78	88,80	23,69	22,20
P130/25bas	6,29	6,72	10,39	10,39	Bas 80/110	202,07	117,74	36,74	29,43
P140/20	8,90	8,90	3,54	3,54	Bas 100/40	79,80	17,91	15,96	8,95
P240/20	2,64	11,86	1,88	1,88	Bas 100/50	243,29	22,50	48,66	16,37
P242/20	2,15	9,50	1,75	1,75	Bas 150/50	241,19	31,66	32,16	10,92
P140/25	9,25	9,25	3,27	3,27	Bas 151/50	25,33	31,72	6,66	5,02
P240/25	3,97	14,25	2,87	2,87	S 1400/25I	8,15	8,15	3,05	3,05
P242/25	3,61	11,07	0	0	S 2400/25	3,97	14,25	2,87	2,87
P140/25bas	187,30	18,78	22,84	22,84	S 2401/25	3,51	11,07	0	0
P141/25	15,25	15,25	5,03	5,03	S 1400/35	9,11	9,11	3,40	3,40
P241/25	15,30	15,30	5,47	5,47	S 2400/35	8,36	13,60	3,48	3,40
P241/25bas	197,50	25,4	27,32	32,00	S 1500/25	14,01	14,01	4,80	4,80
P150/25	15,57	15,57	4,82	4,82	S 2500/25	4,55	20,18	2,76	2,76
P250/25	4,55	20,18	2,76	2,76	S 1501/45	17,05	17,05	5,10	5,10
P252/25	4,28	16,53	5,56	0	S 1700/50	43,53	43,53	9,80	9,80
P150/25bas	226,15	25,84	4,44	25,48	S 2700/50	26,86	51,50	12,33	12,33
P151/25	126,30	17,29	4,02	4,02	S 1700/50b.	389,09	85,14	42,52	16,37
P251/25	19,67	21,13	3,91	3,91	P160/45	40,05	40,05	9,60	9,60
P151/25bas	5,09	25,96	25,51	25,51	P160/45/IR	41,00	41,00	9,62	9,62
P150/45	19,83	19,83	5,67	5,67	P260/45	34,20	67,20	8,60	2,80
P250/45	17,53	23,16	5,97	5,97	P126	1,30	33,60	1,70	0
P252/45	16,24	22,57	0	0	P127	1,50	67,70	0,80	0,80
P151/45bas	16,47	30,97	5,15	30,02	P118	4,60	123,00	2,10	0
P170/25	45,16	45,16	22,54	22,54	P128	5,00	130,00	2,50	0
P170/25bas	379,53	84,59	16,26	41,47					
P270/25	6,11	39,82	7,24	4,73					