STANDARD / SPECIFICATION	NUMBER
ALUMINIUM AND ALUMINIUM ALLOY SHEETS.	GOST 21631-76
MASTER COPY	SUPERSEDES *
	SHT 1 OF 42

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* Supersedes GOST 12592-67, except points 5.3-5.9; GOST 13722-68, except points 5.3-5.11.

This standard covers sheets from aluminium of grades A7, A6, A5, A0, AD0, AD1 and from aluminium alloys of grades MM, D12, AMгз, AMгзS, AMг2, AMг3, AMг5, AMг6, AV, D1, D16, V95, V95-2 and VD1.

1. CLASSIFICATION.

1.1. Sheets are classified as follows:

a) as per method of manufacture:

uncladded from alloys of grades MM, D12, AMгз, AMгзS, AMг2, AMг3, AMг5, AMг6, AV and from aluminium of grades A7, A6, A5, A0, AD0, AD1 - denoted by alloy grade without any additional symbols;

cladded from alloys of grades AMг6 and D16 with technological cladding - B (AMг6B, D16B);

cladded from alloys of grades D1, D16, V95, V95-2, VD1 with normal cladding - A (D1A, D16A, V95A, V95-2A, VD1A);

cladded from alloys of grades AMг6 and D16 with thick cladding - U (AMг6U, D16U).

FOR HAL NO

APPROVED		12-1-80	MATL/SPECN.			
ENGINEER/ GP. INCHARGE		1	HEAT TREAT			
CHECKED		9.1.80	FINISH			
DRAWN				ISS. NO.	ISSD. BY	APPRD.

Note: By mutual agreement of both parties it is allowed to fabricate uncladded sheets from al. alloys of grade D16, in this case the mechanical properties, surface quality and rolling should correspond to the cladded sheets from alloy of grade D16 with tech. cladding;

b) as per material condition: without heat-treatment (no additional symbol is assigned) - A7, A6, A5, A0, AD0, AD1, AMг2, AMг2S, AMг3, AMг5, AMг6, AMг6B, AV, D16A, V95A, V95-2 and VD1;

Note: Sheets fabricated without heat treatment, may be subjected to annealing;

annealed (M) - A7M, A6M, A5M, A0M, AD1M, D12M, AMг2M, AMг2SM, AMг3M, AMг5M, AMг6M, AMг6BM, AMг6UM, AVM, D1AM, D16BM, D16AM, D16UM, V95AM, V95-2M and VD1AM;

Note: Annealed sheets may be supplied without heat treatment, if they meet the requirements covering annealed sheets as regards mechanical properties, surface quality and rolling;

semi-cold worked (1/2) - A7$\frac{1}{2}$N, A6$\frac{1}{2}$N, A5$\frac{1}{2}$N, A0$\frac{1}{2}$N, AD0$\frac{1}{2}$N, AD1$\frac{1}{2}$N, AMг2$\frac{1}{2}$N, AMг2S$\frac{1}{2}$N, D12$\frac{1}{2}$N, AMг6$\frac{1}{2}$N, AMг3$\frac{1}{2}$N;

cold worked (N) - A7N, A6N, A5N, A0N, AD0N, AD1N, AMг2N, AMг2SN, MMN, AMг6N and VD1AN;

hardened and naturally aged (T) - AVT, D1AT, D16BT, D16AT, D16UT, V95-2AT and VD1AT;

hardened and artificially aged (T1) - AVT1 and V95AT1;

cold worked after hardening and natural ageing (TN) - D16BTN, D16ATN;

c) as per quality of surface finish into groups:

superfine finish - I (A7, A6, A5, A0, AD0, AD1, $AM_{\Gamma}S$, AMg2);

fine finish - II (A7, A6, A5, A0, AD0, AD1, AM_{Γ}, $AM_{\Gamma}S$, MM, D12, AMg2, AMg3, AMg5, $AM_{\Gamma}6$, AMg6B, AMg6U, AV, D1A, D16B, D16A, D16U, V95A);

normal finish (without additional symbol) - A7, A6, A5, A0, AD0, AD1, $AM_{\Gamma}S$, MM, D12, AMg2, AMg3, AMg5, AMg6, AMg6B, AMg6U, AV, D1A, D16B, D16A, D16U, V95A, V95-2A and VD1A.

Note: Sheets of superfine finish group (I) are fabricated with thickness upto 4.0 mm;

d) as per manufacturing accuracy on thickness:

for high accuracy - P;

for normal accuracy - without additional symbol.

2. ASSORTMENT.

2.1. Thickness of sheets, tolerances depending on thickness and width of sheets and their manufacturing accuracy should correspond to the values given in table 1.

Notes:

1. With customer's approval, tolerances of non-heat treated sheets of thickness 5 mm and above from alloys of grades AMg3, AMg5 and AMg6 are established as ±5% of nominal thickness.

2. In case of manufacure of sheets with intermediate thicknessesthe tolerances on thickness of sheet for these dimensions is taken as for the nearest lesser dimension.

3. Theoretical weight of $1m^2$ sheet in kg. is given in reference appendix 2.

2.2. Sheets are manufactured with dimensions given in table 2, depending on alloy grade, cladding and material condition.

Table 1.

mm

Sheet thickness	Tolerances on thickness with sheet width equal to											
	600		800, 900		1000		1200		1400, 1425, 1500 1600		1800, 2000	
	High accuracy	Normal accuracy	High accuracy	Normal accuracy	High accuracy	Normal accuracy	High accuracy	Normal accuracy	High accuracy	Normal accuracy	High accuracy	Normal accuracy
1	2	3	4	5	6	7	8	9	10	11	12	13
0.3	-0.04	-0.05	-0.06	-0.08	-0.07	-0.10						
0.4	-0.04	-0.05	-0.06	-0.08	-0.08	-0.10	-0.10	-0.12				
0.5	-0.04	-0.05	-0.06	-0.08	-0.08	-0.10	-0.10	-0.12	-0.10	-0.12		
0.6	-0.05	-0.06	-0.08	-0.10	-0.10	-0.12	-0.10	-0.12	-0.11	-0.13		
0.7	-0.05	-0.06	-0.08	-0.10	-0.10	-0.12	-0.10	-0.12	-0.11	-0.13		
0.8	-0.06	-0.08	-0.10	-0.12	-0.10	-0.12	-0.12	-0.13	-0.12	-0.14	-0.14	-0.16
0.9	-0.06	-0.08	-0.10	-0.12	-0.10	-0.12	-0.12	-0.13	-0.12	-0.14	-0.14	-0.16
1.0	-0.08	-0.10	-0.12	-0.15	-0.12	-0.15	-0.14	-0.16	-0.15	-0.17	-0.16	-0.18
1.2	-0.08	-0.10	-0.12	-0.15	-0.12	-0.15	-0.14	-0.16	-0.15	-0.17	-0.18	-0.20
1.5	-0.10	-0.15	-0.14	-0.20	-0.14	-0.20	-0.18	-0.22	-0.20	-0.25	-0.24	-0.26
1.6	-0.10	-0.15	-0.14	-0.20	-0.14	-0.20	-0.18	-0.22	-0.22	-0.25	-0.24	-0.26
1.8	-0.10	-0.15	-0.16	-0.20	-0.16	-0.20	-0.20	-0.22	-0.22	-0.25	-0.24	-0.26
1.9	-0.10	-0.15	-0.16	-0.20	-0.16	-0.20	-0.20	-0.22	-0.22	-0.25	-0.24	-0.26
2.0	-0.10	-0.15	-0.16	-0.20	-0.16	-0.20	-0.20	-0.24	-0.24	-0.26	-0.25	-0.27
2.5	-0.12	-0.20	-0.18	-0.25	-0.18	-0.25	-0.22	-0.28	-0.26	-0.29	-0.28	-0.30

Contd. . . . .

mm.

1	2	3	4	5	6	7	8	9	10	11	12	13
3.0	-0.14	-0.25	-0.20	-0.30	-0.20	-0.30	-0.26	-0.30	-0.26	-0.34	-0.33	-0.35
3.5	-0.16	-0.25	-0.22	-0.30	-0.22	-0.30	-0.28	-0.32	-0.30	-0.35	-0.34	-0.36
4.0	-0.18	-0.25	-0.24	-0.30	-0.24	-0.30	-0.32	-0.35	-0.34	-0.36	-0.35	-0.37
4.5	-0.20	-0.25	-0.26	-0.30	-0.26	-0.30	-0.34	-0.35	-0.34	-0.36	-0.35	-0.37
5.0	-0.24	-0.30	-0.30	-0.35	-0.30	-0.35	-0.34	-0.36	-0.35	-0.37	-0.36	-0.38
5.5	-0.24	-0.30	-0.30	-0.35	-0.32	-0.35	-0.34	-0.36	-0.35	-0.37	-0.36	-0.38
6.0	-0.28	-0.30	-0.35	-0.40	-0.38	-0.40	-0.38	-0.41	-0.40	-0.42	-0.41	-0.43
6.5	-0.28	-0.30	-0.35	-0.40	-0.38	-0.40	-0.38	-0.41	-0.40	-0.42	-0.41	-0.43
7.0	-0.28	-0.30	-0.35	-0.40	-0.38	-0.40	-0.40	-0.42	-0.41	-0.43	-0.42	-0.44
7.5	-0.28	-0.30	-0.35	-0.40	-0.38	-0.40	-0.40	-0.42	-0.41	-0.43	-0.42	-0.44
8.0	-0.33	-0.35	-0.40	-0.45	-0.42	-0.45	-0.44	-0.46	-0.45	-0.47	-0.46	-0.48
8.5	-0.33	-0.35	-0.40	-0.45	-0.42	-0.45	-0.44	-0.46	-0.45	-0.47	-0.46	-0.48
9.0	-0.33	-0.35	-0.40	-0.45	-0.42	-0.45	-0.45	-0.47	-0.46	-0.48	-0.47	-0.49
9.5	-0.33	-0.35	-0.40	-0.45	-0.42	-0.45	-0.45	-0.47	-0.46	-0.48	-0.47	-0.49
10.0	-0.38	-0.40	-0.45	-0.50	-0.48	-0.50	-0.48	-0.50	-0.48	-0.50	-0.48	-0.50
10.5	-0.38	-0.40	-0.45	-0.50	-0.48	-0.50	-0.48	-0.50	-0.48	-0.50	-0.48	-0.50

Table 2.

mm

Material condition of sheets	Aluminium and aluminium alloy grade and cladding	Sheet thickness	Sheet width	Sheet length
1	2	3	4	5
Without heat-treatment	A7, A6, A5, A0		600, 800, 900, 1000	2000
	AD0, AD1		600, 800, 900	2000
	AD0, AD1, AMg3, AMg3S, AMg2, AMg3, AMg5, AMg6, AMg6B, AV, AD1, D16A, V95-2A, V91A	From 5.0 to 10.5	1000, 1200, 1400, 1500, 1600, 1800, 2000	From 2000 to 7000
	V95A		1000, 1200, 1425, 1500, 2000,	From 2000 to 7000
Annealed	A7, A6, A5, A0, AD0, AD1.	From 0.3 to 10.5	600, 800, 900, 1000	2000
	AD0, AD1, AMg3, AMg3S, AV, AMg2	From 0.5 to 4.0	1000, 1200, 1400, 1500, 1600.	From 2000 to 4000
		Above 4.0 to 10.5	1000, 1200, 1400, 1500, 1600, 1800, 2000	From 2000 to 7000
	AMg3, AMg5, AMg6, AMg6B	From 0.5 to 0.7	1000, 1200, 1400, 1500, 1600,	From 2000 to 4000
		Above 0.7 to 10.5	1000, 1200, 1400, 1500, 1600, 1800, 2000	From 900

Contd. ../-

1	2	3	4	5
Annealed	AM6OU	From 0.5 to 0.7	1000, 1200, 1400, 1500, 1600	From 2000 to 7000
		Above 0.7 to 5.5	1000, 1500, 1400, 1800 1600, 2000 1200.	
	D12	From 0.5 to 4.0	1200, 1500	From 3000 to 4000
	D1A, D16B, D16A	From 0.5 to 0.7	1000, 1200, 1400, 1500, 1600	From 2000 to 4000
		Above 0.7 to 4.0	1000, 1200, 1400, 1500, 1600, 1800, 2000	From 2000 to 7000
		Above 4.0 to 10.5		From 2000 to 7000
	D16U	From 0.5 to 0.7	1200, 1500	From 2000 to 4000
		Above 0. to 4.0		From 2000 to 7000
	V95A	From 0.5 to 0.7	1000, 1200, 1425, 1500	From 2000 to 4000
		Above 0.7 to 4.0	1000, 1200, 1425, 1500, 2000.	From 2000 to 7000
		Above 4.0 to 10.5		From 2000 to 7000

contd. . .

1	2	3	4	5
Annealed	V95-2A	From 1.0 to 10.5	1200, 1400, 1500	From 2000 to 7000
	VD1A	From 0.8 to 10.5	1000, 1200, 1400, 1500, 1600, 1800, 2000	From 2000 to 7000
Semi-cold-worked	A7, A6, A5, A0, AD0, AD1.	From 0.8 to 4.5	1000, 1200, 1400, 1500.	From 2000 to 4000
	AMr3, AMg2S, AMg2, AMg3	From 0.5 to 0.7	1000, 1200, 1400, 1500, 1600.	From 2000 to 7000
		Above 0.7 to 4.0	1000, 1200, 1400, 1500, 1600, 1800, 2000	From 2000 to 7000
		Above 4.0 to 10.5	1000, 1200, 1400, 1500, 1600, 1800, 2000	From 2000 to 4000
	D12	From 0.5 to 4.0	1200, 1500	From 3000 to 4000
Cold-worked	A7, A6, A5, A0, AD0, AD1.	From 0.3 to 10.5	600, 800 900, 1000	2000
	AD0, AD1	From 0.5 to 4.5	1000, 1200, 1400, 1500, 1600, 1800, 2000	From 2000 to 4000
		Above 4.5 to 10.5		From 2000 to 7000
	MM	From 1.0 to 4.5	1000, 1200, 1400, 1500.	From 2000 to 4000

1	2	3	4	5
Cold-worked.	АМгS, АМгБS, АМг2	From 0.5 to 0.7	1000, 1200, 1400, 1500 1600, 1800, 2000	From 2000 to 7000
		Above 0.7 to 4.0	1000, 1200, 1400, 1500, 1600, 1800, 2000	From 2000 to 7000
		Above 4.0 to 10.5	1000, 1200, 1400, 1500, 1600, 1800, 2000	From 2000 to 4000
	VD1A	From 0.8 to 10.5	1000, 1200, 1500.	From 2000 to 7000
Hardened and naturally aged.	AV, D1A, D16B, D16A.	From 0.5 to 0.7	1000, 1200, 1400, 1500, 1600	From 2000 to 5000
		Above 0.7 to 10.5	1000, 1200, 1400, 1500, 1600, 1800, 2000	From 2000 to 7200
	D16U	From 0.5 to 4.0	1200, 1500	From 2000 to 7200
	V95-2A, VD1A	From 0.8 to 10.5	1000, 1200, 1500, 1600, 1800, 2000	From 2000 to 7000
Hardened and artificially aged.	AV	From 0.5 to 0.7	1000, 1200, 1400, 1500, 1600	From 2000 to 5000
		Above 0.7 to 10.5	1000, 1200, 1400, 1500, 1600, 1800, 2000	From 2000 to 7000

1	2	3	4	5
Hardened and artificially aged.	V95A	From 0.5 to 0.7	1000, 1200, 1420, 1500, 2000	From 2000 to 4000
		Above 0.7 to 4.0	1000, 1200, 1420, 1500, 2000	From 2000 to 7200
		Above 4.0 to 10.5	1000, 1200, 1420, 1500, 2000	From 2000 to 7200
Cold-worked after hardening and natural ageing.	D16B and D16A	From 1.5 to 7.5	1000, 1200, 1400, 1500	From 2000 to 7200

Note: With mutual approval of manufacturer and customer it is allowed to fabricate sheets of dimensions not given in table 2.

2.3. Tolerances on width of sheets depending on their thickness should correspond to the values given in table 3.

Table 3

Sheet thickness	Sheet width	Tolerances on width
Upto 5.0	Upto 1000	+8.0
	Above 1000	+10.0
Above 5.0	Upto 1000	+12.0
	Above 1000	+15.0

2.4. Sheets are supplied with uniform or short uniform length within the limits of length values given in table 2 with interval of 500 mm.

Tolerances on length of sheets, depending on their thickness, should correspond to the values given in table 4.

Table 4.

mm

Sheet thickness	Sheet length	Tolerances on length
From 0.3 to 3.5	From 2000 to 7200	+25
Above 3.5 to 10.5		+30

Note: It is allowed to supply sheets with length above 4000mm without trimming of edges having higher (in comparison to nominal values) values of width : if thickness is upto 4.0 mm - not more than 25 mm, if thickness is above 4.5 mm - 40 mm.

2.5. 10% sheets of a batch having negative tolerances from nominal dimensions as regards width and length not exceeding 10% is allowed. On customer's request, indicated in the order, supply of sheets with negative tolerances from nominal dimensions may not be permitted.

2.6. In case of absence of directions as regards manufacturing accuracy and group of finish, sheets are fabricated with normal accuracy and normal finish.

Method of calling:

Sheet from alloy of grade AD1, without heat treatment, with normal surface finish, with normal manufacturing accuracy, with thickness 5 mm, width 1000 mm, length 2000 mm:

Sheet AD1-5x1000x2000 GOST 21631-76;

-do- , annealed, thickness 5 mm, width 1000 mm, length 2000

Sheet ADIM - 5x1000x2000 GOST 21631-76;

-do- , semicold - worked, high surface finish, normal manufacturing accuracy:

sheet AD1 $\frac{1}{2}$N-II- 5x1000x2000 GOST 21631-76;

-do- , cold worked with high surface finish, high manufacturing accuracy:

Sheet ADIN - II- P-5x1000x2000 GOST 21631-76.

3. TECHNICAL REQUIREMENTS.

3.1. Chemical composition of sheets from aluminium of grades A7, A6, A5, A0 should correspond to the requirements of GOST 11069-74, and the chemical composition of sheets from aluminium of grades AD0, AD1 and aluminium alloys should correspond to the requirements of GOST 4784-74, chemical composition of sheets from aluminium alloys of grades V95A2 and VD1 should correspond to the requirements of GOST 1131-67.

With mutual approval of manufacturer and customer, it is allowed to fabricate sheets from aluminium of other grades having superfine and tech. finish as per GOST 11069-74.

3.2. For cladding of sheets, depending on the alloy grade, aluminium having chemical composition given in table 5 is used.

Table 5a

Grade of alloy to be cladded.	Chemical composition of cladding material, in %										
	Alloy elements.		Admixtures, maximum								
	Aluminium	Zinc	Iron	Silicon	Copper	Manganese	Zinc	Titanium	Magnesium	Other admixtures Each separately.	Other admixtures Sum total	Sum total of permissible admixtures.
D1A D16, D16B, D16U, AMg6B, AMg6U	Minimum 99.30		0.30	0.30	0.02	0.025	0.1	0.15	0.05	0.02	-	0.70
V95A	Basic component	0.9-1.3	0.3	0.3	-	0.025		0.15		0.05	0.1	

3.3. Thickness of cladding layer on each side of sheet, depending on sheet thickness, should correspond to the values given in table 6.

Table 6.

Sheet thickness, in mm.	Thickness of cladding layer on each side of sheet from nominal sheet thickness, in %, when cladded as follows		
	Technological	Normal	Thick
	Maximum	Minimum	
From 0.5 to 1.9	1.5	4.0	8.0
Above 1.9 to 4.0	1.5	2.0	4.0
Above 4.0 to 10.5	1.5	2.0	-

Note: Thickness of thick cladding for sheets from alloy AMg6 should, on one side of the sheet, constitute not less than 4.0% from nominal sheet thickness.

3.4. Mechanical properties of specimens, cut from sheets in supply condition in the direction across rolling, should correspond to the requirements given in table 7.

Table 7.

Aluminium and aluminium alloy grade and cladding.	Material condition of sheets.	Designation of alloy and material condition.	Condition of test specimens.	Sheet thickness in mm.	Tensile properties.		
					Tensile strength σ_u, in kg/mm^2.	Yield point $\sigma_{0.2}$ kg/mm^2	Percentage elongation when $l = 11.3\sqrt{F}$, δ
					Minimum		
1	2	3	4	5	6	7	8
A7, A6, A5, A0, AD0, AD1.	Annealed	A7M, A6M, A5M, A0M, AD0M, AD1M.	Annealed	From 0.3 to 0.5	6.0	-	20.0
				Above 0.5 to 0.9	6.0	-	25.0
				Above 0.9 to 10.5	6.0	-	28.0
	Semi-cold worked.	A7½N, A6½N, A5½N, A0½N, AD0½N, AD1½N.	Semi-cold-worked.	From 0.8 to 4.5	10.0	-	6.0
	Cold-worked	A7N, A6N, A5N, A0N, AD0N, AD1N.	Cold-worked	From 0.3 to 0.8	15.0	-	3.0
				Above 0.8 to 3.5	15.0	-	4.0
				Above 3.5 to 10.5	13.0	-	5.0

Contd. Table 7

1	2	3	4	5	6	7	8
A7, A6, A5, A0, AD0, AD1	Without heat-treatment.	A7, A6, A5, A0, AD0, AD1.	Without heat-treatment.	From 5.0 to 10.5	7.0	-	15.0
	Annealed	AMTSM, AMTSSM	Annealed	From 0.5 to 0.7	9.0	-	18.0
				Above 0.7 to 3.0	9.0	-	22.0
				Above 3.0 to 10.5	9.0	-	20.0
	Semi-cold-worked.	AMTS $\frac{1}{2}$N	Semi cold-worked.	From 0.5 to 3.5	15.0	-	5.0
		AMTSS $\frac{1}{2}$N		Above 3.5 to 10.5	15.0		6.0
AMTS, AMTSS	Cold worked	AMTSN, AMTSSN	cold worked	0.5	19.0	-	1.0
				Above 0.5 to 0.8	19.0	-	2.0
				Above 0.8 to 1.2	19.0	-	3.0
				Above 1.2 to 10.5	19.0	-	4.0
	Without heat-treatment.	AMTS, AMTSS	Without heat treatment.	From 5.0 to 10.5	10.0	-	10.0
MM	Cold-worked	MM	Cold-worked	From 1.0 to 4.5	Not tested.		

Continued Table 7

1	2	3	4	5	6	7	8
D12	Annealed	D12M	Annealed	From 0.5 to 4.0	16.0	-	14.0
	Semi-cold-worked	D12 $\frac{1}{2}$N	Semi cold-worked	From 0.5 to 4.0	22.5	-	3.0
AMg2	Annealed	AMg2M	Annealed	From 0.5 to 1.0 Above 1.0 to 10.5	17.0 17.0	- -	16.0 18.0
	Semi cold-worked	AMg2 $\frac{1}{2}$N	Semi cold-worked	From 0.5 to 1.0 Above 1.0 to 5.0 Above 5.0 to 10.5	24.0 24.0 23.0	16.0 15.0 14.0	5.0 6.0 6.0
	Cold-worked	AMg2N	Cold worked	From 0.5 to 1.0 Above 1.0 to 10.5	27.0 27.0	22.0 22.0	3.0 4.0
	Without heat-treatment	AMg2	Without heat treatment	From 5.0 to 10.5	18.0	-	7.0
AMg3	Annealed	AMg3M	Annealed	From 0.5 to 0.6 Above 0.6 to 4.5 Above 4.5 to 10.5	20.0 20.0 19.0	9.0 10.0 8.0	15.0 15.0 15.0
	Semi cold-worked	AMg3 $\frac{1}{2}$N	Semi cold-worked	From 0.5 to 1.0 Above 1.0 to 5.0 Above 5.0 to 10.5	25.0 25.0 24.0	20.0 20.0 18.0	7.0 7.0 6.0

Continued Table 7

1	2	3	4	5	6	7	8
AMg3	Without heat-treatment	AMg3	Without heat-treatment	From 5.0 to 6.0	19.0	8.0	12.0
				Above 6.0 to 10.5	19.0	8.0	15.0
AMg5	Annealed	AMg5M	Annealed	From 0.5 to 0.6	28.0	14.0	15.0
				Above 0.6 to 4.5	28.0	15.0	15.0
				Above 4.5 to 10.5	28.0	13.0	15.0
	Without heat-treatment	AMg5	Without heat-treatment	From 5.0 to 6.0	28.0	13.0	12.0
				Above 6.0 to 10.5	28.0	13.0	15.0
AMg6B	Annealed	AMg6BM, AMg6M	Annealed	From 0.5 to 0.6	31.0	15.0	15.0
				Above 0.6 to 10.5	32.0	16.0	15.0
	Without heat-treatment	AMg6B, AMg6	Without heat-treatment	From 5.0 to 10.5	32.0	16.0	15.0
AMg6U	Annealed	AMg6UM	Annealed	From 2.0 to 5.5	28.0	13.0	15.0
AV	Annealed	AVM	Annealed	From 0.5 to 3.0	Maximum 15.0	-	20.0
				Above 3.0 to 10.5	Maximum 15.0	-	15.0
	Hardened and naturally aged	AVT	Hardened and naturally aged	From 0.5 to 0.6	20.0	-	18.0
				Above 0.6 to 3.0	20.0	-	20.0
				Above 3.0 to 5.0	20.0	-	18.0
				Above 5.0 to 10.5	18.0	-	16.0

Continued Table 7

1	2	3	4	5	6	7	8
AV	Hardened and artificially aged	AV1	Hardened and artificially aged	From 0.5 to 5.0 Above 5.0 to 10.5	30.0 30.0	- -	10.0 8.0
AV	Without heat-treatment	AV	Hardened and naturally aged.	From 5.0 to 10.5	18.0	-	14.0
			Hardened and artificially aged.	From 5.0 to 10.5	30.0	-	7.0
D1A	Annealed	D1AM	Annealed	From 0.5 to 1.9 Above 1.9 to 10.5	15.0-23.0 15.0-24.0	-	12.0 12.0
	Hardened and naturally aged.	D1AT	Hardened and naturally aged.	From 0.5 to 1.9 Above 1.9 to 10.5	37.0 38.0	19.0 20.0	15.0 15.0
	Without heat-treatment	D1A	Hardened and naturally aged	From 5.0 to 10.5	36.0	19.0	12.0
D16B	Annealed	D16BM	Annealed	From 0.5 to 10.5	15.0-24.0	-	10.0
	Hardened and naturally aged.	D16BT	Hardened and naturally aged.	From 0.5 to 1.5 Above 1.5 to 6.0 Above 6.0 to 10.5	45.0 45.0 45.0	29.5 29.5 29.5	13.0 11.0 10.0

Continued - Table 7

1	2	3	4	5	6	7	8
D16B	Cold-worked after hardening and natural ageing.	D16BTN	Cold-worked after hardening and natural ageing.	From 1.5 to 3.0 Above 3.0 to 7.5	48.5 48.5	36.5 36.5	10.0 8.0
D16A	Annealed	D16AM	Annealed	From 0.5 to 1.9 Above 1.9 to 10.5	15.0-23.0 15.0-24.0	- -	10.0 10.0
	Hardened and naturally aged.	D16AT	Hardened and naturally aged.	From 0.5 to 1.9 Above 1.9 to 6.0 Above 6.0 to 10.5	41.5 43.5 43.5	27.5 28.0 28.0	13.0 11.0 10.0
	Without heat-treatment.	D16	Hardened and naturally aged	From 5.0 to 10.5	42.0	26.0	10.0
	Cold-worked after hardening and natural ageing.	D16ATN	Cold-worked after hardening and natural ageing.	From 1.5 to 1.9 Above 1.9 to 7.5	43.5 46.5	34.0 35.0	10.0 8.0
D16U	Annealed	D16UM	Annealed	From 0.5 to 1.9 Above 1.9 to 4.0	13.0-23.0 13.0-24.0	- -	10.0 10.0
	Hardened and naturally aged.	D16UT	Hardened and naturally aged.	From 0.5 to 1.9 Above 1.9 to 4.0	37.0 41.5	23.5 27.5	13.0 13.0

Continued Table 7

1	2	3	4	5	6	7	8
V95A	Annealed	V95AH	Annealed	From 0.5 to 10.5	Maximum 25.0	-	10.0
	Hardened and artificially aged.	V95AT1	Hardened and artificially aged.	From 0.5 to 1.9 Above 1.9 to 6.0 Above 6.0 to 10.5	49.0 50.0 50.0	41.0 42.0 42.0	7.0 7.0 6.0
	Without heat-treatment	V95A	Hardened and artificially aged.	From 5.0 to 10.5	50.0	42.0	6.0
V95-2A	Annealed	V95-2AM	Annealed	From 1.0 to 10.5	Maximum 25.0	-	10.0
	Hardened and naturally aged.	V95-2AT	Hardened and naturally aged.	From 1.0 to 10.5	32.0	-	10.0
	Without Heat-treatment	V95-2A	Without Heat-treatment	From 5.0 to 10.5	32.0	-	10.0

Continued. Table 7

1	2	3	4	5	6	7	8
VD1A	Annealed	VD1AM	Annealed	From 0.8 to 10.5	Maximum 25.0	-	10.0
	Hardened and naturally aged.	VD1AT	Hardened and naturally aged.	From 0.8 to 10.5	34.0	-	12.0
	Cold worked	VD1N	Cold worked	From 0.8 to 10.5	Not tested.		
	Without heat-treatment.	VD1	Without heat-treatment.	From 5.0 to 10.5	34.0	-	12.0

Note: On customer's request annealed sheets from aluminium are fabricated with tensile strength of 11 kg/mm^2 maximum.

3.5. Mechanical properties of specimens, cut across the rolling direction from annealed sheets and then subjected to hardening and ageing, and also mechanical properties of specimens, cut across the rolling direction from hardened and aged sheets, which undergo rehardening and ageing at the customer plant, should meet the requirements given in table 8.

Table 8.

Alloy grade	Condition of test specimens	Sheet thickness, in mm.	Tensile properties.		
			Tensile strength σ_u, in kg/mm^2	Yield point $\sigma_{0.2}$, in kg/mm^2	Percentage elongation when $\ell = 11.3\sqrt{F_0}$
			Minimum		
D1A	Hardened and naturally aged	From 0.5 to 1.9	36.0	19.0	15.0
		Above 1.9 to 10.5	36.0	20.0	15.0
D16B	Hardened and naturally aged	From 0.5 to 1.5	43.5	28.0	13.0
		Above 1.5 to 6.0	43.5	28.0	11.0
		Above 6.0 to 10.5	43.5	28.0	10.0
D16A	Hardened and naturally aged	From 0.5 to 1.9	40.0	26.0	15.0
		Above 1.9 to 10.5	42.0	27.0	12.0
D16U	Hardened and naturally aged	From 0.5 to 1.9	35.5	22.5	13.0
		Above 1.9 to 4.0	40.0	26.0	13.0
V95A	Hardened and artificially aged	From 0.5 to 1.0	78.0	40.0	7.0
		Above 1.0 to 6.0	49.0	41.0	7.0
		Above 6.0 to 10.5	49.0	41.0	6.0
AV	Hardened and naturally aged	From 0.5 to 0.6	18.0	-	18.0
		Above 0.6 to 3.0	18.0	-	20.0
		Above 3.0 to 5.0	18.0	-	18.0
		Above 5.0 to 10.5	16.0	-	16.0
	Hardened and artificially aged	From 0.5 to 5.0	28.0	-	10.0
		Above 5.0 to 10.5	28.0	-	8.0

3.6. Sheets should be trimmed from all sides at right angles. The obliquity should not cause the sheets to exceed the tolerances as regards width and length.

Burrs and peeling-off are not allowed on the edges of the trimmed sheets.

3.7. Surface of sheets of all finish groups should be glossy or matt-finished without cracks, fissures, peeling-off, blisters, saltpeter deposit, spots of corrosive nature, diffusion spots (on sheets of thickness above 0,6 mm having normal and thick cladding), slag inclusions, cladding-removed portions (on sheets with normal and thick cladding) and also rolling spots, formed while hardening, and non-metallic inclusions of metallurgical origin, if they are eliminated during cleaning in 5-6% NaOH solution at 50°C for 1-3 minutes followed by brightening in 30% HNO_3 solution. Value of grain, to be determined by the surface finish of specimens subjected to complic-cast, exceeding that given in appendix 1 is not allowed on sheets from alloy of grade AMr5.

3.8. The following defects are not allowed on the front side of sheets of 1st group of surface finish: spots and stripes due to burnt lubricant, marks due to rolls in the form of bright and dark stripes and [illegible] tents.

Parameter of roughness of sheet surface should be Ra = 1.25 mkm. for base length 0,8 mm as per GOST 2789-73.

3.8.1. The following defects are not causes for rejection:

a) metallic fine laps with total area 20 mm^2 maximum per m^2 of surface of sheets having width upto 1200 mm inclusively and 50 mm^2 maximum per m^2 of surface of sheets having width above 1200 mm;

b) depressions due to cripping-off of laps;

c) blisters having total area 20 mm^2 maximum per m^2 of surface of sheet, size of each blister being 5 mm^2 maximum;

d) singular and clustered fine scratches of depth 0.02 mm maximum on sheets having width upto 1200 mm and 0.05 mm maximum on sheets having width above 1200 mm.

One cluster should not contain more than 5 scratches in a square of size 200x200 mm;

e) incision, with length of individual cut not more than 4 mm;

f) depressions in the form of fine dents or convexities;

g) singular ruptures due to bends on annealed sheets of thickness 0.5 - 0.8 mm, width 1000 mm and above when length is more than 4000 mm; and width 1500 mm and above when length is 4000 mm;

h) slightly warmout places of total area not exceeding 1% of sheet surface;

i) marks due to rolls in the form of individual "patches" (deposits of aluminium) of length 50 mm maximum and width 5 mm maximum with total area not exceeding 1% of sheet surface;

j) temper colour.

3.8.2. Surface of the opposite side of sheets of I group of finish should correspond to the requirements of II group of sheet finish.

3.9. On the front and opposite side of sheets of II group of finish in all conditions, except annealed, spots and stripes due to burnt lubricant are not allowed.

Parameter of roughness of sheet surface should be Ra = 2.5 mkm for base length 0.8 mm as per GOST 2789-73.

3.9.1. The following defects are not causes for rejection:

a) metallic fine laps with total area not exceeding 50 mm^2 per m^2 of sheet surface for aluminium and aluminium alloys of all grades excluding aluminium alloys of grades AMg3, AMg5, AMg6, for which laps with total area not exceeding 80 mm^2 per m^2 of sheet surface are allowed;

b) recesses due to chipping-off of laps;

c) air holes with area not exceeding 40 mm^2 per m^2 of sheet surface, the size of each air hole being 10 mm^2 maximum;

d) under surface air bubbles;

e) singular and clustered fine scratches;

f) inclusions and deposit of aluminium in the form of patches having length not exceeding 5 mm;

g) marks in the form of fine dents and convexities;

h) singular fractures due to bends in case of annealed and hardened sheets of thickness 0.5 - 0.8 mm, with width 1000 mm and above if length is above 4000 mm and with width 1500 mm and above if length is upto 4000 mm;

i) crosswise waviness to depth upto 0.2 mm, caused by vibration on cold worked sheets and on sheets from alloys of grades AMg5 and AMg6, fabricated without cladding;

j) slightly worn-out places with total area not exceeding 2% of sheet surface;

k) marks due to rolls in the form of individual "patches" (deposits of aluminium) of length not exceeding 50 mm, width not exceeding 5mm, with total area not exceeding 3% of sheet surface;

l) light traces of sheet warping due to hardening which cannot be felt by hand on hardened sheets of thickness 0.5-0.8 mm;

m) temper colour;

n) marks due to rolls on sheets from aluminium and aluminium alloy of grade AMr5 with total area not exceeding 5% of sheet surface;

o) marks due to rolls in the form of light and dark stripes without tears along the rolling;

p) spots and stripes due to emulsion, of total area not exceeding 3% of sheet surface;

q) crosswise streaks on hardened sheets, obtained by hardening the sheets in furnace having air circulation, and weak stains.

3.10. On the front and opposite side of sheets of normal finish in all material conditions, except annealed, spots and stripes due to burnt lubricant are not allowed.

3.10.1. The following defects are not causes for rejection: laps, recesses due to chipping-off of laps, air holes, singular and clustered scratches, minute incisions, and other defects, caused by the production method, having total area not exceeding 5% of sheet surface.

3.11. Depth of occurrence of the permissible defects listed in points 3.8.1, 3.9.1 and 3.10.1, should not exceed half the negative tolerance on sheet thickness and should not disrupt the cladding layer on sheets having thick and normal cladding.

3.11.1. On sheets from aluminium and aluminium alloys of grades D1, D16, V95, AV, AMg2, AMg3, AMg5, AMg6 of I and II groups of surface finish, depth of occurrence of permissible defects (listed in points 3.8.1 and 3.9.1.) should not lead the sheet beyond the tolerances on sheet thickness.

3.12. On sheets of I and II group of surface finish/separate cleaned portions of total area not exceeding 0.5% of sheet surface are allowed, and on sheets of normal finish - 1% of sheet surface, cleaned with emery paper on paper base having grain size not larger than No. 6 (GOST 6456-75) or with emery paper on cloth base having grain size not larger than No.6 (GOST 5009-73) are allowed to depth not exceeding half the thickness of cladding layer and for non-clodded sheets to depth not exceeding half the negative tolerance on sheet thickness.

3.13. Sheets without heat-treatment are fabricated, as regards surface quality, of II group and normal surface finish.

3.14. It is allowed to establish masters of surface quality of sheets by mutual agreement between manufacturer and customer.

3.15. Rolling quality of sheets from aluminium alloys of grades AV, D1A, D16B, D16N, D16U, V95A, V95-2A, VD1A, fabricated in annealed, hardened and aged conditions, should correspond to the requirements given in table 9.

3.15.1. Rolling quality of sheets from aluminium of all grades and aluminium alloys of grades AV, AMn, AMn2, MM, D12, AMg2, AMg3, AMg5, AMg6B, AMg6, AMg6U, V95-2A and VD1A in annealed, semi-cold worked and cold-worked conditions, should correspond to the requirements given in table 10.

3.15.2. Rolling quality of sheets from aluminium and aluminium alloys in annealed condition with thickness above 4.0 mm, fabricated by hot rolling method, and also without heat treatment should correspond to the data given in table 11.

4. ACCEPTANCE RULES.

4.1. Sheets are offered for acceptance in batches. A batch should consist of sheets of same grade of aluminium or aluminium alloy, same material condition and same dimensions.

Table 9.

mm

Sheet thickness	Sheet width	Sheet length	Non-planeness when the sheet is freely laid (each side) on plane of plate, maximum.	
			Along whole surface of sheet (including longer sides).	As regards short sides (including longer sides upto 300 mm from sheet corners).
From 0.5 to 1.5	Upto 1200	Upto 7200	14	20
	Above 1200 to 1600		16	20
Above 1.5 to 4.0	Upto 1200	Upto 7200	18	30
	Above 1200 to 1600		18	30
Above 4.0 to 10.5	Upto 1200	Upto 7200	20	40
	Above 1200 to 1600		22	40
From 0.8 to 2.0	Above 1600 to 2000	Upto 4000	20	40
		Above 4000 to 7200	23	45
Above 2.0 to 10.5	Above 1600 to 2000	Upto 4000	24	50
		Above 4000 to 7200	25	50

Weight of a batch is not restricted.

Note: If the batch consists of sheets of different charges of heat-treatment, each charge should be checked for conformity to the requirements of this standard.

4.2. Chemical composition of aluminium and aluminium alloys is done at manufacturing plant from each melt before machining the ingots.

4.3. Dimensions are checked on each tenth sheet.

4.4. Quality of surface and rolling of sheets is checked on each sheet.

Note: The manufacturing plant may carry out sheet-wise inspection of sheets of II group and normal finish.

4.5. The quantity of sheets, indicated in table 12 but not less than one sheet from each offered batch, are subjected to checking of tensile properties (tensile strength, yield point and percentage elongation) depending on the grade of aluminium alloy and material condition.

4.6. The mechanical properties of annealed sheets (except sheets from alloys AMg3, AMg5 and AMg6) and also sheets from alloys of grade D1 in hardened and naturally aged condition and sheets without heat-treatment are not checked by manufacturing plant.

Note: On customer's request the mechanical properties are determined in the amount, specified in table 12.

Table 10

mm

Sheet thickness	Sheet width	Sheet length	Non-planeness when the sheet is freely laid (each side) on plane of plate, maximum. along whole surface of sheet (including longer sides).	Non-planeness when the sheet is freely laid (each side) on plane of plate, maximum. as regards shorter sides (including longer sides up to 300 mm from sheet corners).
1	2	3	4	5
From 0.3 to 3.0	Upto 1000	Upto 2000	14	14
Above 3.0 to 6.0			18	18
Above 6.0 to 10.5			23	23
From 0.5 to 1.0	Above 1000 to 1200	Upto 4000	15	20
	Above 1200 to 1600		16	25
	Upto 1200	Above 4000 to 7000	20	25
	Above 1200 to 1600		35	45
Above 1.0 to 1.5	From 1000 to 1200	Upto 4000	20	25
	Above 1200 to 1600		25	30
	Upto 1200	Above 4000 to 7000	25	30
	Above 1200 to 1600		30	45

Contd. . . . /-

mm contd. Table 10

1	2	3	4	5
Above 1.5 to 3.0	From 1000 to 1200	Upto 4000	25	30
	Above 1200 to 1600		25	35
	Upto 1200	Above 4000 to 7000	25	30
	Above 1200 to 1600		25	40
Above 3.0 to 4.0	From 1000 to 1200	Upto 4000	25	40
	Above 1200 to 1600		25	40
	Upto 1200	Above 4000 to 7000	25	40
	Above 1200 to 1600		30	45
Above 4.0 to 6.0	From 1000 to 1200	Upto 4000	25	40
	Above 1200 to 1600		30	40
	Upto 1200	Above 4000 to 7000	25	40
	Above 1200 to 1600		30	45
From 6.0 to 10.5	From 1000 to 1200	Upto 4000	25	40
	Above 1200 to 1600		30	40
	Upto 1200	Above 4000 to 7000	25	40
	Above 1200 to 1600		30	45
Above 0.8 to 10.5	Above 1600 to 2000	Upto 4000	35	50
		Above 4000 to 7000	50	55

Table 11.

mm

Sheet thickness	Sheet width	Sheet length	Non-planeness when the sheet is freely laid (each side) on plane of plate, maximum.	
			Along whole surface of sheet (including longer sides).	As regards shorter sides (including longer sides upto 300 mm from sheet corners).
From 5.0 to 10.5	Upto 1200	Upto 7000	25	45
	Above 1200 to 1600		30	45
	Above 1600 to 2000		40	55

Note: Rolling quality of sheets from aluminium alloys of grades AM$_{G3}$, AM$_{G5}$, AM$_{G6}$, AM$_{G6B}$, to be supplied without heat-treatment, should meet the following requirements: non-planeness when the sheet is freely laid (each side) on plate plane may be 20 mm more than the norms, given in table 11.

4.7. Roll-wise testing of sheets (except hardened sheets) is allowed on 3 specimens, taken from each roll (at the start, centre and end of the roll).

4.8. Checking for exfoliations is done visually.

4.9. Checking for coarse-crystalline structure (size of grain) on sheets from alloy of grade AM$_{G5}$ is done on one specimen, subjected to tensile test, taken from each roll.

When the specimen is stretched its surface becomes slightly rougher, the permissible norm of roughness is determined by the master, specified in appendix 1 or it is set by mutual agreement between manufacturer and customer.

4.10. Sheets, which are heat-treated in saltpeter baths, are checked for presence of salt peter on the sheet surface.

1% sheets from a batch, but not less than one sheet, are taken for checking.

4.11. If unsatisfactory test results of mechanical properties are obtained even for one of the properties, repeated tests are done for the same on double quantity of specimens. If the results of repeated tests are unsatisfactory then piece-wise testing is allowed whose results are taken as final.

Table 12.

Grade of aluminium and aluminium alloy and cladding.	Material condition.	Quantity of sheets to be tested from a batch, in %, maximum	
		Tensile strength and percentage elongation,	Yield point,
1	2	3	4
AMg3, AMg5, AMg6, AMg6U, AMg6B.	Annealed	10	5
A7, A6, A5, A0, AD0, AD1, AMts, AMtsS, D12, AMg2	Semi cold-worked.	5	2
		5	5
AMg3			

contd ... Table 12

1	2	3	4
A7, A6, A5, A0, AD0, AD1	Cold-worked	1	-
AMg, AMgS, AMg2		5	
AV	Hardened and naturally aged.	5	
D16A, D16B		10	5
AV, V95A	Hardened and artificially aged	5	5
D16A, D16B	Cold-worked after hardening and natural ageing.	10	

5. TEST METHODS.

5.1. Examination of sheets is done without using optical devices.

5.2. The dimensions are measured with measuring instruments which ensure the required accuracy.

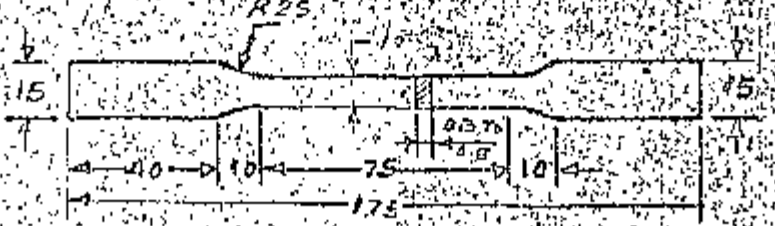
Measurement of sheet thickness is done at a distance of not less than 115 mm from the corners and not less than 25 mm from the sheet edges.

5.3. Chemical analysis of aluminium alloys is done as per GOST 11739-66 - GOST 11760-66, and for aluminium - as per GOST 12697-67 - GOST 12706-67.

5.4. Tensile testing of sheets is done as per GOST 1497-73 on one specimen from each sheet to be checked.

Specimen for tensile tests is cut from the test sheet across the rolling direction.

Shape and dimensions of specimens, cut for tensile tests from sheets of thickness 0.3-0.8 mm, should correspond to the figure.



5.5. Non-planeness of sheets is determined on all 4 edges by measuring the distance from checking plate to bottom surface of sheet.

Convexity of sheet (height and length of ellenning) is determined as per method adopted by manufacturing plant.

5.6. For checking presence of salt peter, a drop of solution of 0.5% diphenylamine in concentrated sulphuric acid (10 cm^3 distilled water and 25 cm^3 sulphuric acid, density 1.84 gm/cm^3 are added to 0.5 gm. diphenylamine) is applied on the sheet surface.

After dissolution of diphenylamine, the volume of solution is brought upto 100 cm^3 by adding sulphuric acid.

Intensive blue colour of the drop of solution after 10-15 secs. indicates the presence of salt peter at that place.

After the test the drop of solution is removed with filter paper, and the tested portion is thoroughly washed with water and then rubbed dry.

If traces of salt peter are detected the batch of sheets is rewashed and retested for presence of salt peter on the sheet surface.

6. MARKING, PACKING, TRANSPORTATION AND STORAGE.

6.1. On the reverse side of the sheet, at one of the corners at a distance of not more than 30 mm from the edge (as regards sheet width), the following details should be stamped or inscribed with paint :

grade of aluminium or aluminium alloy, cladding, material condition, sheet thickness and batch No.

Note: On customer's request it is allowed to supply the sheets without stamping.

6.2. By mutual agreement between manufacturer and customer, on one side of sheet surface instead of stamping it is allowed to inscribe short line marking indicating the grade of aluminium or aluminium alloy, cladding, material condition and sheet thickness with intervals between the lines not exceeding 250 mm. Quick-drying paints are used for marking the sheets.

6.3. Conservation, packing, marking of tare and transportation are done in accordance with GOST 9.011-73.

Note: In order to avoid wear and tear of sheets they are wrapped from one side with adhesive paper, in this case conservation and interlaying of greased paper between the sheets are not done.

The adhesive paper is prepared by application of polyisobutyl or rubber (4508) glue on paper.

The following types of paper are used: telephone paper (GOST 3553-73), electroinsulating winding paper (GOST 1931-75) and cable paper (GOST 645-67).

The rubber or polyisobuty glue is a solution of rubber compound or polyisobutyl, colophony (GOST 19113-73), dry zinc white (GOST 202-62), ceresin (GOST 2488-73), industrial oil (GOST 20799-75) in benzine - solvent used in rubber industry (GOST 443-56).

6.4. Each batch of sheets should be furnished with a document, which certifies the conformity of the sheets to the requirements of this standard. The document should contain:

a) name of manufacturing plant;

b) name of customer;

c) method of calling;

d) batch No.;

e) net weight of batch;

f) test results (for mechanical properties only maximum and minimum values are indicated);

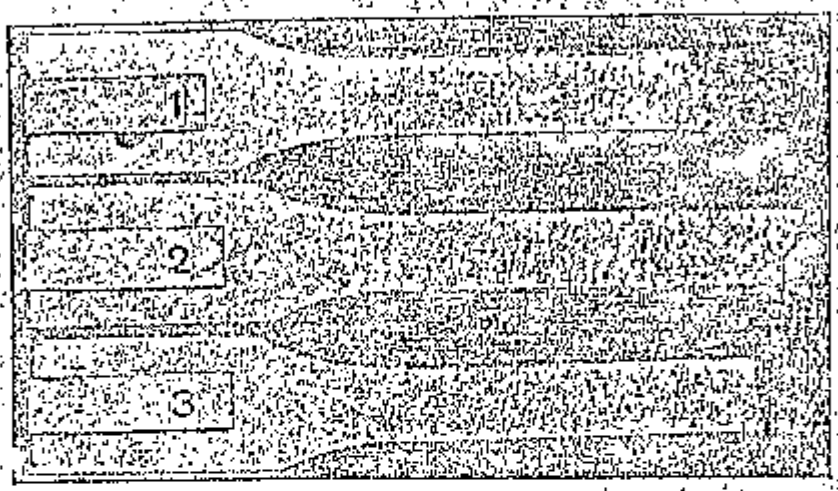
g) delivery date;

h) this standard No.

Note: On customer's request, copies of chemical analysis reports may be sent.

APPENDIX 1.

Permissible large-crystalline structure of sheets from aluminium alloy of grade AMгs (types 1, 2, 3).



APPENDIX 2 (reference)

Theoretical weight of 1 m^2 sheet.

Dimensions in mm.

Sheet thickness.	Theoretical weight of 1 m^2 sheet, in kg.	Sheet thickness.	Theoretical weight of 1 m^2 sheet, in kg.
0.3	0.855	3.5	9.975
0.4	1.140	4.0	11.400
0.5	1.425	4.5	12.825
0.6	1.710	5.0	14.250
0.7	1.995	5.5	15.675
0.8	2.280	6.0	17.100
0.9	2.565	6.5	18.525
1.0	2.850	7.0	19.950
1.2	3.420	7.5	21.375
1.5	4.275	8.0	22.800
1.6	4.560	8.5	24.225
1.8	5.130	9.0	25.650
1.9	5.415	9.5	27.075
2.0	5.700	10.0	28.500
2.5	7.125	10.5	29.925
3.0	8.550		

NOTES:

1. Theoretical weight of 1 m^2 is calculated as per nominal thickness at density equal to 2.85 gm/cm^3 which corresponds to the density of aluminium alloy of grade V93.

2. For calculating the approximate theoretical weight of other aluminium alloys and aluminium the following conversion factors should be used:

for aluminium of all grades - 0.950;
for alloy of grade AMg — 0.958;
" " AMgS — 0.956;
" " MM — 0.958;
" " D12 — 0.940;
" " AMg2 — 0.940;
" " AMg3 — 0.937;
" " AMg5 — 0.930;
" " AMg6 — 0.926;
" " AV — 0.926;
" " AV — 0.947;
" " D16 — 0.976;
" " D1 — 0.982.

3. Theoretical weight is not the basis for acceptance of the product.

The standards referred to in this standard:

GOST 2060-74; GOST 4784-74;
GOST 613-67; GOST 2789-73;
GOST 6456-75; GOST 6009-75;
GOST 11739.66 to GOST 11760-66; GOST 12697-67 to GOST 12706-67;
GOST 1497-73; GOST 9.011.73;
GOST 3553-73; GOST 1931-75;
GOST 645-67; GOST 19113-73;
GOST 202-62; GOST 2488-73;
GOST 20799-75; GOST 443-56.

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