

CANCELED



AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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TOLERANCES Magnesium Alloy Sheet and Plate

1. **PURPOSE:** To publish established manufacturing tolerances.
2. **APPLICATIONS:** Tolerances shown herein apply, unless otherwise agreed upon by purchaser and vendor. These tolerances apply to all conditions, unless otherwise noted.
3. **THICKNESS:**
 - 3.1 **Sheet and Plate:**

TABLE I

Nominal Thickness
Inch

Thickness Tolerance, Inch, Plus and Minus
Width Ranges, Inches

	18 and under	Over 18 to 36 incl	Over 36 to 48 incl	Over 48 to 54 incl	Over 54 to 60 incl	Over 60 to 66 incl	Over 66 to 72 incl
Over 0.007 to 0.010 incl	0.001	0.0015	--	--	--	--	--
Over 0.010 to 0.017 incl	0.0015	0.0015	--	--	--	--	--
Over 0.017 to 0.028 incl	0.0015	0.002	0.0025	--	--	--	--
Over 0.028 to 0.036 incl	0.002	0.002	0.0025	--	--	--	--
Over 0.036 to 0.045 incl	0.002	0.0025	0.003	0.004	0.005	--	--
Over 0.045 to 0.068 incl	0.0025	0.003	0.004	0.005	0.006	0.006	0.007
Over 0.068 to 0.076 incl	0.003	0.003	0.004	0.005	0.006	0.008	0.010
Over 0.076 to 0.096 incl	0.0035	0.0035	0.004	0.005	0.006	0.008	0.010
Over 0.096 to 0.108 incl	0.004	0.004	0.005	0.005	0.007	0.010	0.012
Over 0.108 to 0.140 incl	0.0045	0.0045	0.005	0.005	0.007	0.010	0.012
Over 0.140 to 0.172 incl	0.006	0.006	0.008	0.008	0.009	0.012	0.014
Over 0.172 to 0.203 incl	0.007	0.007	0.010	0.010	0.011	0.014	0.016
Over 0.203 to 0.249 incl	0.009	0.009	0.011	0.011	0.013	0.016	0.018
Over 0.249 to 0.320 incl	0.013	0.013	0.013	0.013	0.015	0.018	0.020
Over 0.320 to 0.438 incl	0.019	0.019	0.019	0.019	0.020	0.020	0.023
Over 0.438 to 0.625 incl	0.025	0.025	0.025	0.025	0.025	0.025	0.025
Over 0.625 to 0.875 incl	0.030	0.030	0.030	0.030	0.030	0.030	0.030
Over 0.875 to 1.125 incl	0.035	0.035	0.035	0.035	0.035	0.035	0.035
Over 1.125 to 1.375 incl	0.040	0.040	0.040	0.040	0.040	0.040	0.040
Over 1.375 to 1.625 incl	0.045	0.045	0.045	0.045	0.045	0.045	0.045
Over 1.625 to 1.875 incl	0.052	0.052	0.052	0.052	0.052	0.052	0.052
Over 1.875 to 2.250 incl	0.060	0.060	0.060	0.060	0.060	0.060	0.060
Over 2.250 to 2.750 incl	0.075	0.075	0.075	0.075	0.075	0.075	0.075
Over 2.750 to 3.000 incl	0.090	0.090	0.090	0.090	0.090	0.090	0.090

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4. WIDTH:4.1 Sheet:

Nominal Thickness
Inch

0.007 to 0.102 incl
Over 0.102 to 0.249 incl

TABLE II

Width Tolerance, Inch, Plus and Minus			
Width Ranges, Inches			
18 and under	Over 18 to 36 incl	Over 36 to 54 incl	Over 54 to 72 incl
1/16	3/32	1/8	5/32
3/32	1/8	3/16	3/16

4.2 Plate:

Nominal Thickness
Inch

Over 0.249 to 0.500 incl
Over 0.500 to 1.000 incl
Over 1.000 to 3.000 incl

TABLE III

Width Tolerance, Inch
Plus only

3/8
1/2
3/4

5. LENGTH:5.1 Sheet and Plate:

Nominal Thickness
Inch

0.007 to 0.249 incl
Over 0.249 to 0.500 incl
Over 0.500 to 3.000 incl

TABLE IV

Length Tolerance, Inch, Plus and Minus			
Length Ranges, Inches			
18 and under	Over 18 to 48 incl	Over 48 to 120 incl	Over 120
1/16	3/32	1/8	5/32
1/8	5/32	3/16	7/32
3/8	3/8	3/8	3/8

6. STRAIGHTNESS:

- 6.1 Sheet and plate under 4 in. wide shall be of such straightness that the maximum edgewise curvature (depth of arc) shall not exceed 0.25 in. in any 10 ft of length, or 0.025 in. x length in feet for shorter lengths.
- 6.2 Sheet and plate 4 in. and over in width and under 12 ft long shall be of such straightness that the maximum edgewise curvature (depth of arc) shall not exceed 0.125 in. in any 10 ft of length, or 0.0125 in. x length in feet for shorter lengths.

7. FLATNESS:7.1 Sheet and Plate:

Nominal Thickness
Inch

0.125 and under
Over 0.125 to 0.249 incl
Over 0.249 to 0.500 incl
Over 0.500 to 3.000 incl

TABLE V

Flatness Tolerance	
Maximum Variation from Horizontal	
Inches per Foot	Inches in any Length 1.5 to 3 Feet
Can be pushed flat with no significant buckles	
0.020	0.030
0.025	0.038
0.050	0.075

8. SPECIAL TOLERANCES: None.