

AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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AMS 5516A

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STEEL SHEET AND STRIP, CORROSION RESISTANT
18 Chromium - 8 Nickel (Cold Rolled)

Page 1 of 3 pages

1. ACKNOWLEDGMENT: A vendor must mention this specification number and its last revision in all quotations and when acknowledging purchase orders.

2. COMPOSITION:

Carbon	.15 max
Manganese	0.20 to 2.50
Silicon	.20 to 1.50
Phosphorus	0.04 max
Sulphur	0.04 max
Chromium	17.00 min
Nickel	7.00 min

3. CONDITION: (a) Annealed, pickled and cold rolled.

(b) Tensile test specimens shall be pulled at a rate of .05 inches per minute and shall conform to the following requirements:

Tensile Strength, lb per sq in.	75,000-100,000
Elongation, % in 2 in.	40 min

For widths 9 inches or over, tensile test specimens shall be taken with the axis perpendicular to the direction of rolling. For widths less than 9 inches, tensile test specimens shall be taken with the axis parallel to the direction of rolling.

(c) Test specimens shall withstand cold bending in any direction of the sheet, without cracking, through an angle of 180° over a diameter equal to the thickness.

4. QUALITY: (a) This material must be uniform in quality, free from surface or internal defects and must not reveal material defects during fabrication.

(b) All sheets or strips shall be free from grease or other foreign matter and shall have a workmanlike finish.

5. TOLERANCE: The following variations in thickness are permissible. All Dimensions are in inches,

TABLE I
STANDARD SHEET TOLERANCES
 Thickness Tolerances
 All Finishes

Ordered Thickness Inch	Tolerance Plus or Minus Inch
0.005	0.001
0.006 to 0.007	0.0015
0.008 to 0.0160	0.002
0.0161 to 0.026	0.003
0.027 to 0.040	0.004
0.041 to 0.058	0.005
0.059 to 0.072	0.006
0.073 to 0.083	0.007
0.084 to 0.098	0.008
0.099 to 0.114	0.009
0.115 to 0.130	0.010
0.131 to 0.145	0.012
0.146 to 0.176	0.014

TABLE II
STAINLESS STRIP STEEL
 Cold-Rolled
 Thickness Tolerances

Measured 3/8 inch in from edge on 1 inch or wider; and on narrower than 1 inch at any place on the strip. Tolerances given are in inches.

Ordered Thickness Inch	Width Range										
	Under 1/2 to 3/16	Under 1 to 1/2	Under 1 1/2 to 1	Under 3 to 1 1/2	3 to 6	Over 6 to 9	Over 9 to 12	Over 12 to 16	Over 16 to 20	Over 20 to 23-15/16	
From To and incl.	incl. + & -	incl. + & -	incl. + & -	incl. + & -	incl. + & -	incl. + & -	incl. + & -	incl. + & -	incl. + & -	incl. + & -	
0.249	0.161	0.002	0.002	0.003	0.003	0.004	0.004	0.004	0.005	0.006	0.006
0.160	0.100	0.002	0.002	0.002	0.002	0.003	0.004	0.004	0.004	0.005	0.005
0.099	0.069	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.004	0.004	0.004
0.068	0.050	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.004	0.004
0.049	0.040	0.002	0.002	0.002	0.002	0.0025	0.003	0.003	0.003	0.004	0.004
0.039	0.035	0.002	0.002	0.002	0.002	0.0025	0.003	0.003	0.003	0.003	0.003
0.034	0.032	0.0015	0.0015	0.0015	0.0015	0.002	0.0025	0.0025	0.0025	0.003	0.003
0.031	0.029	0.0015	0.0015	0.0015	0.0015	0.002	0.0025	0.0025	0.0025	0.003	0.003
0.028	0.026	0.001	0.001	0.0015	0.0015	0.0015	0.002	0.002	0.002	0.0025	0.003
0.025	0.023	0.001	0.001	0.001	0.001	0.0015	0.002	0.002	0.002	0.0025	0.0025
0.022	0.020	0.001	0.001	0.001	0.001	0.0015	0.002	0.002	0.002	0.0025	0.0025
0.019	0.017	0.001	0.001	0.001	0.001	0.001	0.0015	0.0015	0.002	0.002	0.002
0.016	0.015	0.001	0.001	0.001	0.001	0.001	0.0015	0.0015	0.0015	0.002	0.002
0.014	0.013	0.001	0.001	0.001	0.001	0.001	0.0015	0.0015	0.0015	0.002	0.002
0.012	.....	0.001	0.001	0.001	0.001	0.001	0.001	0.0015	0.0015	0.0015	0.0015
0.011	.....	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.0015	0.0015	0.0015
0.010	.....	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.0015	0.0015

0.009" to 0.006" + or - 0.00075")
 Under 0.006" + or - 0.00050") Apply only on 6 inch and narrower.