

TOLERANCES, METRIC
Copper and Copper Alloy Sheet, Strip, and Plate

1. SCOPE: This specification covers established metric manufacturing tolerances applicable to copper and copper alloy sheet, strip, and plate ordered to metric (SI) dimensions. These tolerances apply to all conditions, unless otherwise noted.
 - 1.1 AMS 2222, specified in inch/pound units, is the equivalent of this MAM.
2. THICKNESS:

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2.1 Non-Refractory:
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TABLE I

Thickness Tolerance, Millimetres, Plus and Minus Width Ranges, Millimetres

Specified Thickness Millimetres	Up to 200 mm, incl, in		Over 200 to 400 mm, incl, in		Over 400 to 500 mm, incl, in		Over 500 to 700 mm, incl, in		Over 700 to 900 mm, incl, in		Over 900 to 1200 mm, incl, in		Over 1200 to 1600 mm, incl, in	
	Width	mm, incl, in	Width	mm, incl, in	Width	mm, incl, in	Width	mm, incl, in	Width	mm, incl, in	Width	mm, incl, in	Width	mm, incl, in
Over 0.10, incl	0.007	0.015	0.015	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.030
Over 0.20, incl	0.01	0.02	0.02	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035
Over 0.30, incl	0.015	0.025	0.025	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045
Over 0.40, incl	0.02	0.03	0.03	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Over 0.50, incl	0.025	0.035	0.035	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Over 0.60, incl	0.03	0.04	0.04	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Over 0.70, incl	0.035	0.05	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Over 1.0, incl	0.045	0.05	0.05	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Over 1.3, incl	0.05	0.06	0.06	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Over 2.0, incl	0.06	0.07	0.07	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Over 3.5, incl	0.07	0.08	0.08	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
Over 5.0, incl	0.08	0.08	0.08	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Over 8.0, incl	0.10	0.10	0.10	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Over 13.0, incl	0.11	0.11	0.11	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22
Over 20.0, incl	0.13	0.17	0.17	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Over 30.0, incl	0.17	0.22	0.22	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Over 40.0, incl	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
Over 60.0, incl	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65

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2.2 Refractory:

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TABLE I

Thickness Tolerance, Millimetres, Plus and Minus
Width Ranges, Millimetres

Specified Thickness Millimetres	Up to 200 mm, incl, in Width	Over 200 mm, incl, in Width	Over 400 to 500 mm, incl, in Width	Over 500 to 700 mm, incl, in Width	Over 700 to 900 mm, incl, in Width	Over 900 to 1200 mm, incl, in Width	Over 1200 to 1600 mm, incl, in Width
Over 0.10 to 0.10, incl	0.01	0.02	--	--	--	--	--
Over 0.10 to 0.20, incl	0.015	0.025	0.035	--	--	--	--
Over 0.20 to 0.30, incl	0.02	0.03	0.05	--	--	--	--
Over 0.30 to 0.40, incl	0.025	0.035	0.06	--	--	--	--
Over 0.40 to 0.50, incl	0.03	0.05	0.06	--	--	--	--
Over 0.50 to 0.60, incl	0.035	0.06	0.07	--	--	--	--
Over 0.60 to 0.70, incl	0.05	0.06	0.07	0.10	0.13	0.15	0.18
Over 0.70 to 1.0, incl	0.06	0.07	0.08	0.13	0.15	0.18	0.20
Over 1.0 to 1.3, incl	0.07	0.08	0.10	0.15	0.18	0.20	0.25
Over 1.3 to 2.0, incl	0.08	0.10	0.11	0.18	0.20	0.25	0.30
Over 2.0 to 3.5, incl	0.10	0.11	0.12	0.20	0.25	0.30	0.35
Over 3.5 to 5.0, incl	0.11	0.13	0.15	0.25	0.30	0.35	0.40
Over 5.0 to 8.0, incl	0.13	0.15	0.18	0.30	0.35	0.40	0.45
Over 8.0 to 13.0, incl	0.15	0.18	0.20	0.40	0.45	0.50	0.60
Over 13.0 to 20.0, incl	0.20	0.25	0.30	0.50	0.55	0.60	0.75
Over 20.0 to 30.0, incl	0.30	0.40	0.50	0.60	0.65	0.75	0.95
Over 30.0 to 40.0, incl	0.70	0.70	0.70	0.70	0.80	0.95	1.2
Over 40.0 to 60.0, incl	0.85	0.85	0.85	0.85	0.95	1.1	1.4

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3. WIDTH:

3.1 General Purpose (Including Square Sheared Metal): Applicable to all lengths
 \emptyset up to 3000 mm, inclusive.

TABLE III

Specified Width Millimetres	Width Tolerance, Millimetres, Plus and Minus Thickness Ranges, Millimetres		
	Up to 1.5, incl	Over 1.5 to 3.5, incl	Over 3.5
Up to 500, incl	0.80	1.2	1.6
Over 500 to 900, incl	1.2	1.2	1.6
Over 900 to 3000, incl	1.6	1.6	1.6

3.2 Slit Metal and Slit Metal With Rolled Edges:
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TABLE IV

Specified Width Millimetres	Width Tolerance, Millimetres, Plus and Minus Thickness Ranges, Millimetres			
	0.10 to 0.80, incl	Over 0.80 to 3.2, incl	Over 3.2 to 5.0, incl	Over 5.0 to 12.0, incl
Up to 50, incl	0.13	0.25	0.30	0.38
Over 50 to 200, incl	0.20	0.33	0.38	0.38
Over 200 to 600, incl	0.40	0.40	0.40	0.80
Over 600 to 1000, incl	0.80	0.80	0.80	1.20

- 3.3 Rolled (Not Previously Slit) or Drawn Edge Metal: When the tolerance is expressed as a percentage of a specified dimension, the tolerance so calculated shall be rounded to the nearest 0.025 mm to obtain the permissible tolerance.

TABLE V

Specified Width Millimetres	Width Tolerance, Millimetre Plus and Minus	
	Non-Refractory	Refractory
Up to 1.25, incl	0.032	0.038
Over 1.25 to 2.25, incl	0.038	0.050
Over 2.25 to 3.25, incl	0.050	0.075
Over 3.25 to 4.70, incl	0.075	0.100
Over 4.70 to 12.50, incl	0.088	0.125
Over 12.50 to 31.25, incl	0.125	0.175
Over 31.25 to 50.00, incl	0.200	0.250
Over 50.00 to 100.00, incl	0.300	0.375
Over 100.00 to 300.00, incl	0.30%	0.50%

- 3.4 Sawed Metal:

TABLE VI

Specified Width Millimetres	Nominal Length Millimetres	Width Tolerance, Millimetres Plus and Minus	
		Thickness Ranges, Millimetres	
		38 and Under	Over 38
Up to 300, incl	Up to 3000, incl	0.8	1.6
Over 300 to 3000, incl	Up to 3000, incl	1.6	1.6
Up to 300, incl	Over 3000	1.6	1.6
Over 300 to 3000, incl	Over 3000	1.6	1.6

4. LENGTH:

4.1 Square Sheared Metal: Not applicable to lengths over 3000 millimetres.
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TABLE VII

Specified Length Millimetres	Length Tolerance, Millimetres Plus and Minus		
	<u>Thickness Ranges, Millimetres</u>		
	Up to 1.6, incl	Over 1.6 to 3.2 incl	Over 3.2
Up to 500, incl	0.8	1.2	1.6
Over 500 to 900, incl	1.2	1.2	1.6
Over 900 to 3000, incl	1.6	1.6	1.6

4.2 Slit Metal and Slit Metal With Rolled Edges: When specific lengths are ordered, length shall not vary from the length ordered by more than -0, +6.25 mm for lengths up to 3000 mm, incl, and by not more than -0, +12.5 mm for lengths over 3000 to 6000 mm, inclusive. Stock lengths shall not vary by more than -0, +25.0 mm from the length ordered.

4.3 Rolled (Not Previously Slit) or Drawn Edge Metal: When specific lengths are ordered, length shall not vary from the length ordered by more than -0, +9.5 millimetres. Stock lengths shall not vary by more than -0, +25.0 mm from the length ordered.

4.4 Sawed Metal: Shall not vary from the length ordered by more than -0, +6.4 mm for widths up to 3000 mm, inclusive.
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5. STRAIGHTNESS:

5.1 Square Sheared Metal: Not applicable to lengths over 3000 millimetres.
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TABLE VIII

Specified Thickness Millimetres	Maximum Edgewise Curvature (Depth of Arc) Millimetres in any 1800 Millimetres	
	<u>Width Ranges, Millimetres</u>	
	Up to 250, incl	Over 250
Up to 3.2, incl	1.6	0.8
Over 3.2 to 5.0, incl	3.2	1.2
Over 5.0	3.2	1.6