

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. The term "excl" is used to apply only to the higher figure of a specified range.
2. **THICKNESS:**

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2.1 Non-Refactory:

TABLE I

Nominal Thickness Millimetres		Thickness Tolerance, Millimetres, Plus and Minus Width Ranges, Millimetres																					
		Over 200.0 to 300.0, incl	Over 300.0 to 350.0, incl	Over 350.0 to 500.0, incl	Over 500.0 to 700.0, incl	Over 700.0 to 900.0, incl	Over 900.0 to 1200.0, incl	Over 1200.0 to 1500.0, incl	Over 1500.0 to 1800.0, incl	Over 1800.0 to 2100.0, incl	Over 2100.0 to 2400.0, incl	Over 2400.0 to 2700.0, incl											
Over	Up to 0.10, incl	0.008	0.015	0.015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Over	0.10 to 0.15, incl	0.010	0.020	0.020	0.032	0.032	0.032	0.032	0.032	0.032	0.032	0.032	0.032	0.032	0.032	0.032	0.032	0.032	0.032	0.032	0.032	0.032	0.032
Over	0.15 to 0.22, incl	0.015	0.025	0.025	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038
Over	0.22 to 0.32, incl	0.020	0.032	0.032	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045
Over	0.32 to 0.42, incl	0.025	0.038	0.038	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050
Over	0.42 to 0.52, incl	0.032	0.045	0.045	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062
Over	0.52 to 0.65, incl	0.038	0.050	0.050	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062
Over	0.65 to 0.92, incl	0.050	0.062	0.062	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075
Over	0.92 to 1.25, incl	0.050	0.062	0.062	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075
Over	1.25 to 1.82, incl	0.062	0.075	0.075	0.088	0.088	0.088	0.088	0.088	0.088	0.088	0.088	0.088	0.088	0.088	0.088	0.088	0.088	0.088	0.088	0.088	0.088	0.088
Over	1.82 to 3.25, incl	0.075	0.088	0.088	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100
Over	3.25 to 4.70, incl	0.088	0.100	0.100	0.112	0.112	0.112	0.112	0.112	0.112	0.112	0.112	0.112	0.112	0.112	0.112	0.112	0.112	0.112	0.112	0.112	0.112	0.112
Over	4.70 to 5.12, incl	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Over	5.12 to 7.50, incl	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Over	7.50 to 12.50, incl	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Over	12.50 to 18.75, incl	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Over	18.75 to 25.00, incl	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Over	25.00 to 37.50, incl	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Over	37.50 to 50.00, incl	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

2.2 Refractory:

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

	Over 200.0	to 300.0	to 350.0	to 500.0	to 700.0	to 900.0	to 1200.0	to 1500.0
Up to 0.10, incl	0.010	0.020	0.038	0.062	0.100	0.125	0.150	0.175
Over 0.10 to 0.15, incl	0.015	0.025	0.038	0.062	0.100	0.125	0.150	0.175
Over 0.15 to 0.22, incl	0.020	0.032	0.050	0.075	0.100	0.125	0.150	0.175
Over 0.22 to 0.32, incl	0.025	0.038	0.062	0.075	0.100	0.125	0.150	0.175
Over 0.32 to 0.42, incl	0.032	0.050	0.062	0.075	0.100	0.125	0.150	0.175
Over 0.42 to 0.52, incl	0.038	0.062	0.075	0.075	0.100	0.125	0.150	0.175
Over 0.52 to 0.65, incl	0.050	0.062	0.075	0.075	0.100	0.125	0.150	0.175
Over 0.65 to 0.92, incl	0.062	0.075	0.088	0.088	0.100	0.125	0.150	0.175
Over 0.92 to 1.25, incl	0.075	0.088	0.100	0.100	0.125	0.150	0.175	0.200
Over 1.25 to 1.82, incl	0.088	0.100	0.112	0.112	0.125	0.150	0.175	0.200
Over 1.82 to 3.25, incl	0.100	0.112	0.125	0.125	0.150	0.175	0.200	0.250
Over 3.25 to 4.70, incl	0.112	0.125	0.150	0.150	0.175	0.200	0.250	0.300
Over 4.70 to 5.12, incl	--	--	0.150	0.150	0.175	0.200	0.250	0.300
Over 5.12 to 7.50, incl	--	--	0.175	0.175	0.200	0.250	0.300	0.350
Over 7.50 to 12.50, incl	--	--	0.200	0.200	0.250	0.300	0.350	0.400
Over 12.50 to 18.75, incl	--	--	0.300	0.300	0.350	0.400	0.450	0.500
Over 18.75 to 25.00, incl	--	--	0.375	0.375	0.425	0.475	0.525	0.575
Over 25.00 to 37.50, incl	--	--	0.700	0.700	0.750	0.800	0.850	0.900
Over 37.50 to 50.00, incl	--	--	0.825	0.825	0.875	0.925	0.975	1.025

3. WIDTH:

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

TABLE III

Nominal Width Millimetres	Width Tolerance, Millimetres, Plus and Minus Thickness Ranges, Millimetres		
	Up to	Over	Over
	1.56, incl	1.56 to 3.12, incl	Over 3.12
Up to 500.0, incl	0.78	1.17	1.56
Over 500.0 to 900.0, incl	1.17	1.17	1.56
Over 900.0 to 3000.0, incl	1.56	1.56	1.56

3.2 Slit Metal and Slit Metal With Rolled Edges:

TABLE IV

Nominal Width Millimetres	Width Tolerance, Millimetres, Plus and Minus Thickness Ranges, Millimetres			
	Over	Over	Over	Over
	0.10 to 0.80, incl	0.80 to 3.12, incl	3.12 to 4.70, incl	4.70 to 12.50, incl
Up to 50.0, incl	0.125	0.250	0.300	0.375
Over 50.0 to 200.0, incl	0.200	0.325	0.375	0.375
Over 200.0 to 600.0, incl	0.400	0.400	0.400	0.775

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

TABLE V

Nominal 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

Nominal Width Millimetres	Nominal Length Millimetres	Width Tolerance, Millimetres Plus and Minus	
		Thickness Ranges, Millimetres	
		37.5 and Under	Over 37.5
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.

TABLE VII

Nominal Length Millimetres	Length Tolerance, Millimetres Plus and Minus		
	Thickness Ranges, Millimetres		
	Up to 1.56, incl	1.56 to 3.12, incl	Over 3.12
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