

**AEROSPACE
MATERIAL
SPECIFICATION**

MAM 2224

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Revised

**TOLERANCES, METRIC
Copper and Copper Alloy Wire**

1. **SCOPE:** This specification covers established metric manufacturing tolerances applicable to copper and copper alloy wire 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. **DIAMETER OR THICKNESS:**
 - 2.1 **Metallic Coated, Not Redrawn:**
 - 2.1.1 **Round Only, Non-Refractory:** When the tolerance is expressed as a percentage of a nominal dimension, the tolerance so calculated shall be rounded to the nearest 0.0025 mm to obtain the permissible tolerance.

TABLE I

Nominal Diameter Millimetres	Tolerance, Millimetres	
	plus	minus
Up to 0.25, incl	0.0075	0.0025
Over 0.25	3.0%D	1.0%D

- 2.2 **Bare and Metallic Coated, Cold Drawn:**

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2.2.1 Round, Hexagon, and Octagon:

TABLE II

Nominal Diameter or Distance Between Parallel Sides Millimetres	Tolerance, Millimetre, Plus and Minus			
	Non-Refractory		Refractory	
	Round	Hexagon Octagon	Round	Hexagon Octagon
Up to 0.25, incl	0.0025	--	0.0050	--
Over 0.25 to 0.50, incl	0.0050	--	0.0075	--
Over 0.50 to 0.75, incl	0.0075	--	0.0125	--
Over 0.75 to 1.00, incl	0.0100	0.020	0.0175	0.050
Over 1.00 to 1.25, incl	0.0125	0.025	0.0200	0.075
Over 1.25 to 1.50, incl	0.0150	0.030	0.0250	0.075
Over 1.50 to 2.00, incl	0.0200	0.040	0.0380	0.100
Over 2.00 to 3.75, incl	0.0250	0.050	0.0500	0.100
Over 3.75 to 12.50, incl	0.0380	0.075	0.0500	0.100
Over 12.50 to 18.75, incl	0.0500	0.100	0.0750	0.125

2.2.2 Square and Rectangular:

TABLE III

Nominal Thickness Millimetres	Tolerance, Millimetre, Plus and Minus					
	Width Ranges, Millimetres					
	Up to 12.50, incl			Over 12.50 to 31.25, incl		
	Non-Copper	Refractory	Refractory	Non-Copper	Refractory	Refractory
Up to 0.32, incl	0.025	0.025	0.038	0.025	0.032	0.050
Over 0.32 to 1.25, incl	0.032	0.032	0.038	0.032	0.038	0.050
Over 1.25 to 2.25, incl	0.038	0.038	0.050	0.038	0.050	0.075
Over 2.25 to 3.25, incl	0.050	0.050	0.075	0.050	0.062	0.100
Over 3.25 to 4.70, incl	0.062	0.075	0.100	0.062	0.088	0.112

3. WIDTH:

3.1 Rectangular:

TABLE IV

Nominal Width Millimetres	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