

AEROSPACE MATERIAL SPECIFICATION



MAM 2201A

Issued JUL 1983
Cancelled JAN 2002

Superseding MAM 2201

Tolerances, Metric
Aluminum and Aluminum Alloy Bar, Rod, Wire, and Forging Stock
Rolled, Drawn, or Cold Finished

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This specification has been declared "CANCELLED" by the Aerospace Materials Division, SAE, as of January 2002, and has been superseded by ANSI H35.2(M). The requirements of the latest issue of ANSI H35.2(M) shall be fulfilled whenever reference is made to the cancelled MAM 2201. By this action, this document will remain listed in the Numerical Section of the Index of Aerospace Material Specifications noting that it is superseded by ANSI H35.2(M).

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1. SCOPE:

This specification covers established metric manufacturing tolerances applicable to aluminum alloy rolled, drawn, or cold finished bar, rod, wire, and forging stock ordered to metric dimensions. These tolerances apply to all conditions, unless otherwise noted. The general temper designation "-TX51" is used for brevity and denotes the full temper designations -T351, -T451, -T651, -T851, and -T7351, the "X" representing one or more digits preceding the "51."

2. DIAMETER, THICKNESS, AND WIDTH:

2.1 Rounds:

TABLE I

			Tolerance, Millimetres Plus and Minus, Except as Indicated			
	Specified Diameter Millimetres		Drawn Wire	Cold Finished Rod	Rolled Rod	Centerless Ground Wire and Rod
	Up to	0.80, incl	0.015	--	--	--
Over	0.80 to	1.60, incl	0.025	--	--	--
Over	1.60 to	3.20, incl	0.040	--	--	--
Over	3.20 to	10.00, incl	0.040	--	--	0.015
Over	10.00 to	12.50, incl	--	0.040	--	0.015
Over	12.50 to	16.00, incl	--	0.050	--	0.015
Over	16.00 to	25.00, incl	--	0.050	--	0.025
Over	25.00 to	40.00, incl	--	0.06	--	0.025
Over	40.00 to	50.00, incl	--	0.10	0.15	0.060
Over	50.00 to	70.00, incl	--	0.15	0.20	--
Over	70.00 to	90.00, incl	--	0.20	0.30	--
Over	90.00 to	120.00, incl	--	0.30	+0.80, -0.40	--
Over	120.00 to	200.00, incl	--	--	+1.60, -0.80	--

2.2 Bars and Wire:

2.2.1 Squares, Hexagons, and Octagons:

TABLE II

Specified Distance Between Parallel Sides Millimetres			Tolerance, Millimetre Plus and Minus		
			Drawn Wire	Cold Finished Bar	Rolled Bar
Up to	0.80, incl		0.025	--	--
Over	0.80 to	1.60, incl	0.040	--	--
Over	1.60 to	10.00, incl	0.050	--	--
Over	10.00 to	12.50, incl	--	0.050	--
Over	12.50 to	25.00, incl	--	0.06	--
Over	25.00 to	40.00, incl	--	0.08	--
Over	40.00 to	50.00, incl	--	0.13	0.40
Over	50.00 to	70.00, incl	--	0.20	0.50
Over	70.00 to	100.00, incl	--	--	0.50

2.2.1.1 If tolerances are desired all plus or all minus for hexagons, double the values of Table II.

2.2.2 Rectangles:

TABLE III

Specified Thickness and Width Millimetres			Tolerance, Millimetres Plus and Minus			
			Drawn Wire and Cold Finished Bar		Rolled Bar	
			Thickness	Width h	Thickness	Width h
Up to	0.80, incl		0.025	--	--	--
Over	0.80 to	1.60, incl	0.040	--	--	--
Over	1.60 to	12.50, incl	0.050	0.050	0.15	--
Over	12.50 to	20.00, incl	0.06	0.06	0.20	0.40
Over	20.00 to	25.00, incl	0.06	0.06	0.30	0.40
Over	25.00 to	40.00, incl	0.08	0.08	0.40	0.40
Over	40.00 to	50.00, incl	0.13	0.13	0.40	0.80
Over	50.00 to	70.00, incl	0.20	0.20	0.50	0.80
Over	70.00 to	100.00, incl	--	0.25	0.50	0.80
Over	100.00 to	160.00, incl	--	--	--	1.20
Over	160.00 to	250.00, incl	--	--	--	1.60

2.3 Flattened Wire, Flattened and Slit Wire:

2.3.1 Flattened Wire (Round Edge):

TABLE IV

Specified Thickness Millimetres	Thickness Tolerance, Millimetre Plus and Minus	Specified Width Millimetres	Width Tolerance, Millimetre Plus and Minus
Up to 0.50, incl	0.025	Up to 25.00, incl	0.18
Over 0.50 to 1.60, incl	0.040	Over 25.00 to 50.00, incl	0.25
Over 1.60 to 5.00, incl	0.050	-- --	--

2.3.2 Flattened and Slit Wire:

TABLE V

Specified Thickness Millimetres	Thickness Tolerance, Millimetre Plus and Minus	Specified Width Millimetres	Width Tolerance, Millimetre Plus and Minus
Over 0.40 to 0.50, incl	0.025	Over 12.50 to 16.00, incl	0.06
Over 0.50 to 1.60, incl	0.040	Over 16.00 to 40.00, incl	0.10
Over 1.60 to 2.00, incl	0.050	Over 40.00 to 120.00, incl	0.15

2.4 Forging Stock:

These tolerances are applicable for forging stock in rod and bar form. Tolerances for forging stock in plate form are contained in MAM 2202.

2.4.1 Rounds:

2.4.1.1 Class 1 Forging Stock: