

AEROSPACE MATERIAL SPECIFICATION



AMS 2201M

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Superseding AMS 2201L

Submitted for recognition as an American National Standard

TOLERANCES Aluminum and Aluminum Alloy Bar, Rod, Wire, and Forging Stock Rolled or Cold-Finished

This specification has been declared "SUPERSEDED" by the Aerospace Materials Division, SAE, as of September 1994. The requirements of this specification are embodied in the latest issue of ANSI H35.2, Dimensional Tolerances for Aluminum Mill Products.

The requirements of the latest issue of ANSI H35.2 shall be fulfilled whenever reference is made to this specification.

PREPARED UNDER THE JURISDICTION OF AMS COMMITTEE "D"

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1. **SCOPE:** This specification covers established inch/pound manufacturing tolerances applicable to aluminum alloy rolled or cold-finished bar, rod, wire, and forging stock ordered to inch/pound dimensions. These tolerances apply to all conditions, unless otherwise noted. The term "excl" applies only to the higher figure of the specified range. 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

Specified Diameter Inches	Tolerance, Inch Plus and Minus, Except as Indicated			
	Drawn Wire	Cold-Finished Rod	Rolled Rod	Centerless Ground Wire and Rod
Up to 0.036, excl	0.0005	--	--	--
0.036 to 0.065, excl	0.001	--	--	--
0.065 to 0.125, excl	0.0015	--	--	--
0.125 to 0.375, excl	0.0015	--	--	0.0005
0.375 to 0.500, incl	--	0.0015	--	0.0005
Over 0.500 to 0.625, incl	--	0.002	--	0.0005
Over 0.625 to 1.000, incl	--	0.002	--	0.0010
Over 1.000 to 1.500, incl	--	0.0025	--	0.0010
Over 1.500 to 2.000, incl	--	0.004	0.006	0.0025
Over 2.000 to 3.000, incl	--	0.006	0.008	--
Over 3.000 to 3.500, excl	--	0.008	0.012	--
3.500 to 5.000, incl	--	0.012	+0.031, -0.016	--
Over 5.000 to 8.000, incl	--	--	+0.062, -0.031	--

2.2 Bars:

2.2.1 Squares, Hexagons, and Octagons:

TABLE II

Specified Distance Between Parallel Sides Inches	Tolerance, Inch, Plus and Minus		
	Drawn Wire	Cold- Finished Bar	Rolled Bar
Up to 0.036, excl	0.001	--	--
0.036 to 0.065, excl	0.0015	--	--
0.065 to 0.375, excl	0.002	--	--
0.375 to 0.500, incl	--	0.002	--
Over 0.500 to 1.000, incl	--	0.0025	--
Over 1.000 to 1.500, incl	--	0.003	--
Over 1.500 to 2.000, incl	--	0.005	0.016
Over 2.000 to 3.000, incl	--	0.008	0.020
Over 3.000 to 4.000, incl	--	--	0.020

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 Inches	Tolerance, Inch, Plus and Minus			
	Drawn Wire and Cold- Finished Bar		Rolled Bar	
	Thickness	Width	Thickness	Width
Up to 0.036, excl	0.001	--	--	--
0.036 to 0.065, excl	0.0015	--	--	--
0.065 to 0.500, incl	0.002	0.002	0.006	--
Over 0.500 to 0.750, incl	0.0025	0.0025	0.008	0.016
Over 0.750 to 1.000, incl	0.0025	0.0025	0.012	0.016
Over 1.000 to 1.500, incl	0.003	0.003	0.016	0.016
Over 1.500 to 2.000, incl	0.005	0.005	0.016	0.031
Over 2.000 to 3.000, incl	0.008	0.008	0.020	0.031
Over 3.000 to 4.000, incl	--	0.010	0.020	0.031
Over 4.000 to 6.000, incl	--	--	--	0.047
Over 6.000 to 10.000, incl	--	--	--	0.062

2.3 Flattened Wire, Flattened and Slit Wire:

2.3.1 Flattened Wire (Round Edge):