SAE Aerospace
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AEROSPACE MATERIAL SPECIFICATION

SAE MAM 2262D

Issued	OCT 1981
Revised	JAN 1990
Reaffirmed	OCT 2000
Noncurrent	MAR 2003
Cancelled	SEP 2007

Superseded by AMS 2262

Tolerances, Metric
Nickel, Nickel Alloy, and Cobalt Alloy Sheet, Strip, and Plate

RATIONALE

MAM 2262C has been designated Cancelled and Superseded because equivalent technical requirements are provided by AMS 2262.

CANCELLATION NOTICE

This specification has been declared "CANCELLED" and superseded by the Aerospace Materials Division, SAE, as of September, 2007, and has been superseded by AMS 2262. The requirements of the latest issue of AMS 2262 shall be fulfilled whenever reference is made to the cancelled MAM 2262C. By this action, this document will remain listed in the Numerical Section of the Index of Aerospace Material Specifications indicating that it has been "CANCELLED".

Cancelled specifications are available from SAE.

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NONCURRENCY NOTICE

This specification has been declared “NONCURRENT” by the Aerospace Materials Division, SAE, as of March, 2003. It is recommended, therefore, that this specification not be specified for new designs.

AMS 2262 covers the same requirements.

“NONCURRENT” refers to those materials which have been widely used and which may be required on some existing designs in the future. The Aerospace Materials Division, however, does not recommend these as standard materials for future use in new designs.

“NONCURRENT” specifications are available from SAE.

1. SCOPE:

This specification covers established manufacturing tolerances applicable to sheet, strip, and plate of nickel, nickel alloys, and cobalt alloys ordered to metric 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.

1.1 Where the terms “nickel”, “nickel-copper”, “nickel-chromium”, “nickel-molybdenum”, “nickel-molybdenum-chromium”, and “cobalt” are used without qualification, they refer to both non-heat-treatable and heat-treatable alloys as applicable, unless otherwise noted.

1.2 Throughout this specification the term “metric” is intended to refer to the SI system. These tables are based upon metric values and preferred metric sizes.

1.3 AMS 2262, specified in inch/pound units, is the equivalent of this MAM.

2. THICKNESS:

Thickness for sheet and strip is measured at any place on widths under 25 millimetres, at any place 10 millimetres and over from an edge on widths 25 millimetres and over, and for plate at least 10 millimetres but not more than 75 millimetres from an edge.

2.1 Sheet:

2.1.1 Nickel, Nickel-Chromium, and Nickel-Copper Alloys: For thicknesses 0.45 millimetre and under, tolerances apply only to width of 900 millimetres and under in lengths 2400 millimetres and under. Cold rolled tolerances do not apply to precipitation-hardenable nickel-chromium alloys over 1100 millimetres in width.

TABLE I

Thickness Tolerance, Millimetre, Plus and Minus

Specified Thickness Millimetres	Cold Rolled Width Ranges Millimetres		Hot Rolled Width Ranges Millimetres	
	Up to 1200, incl	Over 1200 to 1500, incl	Up to 1200, incl	Over 1200 to 1500, incl
0.25 to 0.45, incl	0.05	- -	- -	- -
Over 0.45 to 0.65, incl	0.05	0.08	0.08	0.10
Over 0.65 to 0.85, incl	0.08	0.10	0.10	0.13
Over 0.85 to 1.40, incl	0.10	0.13	0.13	0.15
Over 1.40 to 1.80, incl	0.13	0.15	0.15	0.18
Over 1.80 to 2.00, incl	0.15	0.18	0.18	0.20
Over 2.00 to 2.35, incl	0.18	0.20	0.20	0.23
Over 2.35 to 2.75, incl	0.18	0.23	0.23	0.25
Over 2.75 to 3.20, incl	0.20	0.25	0.25	0.30
Over 3.20 to 3.55, incl	0.20	0.25	0.30	0.35
Over 3.55 to 4.35, incl	0.23	0.30	0.35	0.40
Over 4.35 to 4.75, incl	0.25	0.33	0.38	0.43

2.1.2 Nickel-Molybdenum, Nickel-Molybdenum-Chromium, and Cobalt Alloys (Widths 1200 Millimetres and Under): For specified thicknesses over 4.75 millimetres, plate tolerances of Table V apply.

TABLE II

Specified Thickness Millimetres	Thickness Tolerance Millimetre	
	Plus	Minus
0.25 to 0.45, incl	0.05	0.05
Over 0.45 to 0.65, incl	0.08	0.08
Over 0.65 to 0.85, incl	0.10	0.10
Over 0.85 to 1.40, incl	0.13	0.13
Over 1.40 to 1.80, incl	0.15	0.15
Over 1.80 to 2.00, incl	0.18	0.18
Over 2.00 to 2.35, incl	0.20	0.20
Over 2.35 to 2.75, incl	0.23	0.23
Over 2.75 to 3.20, incl	0.25	0.25
Over 3.20 to 3.55, incl	0.33	0.25
Over 3.55 to 4.35, incl	0.40	0.25
Over 4.35 to 4.75, incl	0.45	0.25

2.2 Cold-Rolled Strip:

2.2.1 All Alloys: Table III does not apply to precipitation-hardenable nickel-chromium and nickel-molybdenum-chromium alloys for specified thicknesses over 0.65 millimetre or to any alloy in widths over 300 millimetres.

TABLE III

Specified Thickness (T) Millimetres	Thickness Tolerance Millimetre All Widths
	Plus and Minus
Up to 0.15, excl	0.10T
0.15 to 0.40, incl	0.02
Over 0.40 to 1.25, incl	0.04
Over 1.25 to 2.35, incl	0.06
Over 2.35 to 3.20, incl	0.10

2.3 Hot-Rolled Plate:

Minus tolerance shall be 0.25 millimetre for all widths and all thicknesses in all alloys; plus tolerance shall be as shown in 2.3.1 and 2.3.2.

2.3.1 Nickel, Nickel-Chromium, and Nickel-Copper Alloys: Tolerances shown in Table IV are only approximate for precipitation-hardenable nickel-chromium alloys; failure to meet these tolerances shall not be cause for rejection of such alloy product.

TABLE IV

Specified Thickness (T) Millimetres	Thickness Tolerance, Millimetres, Plus Only For Width Ranges Shown, Millimetres				
	Up to 1200, excl	1200 to 1500, excl	1500 to 1800, excl	1800 to 2100, excl	2100 to 2400, incl
4.75 to 7.95, excl	0.113T	0.132T	0.150T	0.169T	0.184T
7.95 to 9.50, excl	0.094T	0.113T	0.132T	0.150T	0.169T
9.50 to 11.00, excl	0.088T	0.094T	0.113T	0.132T	0.150T
11.00 to 12.50, excl	0.075T	0.088T	0.094T	0.113T	0.132T
12.50 to 16.00, excl	0.063T	0.075T	0.088T	0.094T	0.113T
16.00 to 19.00, excl	0.057T	0.069T	0.075T	0.088T	0.094T
19.00 to 25.00, excl	0.050T	0.057T	0.069T	0.075T	0.088T
25.00 and Over	0.050T	0.050T	0.057T	0.069T	0.075T

2.3.2 Nickel-Molybdenum, Nickel-Molybdenum-Chromium, and Cobalt Alloys (Widths 1200 Millimetres and Under): Tolerances shown in Table V are only approximate for precipitation-hardenable alloys. Failure to meet these tolerances shall not be cause for rejection of such alloy product.

TABLE V

Specified Thickness (T) Millimetres	Thickness Tolerance, Millimetre, Plus Only For Width Ranges Shown, Millimetres				
	Up to 1200, excl	1200 to 1500, excl	1500 to 1800, excl	1800 to 2100, excl	2100 to 2400, incl
4.75 to 7.95, excl	0.132T	0.150T	0.169T	0.184T	0.199T
7.95 to 9.50, excl	0.113T	0.132T	0.150T	0.169T	0.184T
9.50 to 11.00, excl	0.094T	0.113T	0.132T	0.150T	0.169T
11.00 to 12.50, excl	0.088T	0.094T	0.113T	0.132T	0.150T
12.50 to 16.00, excl	0.075T	0.088T	0.094T	0.113T	0.132T
16.00 to 19.00, excl	0.069T	0.075T	0.088T	0.094T	0.113T
19.00 to 25.00, excl	0.057T	0.069T	0.075T	0.088T	0.094T
25.00 and Over	0.050T	0.057T	0.069T	0.075T	0.088T

3. WIDTH:

3.1 Sheet (All Alloys, Widths 1500 Millimetres and Under):

Shall not vary in width more than +3 millimetres, -0.

3.2 Cold-Rolled Strip:

3.2.1 All Alloys:

TABLE VI

Specified Thickness Millimetres	Specified Width Millimetres	Width Tolerance Millimetre Plus and Minus
Up to 0.23, incl	300 and Under	0.13
Over 0.23 to 0.60, incl	300 and Under	0.18
Over 0.60 to 1.90, incl	350 and Under	0.18
Over 1.90 to 2.50, incl	350 and Under	0.23
Over 2.50 to 3.20, incl	350 and Under	0.30

3.3 Hot-Rolled Plate:

3.3.1 Nickel, Nickel-Chromium, Nickel-Copper, Nickel-Molybdenum, Nickel-Molybdem-Chromium, and Cobalt Alloys:

3.3.1.1 Sheared Plate 6000 Millimetres and Under in Length: Minus tolerance shall be 3.0 millimetres for all widths and all thicknesses; plus tolerances shall be as shown in Table VII. The minimum available width of sheared plate is 600 millimetres.

TABLE VII

Specified Thickness Millimetres	Width Tolerance, Millimetres, Plus Only For Width Ranges, Millimetres		
	Up to 750, incl	Over 750 to 1800, incl	Over 1800 to 2400, incl
4.75 to 8.00, excl	4.75	6.25	9.50
8.00 to 12.50, excl	6.25	9.50	9.50
12.50 to 19.00, excl	9.50	9.50	12.50
19.00 to 25.00, excl	12.50	12.50	15.50
25.00 to 31.50, incl	15.50	15.50	19.00

3.3.1.2 Sheared Plate Over 6000 Millimetres in Length: Minus tolerance shall be 4.75 millimetres for all widths and all thicknesses; plus tolerance shall be 1.60 millimetres greater than those of Table VII.

3.3.1.3 Abrasive-Cut Plate: Standard width tolerances for abrasive-cut plate shall be ± 3.0 millimetres for specified thicknesses 31.50 millimetres and under and +4.75 millimetres, -3.0 millimetres for specified thicknesses over 31.50 to 70.00 millimetres, inclusive.

3.3.2 Tolerances for width of powder or inert-arc cut plate and for diameter of machined, powder, or inert-arc cut circular plate shall be as agreed upon by purchaser and vendor.