AEROSPACE STANDARD

AS1182™ REV. E

Issued 1971-05
Reaffirmed 2012-10
Revised 2022-09

Superseding AS1182D

Standard Stock Removal Allowance Aircraft-Quality and Premium Aircraft-Quality Steel Bars and Mechanical Tubing

RATIONALE

AS1182E is the result of a limited scope ballot. The scope of the document has been updated to address its use on all low-alloy and corrosion-resistant steels (3.1, 3.2, 3.3, 3.4).

1. SCOPE

The purpose of this document is to provide the aerospace industry with standards for minimum stock removal allowances for bars and mechanical tubing to provide surfaces which are free from decarburization, seams, laps, tears, cracks, pits, and other injurious surface imperfections.

2. APPLICABLE DOCUMENTS

The following publications form a part of this document to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order. In the event of conflict between the text of this document and references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

2.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

AMS2241 Tolerances, Corrosion- and Heat-Resistant Steel, Iron Alloy, Titanium, and Titanium Alloy Bars and Wire

AMS2243 Tolerances, Corrosion- and Heat-Resistant Steel Tubing

AMS2251 Tolerances, Low-Alloy Steel Bars

AMS2253 Tolerances, Carbon and Alloy Steel Tubing

TO PLACE A DOCUMENT ORDER: **Tel: 877-606-7323 (inside USA and Canada)**
Tel: +1 724-776-4970 (outside USA)
Fax: 724-776-0790
Email: CustomerService@sae.org
SAE WEB ADDRESS: **http://www.sae.org**

For more information on this standard, visit
https://www.sae.org/standards/content/AS1182E/

3. REQUIREMENTS

3.1 Hot Rolled or Cold Drawn Low-Alloy and Corrosion-Resistant Steel Bars (see 4.1)

Table 1A - Inch/pound units

Hot Rolled Size Inches	Minimum Stock Removal from Surface Inches	Cold Drawn Size Inches
Up to 0.500, incl	0.030	Up to 0.4375, incl
Over 0.500 to 0.750, incl	0.045	Over 0.4375 to 0.6875, incl
Over 0.750 to 1.000, incl	0.060	Over 0.6875 to 0.9375, incl
Over 1.000 to 1.500, incl	0.075	Over 0.9375 to 1.4375, incl
Over 1.500 to 2.000, incl	0.090	Over 1.4375 to 1.9375, incl
Over 2.000 to 2.500, incl	0.125	Over 1.9375 to 2.4375, incl
Over 2.500 to 3.500, incl	0.156	Over 2.4375 to 3.3750, incl
Over 3.500 to 4.500, incl	0.187	Over 3.3750 to 4.3750, incl
Over 4.500 to 6.000, incl	0.250	

Table 1B - SI units

Hot Rolled Size Millimeters	Minimum Stock Removal from Surface Millimeters	Cold Drawn Size Millimeters
Up to 12.70, incl	0.76	Up to 11.113, incl
Over 12.70 to 19.05, incl	1.14	Over 11.113 to 17.463, incl
Over 19.05 to 25.40, incl	1.52	Over 17.463 to 23.813, incl
Over 25.40 to 38.10, incl	1.91	Over 23.813 to 36.512, incl
Over 38.10 to 50.80, incl	2.29	Over 36.512 to 49.213, incl
Over 50.80 to 63.50, incl	3.18	Over 49.213 to 61.913, incl
Over 63.50 to 88.90, incl	3.96	Over 61.913 to 85.725, incl
Over 88.90 to 114.30, incl	4.75	Over 85.725 to 111.125, incl
Over 114.30 to 152.40, incl	6.35	

3.2 Round, Seamless, Hot and Cold Drawn Low-Alloy and Corrosion-Resistant Steel Mechanical Tubing (see 4.2 and 4.3)

Table 2A - Inch/pound units

Outside Diameter Inches	Minimum Stock Removal Inches per Side Outside and Inside
Up to 2.500, incl	0.044
Over 2.500 to 3.500, incl	0.046
Over 3.500 to 4.500, incl	0.052
Over 4.500 to 5.500, incl	0.057
Over 5.500 to 6.500, incl	0.064
Over 6.500 to 8.000, incl	0.074
Over 8.000 to 10.000, incl	0.087

Table 2B - SI units

Outside Diameter Millimeters	Minimum Stock Removal Millimeters per Side Outside and Inside
Up to 63.50, incl	1.12
Over 63.50 to 88.90, incl	1.17
Over 88.90 to 114.30, incl	1.32
Over 114.30 to 139.70, incl	1.45
Over 139.70 to 165.10, incl	1.63
Over 165.10 to 203.20, incl	1.88
Over 203.20 to 254.00, incl	2.21

3.3 Turned, Ground, or Polished Low-Alloy and Corrosion-Resistant Steel Bars (see 4.1)

3.3.1 For product supplied turned, ground, or polished, Tables 1 and 2 do not apply. Some shallow surface imperfections may be present due to the inability of non-destructive testing to effectively detect shallow defects, as a result of insufficient instrument sensitivity, surface finish, product straightness, etc.

3.3.2 Product supplied to the ordered size, also sometimes called smooth turned, shall, after additional stock has been removed as in Table 3, be free from decarburization, seams, laps, tears, cracks, pits, and other imperfections detrimental to usage of the product.

3.3.3 Product supplied to a diameter larger than the ordered size, also sometimes called rough-turned, shall be free from decarburization, seams, laps, tears, cracks, pits, and other imperfections detrimental to usage of the product after stock has been removed to reach the ordered size and stock has been removed as in Table 3.