



AEROSPACE STANDARD	AS7452™	REV. D
	Issued 1991-02 Reaffirmed 2004-07 Revised 2021-07 Superseding AS7452C	
Bolts and Screws, Steel, Low Alloy Heat Treated, Roll Threaded FSC 5306		

RATIONALE

Correct 3.3.3 to remove reference to Figure 1B, which has been deleted.

1. SCOPE

1.1 Type

This procurement specification covers aircraft quality bolts and screws made from a low alloy steel of the type identified under the Unified Numbering System as UNS G87400, and of a series of room temperature tensile strengths ranging from 125000 to 185000 psi.

1.2 Application

Primarily for aerospace propulsion system bolt applications where good strength is required and the part is protected against corrosion.

1.2.1 Safety - Hazardous Materials

While the materials, methods, applications, and processes described or referenced in this specification may involve the use of hazardous materials, this specification does not address the hazards which may be involved in such use. It is the sole responsibility of the user to ensure familiarity with the safe and proper use of any hazardous materials and to take necessary precautionary measures to ensure the health and safety of all personnel involved.

2. REFERENCES

2.1 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.

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<https://www.sae.org/standards/content/AS7452D/>

2.1.1 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.

AMS2750	Pyrometry
AMS6322	Steel Bars, Forgings, and Rings, 0.50Cr - 0.55Ni - 0.25Mo (0.38 - 0.43C) (SAE 8740)
AMS6327	Steel Bars and Forgings, 0.50Cr - 0.55Ni - 0.25Mo (0.38 - 0.43C) (SAE 8740) Heat Treated, 125 ksi (862 MPa) Tensile Strength
AS1132	Bolts, Screws and Nuts - External Wrenching, UNJ Thread, Inch - Design Standard
AS3062	Bolts, Screws and Studs, Screw Thread Requirements
AS3063	Bolts, Screws, and Studs, Geometric Control Requirements
AS6416	Bolts, Screws, Studs, and Nuts, Definitions for Design, Testing and Procurement
AS8879	Screw Threads - UNJ Profile, Inch, Controlled Radius Root with Increased Minor Diameter

2.1.2 ASTM Publications

Available from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959, Tel: 610-832-9585, www.astm.org.

ASTM D3951	Standard Practice for Commercial Packaging
ASTM E8/E8M	Standard Test Method for Tension Testing of Metallic Materials
ASTM E140	Standard Hardness Conversion Tables for Metals
ASTM E1444/E1444M	Standard Practice for Magnetic Particle Testing

2.1.3 ASME Publications

Available from ASME, P.O. Box 2900, 22 Law Drive, Fairfield, NJ 07007-2900, Tel: 800-843-2763 (U.S./Canada), 001-800-843-2763 (Mexico), 973-882-1170 (outside North America), www.asme.org.

ASME B46.1 Surface Texture (Surface roughness, Waviness, and Lay)

2.1.4 AIA Publications

Available from Aerospace Industries Association, 1000 Wilson Boulevard, Suite 1700, Arlington, VA 22209-3928, Tel: 703-358-1000, www.aia-aerospace.org.

NASM1312-6	Fastener Test Methods, Method 6, Hardness
NASM1312-8	Fastener Test Methods, Method 8, Tensile Strength
NASM1312-12	Fastener Test Methods, Method 12, Plating Thickness

2.2 Definitions

Refer to AS6416.

2.3 Unit Symbols

A ampere

°F degree Fahrenheit

% percent (1% = 1/100)

lbf pounds force

psi pounds force per square inch

sp gr specific gravity

3. TECHNICAL REQUIREMENTS

3.1 Material

Shall be AMS6322, or AMS6327 steel, unless otherwise specified on the part drawing.

3.2 Design

Finished (completely manufactured) parts shall conform to the following requirements:

3.2.1 Dimensions

The dimensions shall conform to the part drawing, unless otherwise stated Dimensions apply after plating but before lubrication.

3.2.2 Surface Texture

Surface texture of finished parts, prior to plating or coating, shall conform to the requirements as specified on the part drawing, determined in accordance with ASME B46.1.

3.2.3 Threads

Threads shall be in accordance with AS8879, unless otherwise specified on the part drawing.

3.2.3.1 Incomplete Threads

Incomplete runout and lead threads are permissible as specified in AS3062.

3.2.3.2 Chamfer

Bolts shall be chamfered as specified on the part drawing.

3.2.4 Geometric Tolerances

Part features shall be within the geometric tolerances specified on the part drawing and, where applicable, controlled in accordance with AS3063.