



AEROSPACE STANDARD	AS7466™	REV. F
	Issued 1992-05 Reaffirmed 2001-10 Revised 2021-03	
Superseding AS7466E		
(R) Bolts and Screws, Nickel Alloy, UNS N07718 Tensile Strength 185 ksi, Fatigue Rated, Procurement Specification		

RATIONALE

AS6416 added, many paragraphs updated or deleted, specs updated, figures redrawn, notes updated.

1. SCOPE

1.1 Type

This procurement specification covers aircraft-quality bolts and screws made of corrosion and heat resistant, age hardenable nickel base alloy of the type identified under the Unified Numbering System as UNS N07718. The following specification designations and their properties are covered:

AS7466 185 ksi minimum ultimate tensile strength at room temperature.
155 ksi minimum ultimate tensile strength at 800 °F.
105 to 10.5 ksi tension fatigue at room temperature.

AS7466-1 185 ksi minimum ultimate tensile strength at room temperature.
111 ksi minimum ultimate shear strength at room temperature.

1.2 Application

Primarily for aerospace propulsion systems applications where a good combination of tensile strength and fatigue resistance are required; also, where a good combination of tensile strength and shear strength are required.

1.3 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.

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<https://www.sae.org/standards/content/AS7466F/>

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.

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.

2.1.1.1 Aerospace Material Specifications

AMS2700 Passivation of Corrosion Resistant Steels

AMS2750 Pyrometry

AMS5662 Nickel Alloy, Corrosion and Heat-Resistant, Bars, Forgings, and Rings, 52.5Ni - 19Cr - 3.0Mo - 5.1Cb (Nb) - 0.90Ti - 0.50Al - 18Fe, Consumable Electrode or Vacuum Induction Melted, 1775 °F (968 °C), Solution Heat Treated, Precipitation-Hardenable

2.1.1.2 Aerospace Standards

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 AIA/NAS 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

NASM1312-11 Fastener Test Methods, Method 11, Tension Fatigue

NASM1312-13 Fastener Test Methods, Method 13, Double Shear Test

NASM1312-18 Fastener Test Methods, Method 18, Elevated Temperature Tensile Strength

2.1.3 ASME Publication

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 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 A380	Practice for Cleaning and Descaling of Stainless Steel Parts
ASTM A967	Chemical Passivation Treatment for Stainless Steel
ASTM D3951	Standard practice for Commercial Packaging
ASTM E8/E8M	Standard Test Methods for Tension Testing of Metallic Materials
ASTM E21	Elevated Temperature Tension Tests for Metallic Materials
ASTM E112	Determining Average Grain Size
ASTM E140	Standard Hardness Conversion Tables for Metals Relationship Among Brinell Hardness, Vickers Hardness, Rockwell Hardness, Superficial Hardness, Knoop Hardness, and Scleroscope Hardness
ASTM E1417/E1417M	Standard Practice for Liquid Penetrant Testing

2.2 Definitions

Refer to AS6416.

2.3 Unit Symbols

°C	degree Celsius
°F	degree Fahrenheit
HRC	hardness Rockwell C scale
lbf	pound-force
%	percent (1% = 1/100)
sp gr	specific gravity
ksi	kips (1000 pounds) per square inch

3. TECHNICAL REQUIREMENTS

3.1 Material

Shall be AMS5662 heading stock.

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 or coating with dry film lubricants.