



AEROSPACE STANDARD

AS6832™

Issued

2020-06

Counterfeit Materiel, Assuring Acquisition of Authentic and Conforming Fasteners

RATIONALE

This standard was created in response to the continually evolving, significant, and increasing risk of suspect counterfeit or counterfeit fasteners entering the supply chain, posing significant performance, reliability, and safety risks. This document adds commodity-specific requirements to prevent the acquisition and use of suspect counterfeit or counterfeit fasteners.

FOREWORD

Organizations produce products to meet customer and regulatory requirements of performance, safety, and reliability. This includes products which are free of suspect counterfeit or counterfeit fasteners. Organizations face the challenge of assuring the quality and integration of product purchased from suppliers at all levels within the supply chain. This document standardizes requirements, practices, and methods related to: (a) fastener supply chain management, procurement, inspection, and test/evaluation to assure the authenticity and conformance of fasteners being acquired; and (b) response strategies when suspect counterfeit or counterfeit fasteners are discovered.

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1. SCOPE

1.1 Purpose and Applicability

The purpose of this document is to provide detailed requirements to preclude the use of suspect counterfeit or counterfeit fasteners.

The requirements of this document are intended to supplement the requirements of a higher-level quality standard (e.g., AS/EN/JISQ9100, ISO 9001, ANSI/ASQC E4, ASME NQA-1, AS9120, AS9003, and ISO/TS 16949 or equivalent) and other quality management system documents.

Fasteners are defined as United States Federal Supply Classification Group codes as shown in the following list:

5305 Screws

5306 Bolts

5307 Studs

5310 Nuts and Washers

5315 Nails, Machine Keys, and Pins

5320 Rivets

5325 Fastening Devices

5340 Miscellaneous Hardware (specific parts in this hardware industry code are applicable, including, but not limited to, clamps, hinges, coiled insert fasteners, and clinch-nut fasteners)

This document applies to metallic and non-metallic components that mechanically attach two or more objects: fasteners, screws, bolts, rivets (blind, solid, tubular), inserts, washers, nuts, latching handles, clamps, pins, nails, retainers, etc. If locking or treatment elements such as glue, adhesives, anti-galling, lubricant, or other materials are part of the fastener specifications, then those items are within the scope of this document.

For metallic raw materials used in the manufacturing of fasteners, refer to AS6279.

This document does not apply to connectors such as pneumatic or hydraulic fittings and electrical connectors.

Appendices A, B, C, and D are guidance.

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.

AIR6273	Terms, Definitions, and Acronyms - Counterfeit Materiel or Electrical, Electronic, and Electromechanical Parts
AS6174	Counterfeit Materiel; Assuring Acquisition of Authentic and Conforming Materiel
AS6279	Standard Practice for Production, Distribution, and Procurement of Metal Stock
AS9003	Inspection and Test Quality Systems - Requirements for Aviation, Space, and Defense Organizations
AS9100	Quality Management Systems - Requirements for Aviation, Space, and Defense Organizations
AS9120	Quality Management Systems - Requirements for Aviation, Space, and Defense Distributors

2.1.2 U.S. Government Publications

Copies of these documents are available online at <https://quicksearch.dla.mil>.

DoD 4160.21- M	Defense Materiel Disposition Manual
DoD Instruction 4140.67	DoD Counterfeit Prevention Policy
DoD Manual 4140.01	DoD - Supply Chain Material Management
MIL-DTL-1222	General Specification for Studs, Bolts, Screws and Nuts for Applications Where a High Degree of Reliability is Required
MIL-HDBK-57	Listing of Fastener Manufacturer's Identification Symbols - U.S. Department of Defense
NAS1347	Identification of Male Threaded Fasteners

Federal Acquisition Regulation (FAR) 52.246-26

FQA Register of Active Fastener Insignia

(<http://www.uspto.gov/trademark/laws-regulations/fastener-quality-act-fqa/fastener-quality-act-fqa>)

Government-Industry Data Exchange Program (GIDEP) Operations Manual SO300-BT-PRO-010
(GIDEP Manuals and Guides are available from <http://www.gidep.org/>)

Government-Industry Data Exchange Program (GIDEP) Requirements Guide SO300-BU-GYD-010
(<http://www.gidep.org/>)

2.1.3 ANSI Accredited Publications

Copies of these documents are available online at <http://webstore.ansi.org/>.

ANSI/ASQ E4	Quality Management Systems for Environmental Information and Technology Programs- - Requirements with Guidance for Use
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2.1.4 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 NQA-1 Quality Assurance Requirements for Nuclear Facility Applications

2.1.5 ISO Publications

Copies of these documents are available online at <http://webstore.ansi.org/>.

ISO 9001 Quality Management Systems Requirements

ISO/IEC 17025 General Requirements for the Competence of Testing and Calibration Laboratories

2.1.6 Other Publications

IATF 16949 Quality Management System for Organizations in the Automotive Industry

2.2 Acronyms and Abbreviations

ANSI American National Standards Institute

AS SAE Designation Prefix for Aerospace Standard

ASME American Society of Mechanical Engineers

ASQ American Society for Quality

AVL Approved Vendor List

CAGE Commercial and Government Entity

CoC Certificate of Conformance

CoQC Certificate of Quality Compliance

COTS Commercial Off the Shelf

DLA Defense Logistics Agency

DoD Department of Defense

DTL Detail

DUNS Dun and Bradstreet

FAX Facsimile

GIDEP Government-Industry Data Exchange Program

IATF International Automotive Task Force

IP Intellectual Property

ISO International Organization for Standardization

MIL-STD	Military Standard
NAS	National Aerospace Standard
OEM	Original Equipment Manufacturer
QML	Qualified Manufacturers List
QMS	Quality Management System
QPL	Qualified Products List
STD	Standard

2.3 Definitions

Additional definitions for fastener materiel are located in AS6174 and AIR6273. The definitions shown in this document take precedence.

APPROVED VENDOR LIST (AVL): The AVL is a listing of suppliers who are known to provide acceptable product in accordance with the organization's quality management system (QMS) requirements. An AVL is established by the procuring activity based on its internal quality and supplier qualification processes. There are several other designations for AVL such as the prime contractors' or the government's designation of their approved suppliers/original manufacturers.

CAGE: The Commercial and Government Entity (CAGE) Code is a five-character ID number used extensively within the U.S. federal government, assigned by the Department of Defense's Defense Logistics Agency (DLA). The CAGE Code is used to support a variety of mechanized systems throughout the government and provides a standardized method of identifying a given legal entity at a specific location. The CAGE Code may be used for a facility clearance, or a pre-award survey.

COMMERCIAL OFF THE SHELF (COTS) (specific for fasteners): These are parts and materials that (a) have been developed and produced to commercial designs and specifications, (b) are readily available from a manufacturer's catalog item and are without additional testing beyond commercial specification requirements, and (c) are controlled solely by the manufacturer of the item. These are generally manufacturer published catalog items and the critical documentation needed to show evidence of any specific performance capability may not be available.

DESIGN ACTIVITY: An entity responsible for the specifications of a fastener application. Examples include entities such as prime contractors, designers of end-products/assemblies and end-customers. Other sectors like the automotive industry may call them the Original Equipment Manufacturers (OEMs).

DUNS: For businesses, the global standard numbering system to identify all types of business organizations, such as corporations, non-profits, and government entities, is the D&B number or DUNS number. Created by Dun and Bradstreet, the DUNS number is a nine-digit number assigned to each business.

FASTENER IDENTIFICATION MARKINGS: Most aircraft bolts are marked in accordance with NAS1347. Fastener identification markings includes terms such as headmark, head mark, and head-mark. This is normally called out on the print or in the procurement specification. See Appendix A of this document.

LOT CERTIFICATION/QUALITY CONFORMANCE: A lot certification/quality conformance report documents the inspection and testing verifications of a group of fasteners produced under uniform conditions. The verifications assess conformity to and are performed per the procurement/requirement specification or the purchase order requirements. For each shipment sent to buyer/procurer, a lot certification/quality conformance report may be needed. This lot report almost always has less information than a qualification report. The lot certification/quality conformance report may also be known or titled as a "lot certification," "quality conformance," "quality compliance," or "verification of compliance."

MATERIAL: The elements, constituents, or substances of things that can be made as tangible substance that goes into the makeup of a materiel physical object as defined in AS6174.

QUALIFIED MANUFACTURERS LIST (QML): A roster of manufacturers who have had their products examined and tested and who have satisfied all applicable qualification requirements for that product.

QUALIFIED PRODUCTS LIST (QPL): A listing of products or family of products that have met the qualification requirements set forth in the applicable specification, including appropriate product identification, tests or qualification reference, and the name and plant address of the manufacturer and authorized distributor if identified.

STANDARD PARTS: A part controlled by its standard/part drawing and supporting procurement specification. A standard part is a procurable controlled part that is designated “standard” by the Parts Control Board (or similar body having similar powers). Standard parts come from a class of hardware that are usually thought of as general purpose items such as fasteners, all-purpose bearings, etc. Each standard item is fully defined and controlled by publicly available specifications and standards from international Military or Industry sources.

A standard part is manufactured in complete compliance with an established international industry or government specification which includes:

- a. Design, manufacturing, test and acceptance criteria, and uniform identification requirements.
- b. A type of part which has been found to demonstrate conformity based solely on meeting performance criteria from an established industry or government specification which contains performance requirements, test and acceptance requirements, and uniform identification requirements.
- c. The specification includes all information necessary to enable any manufacturer to manufacture the part.
- d. Examples of standards include, but are not limited to, National Aerospace Standards (NAS), Army-Navy Aeronautical Standard (AN), Society of Automotive Engineers (SAE), Military Standards (MS, MIL-STD), and American National Standards Institute (ANSI). These are sometimes referred to as consensus or commercial standards.
- e. The term “standard part/s” is used in this standard and includes the following sub-sets of the term: military, industry, company, supplier, commercial, and vendor.

MILITARY STANDARD PART: A part that is manufactured to design standards/specifications issued by the military. A standard that the U.S. military has derived providing requirements and approved sources of supply for the following: AVL: Approved Vendor List (QML: Qualified Manufacturers List) (QPL: Qualified Products List) is, or used to be, available for identifying a supplier that does not meet the definition for authorized supplier (is not on an AVL, QPL, or QML), but does have qualification and lot certifications. This standard would (in most cases) have a related “procurement spec” cited on the standard. (Note: a simple washer may not need one.)

INDUSTRY STANDARD PART: A standard that is accepted by the aerospace industry as a reliable standard. Industry standards such as NAS, AS, and AN are used and no AVL is available for these items. The purchasing activities qualify and lot-certify their accepted supplying entity/manufacturer. This type of standard part would (in most cases) have a related “procurement spec” cited on the standard.

COMPANY STANDARD PART (PRIME CONTRACTOR): This standard part is the same as a military standard part, except that it is not a military standard. In this case, the companies own the special standard part(s) that was made for specific needs with specific attributes. The prime contractor would specify its own procurement spec/requirements spec and qualify its own suppliers, producing an internal AVL for themselves and their sub-contractors.

SUPPLIER STANDARD PART: Companies that manufacture their fasteners, in most cases, have their own part numbers with their own procurement/requirement specs. Most of these are sold as part numbers for prime contractor standards. Example: a manufacturer makes and sells a specific fastener to many users, but each user may have their own internal standard, with requirements that may be more stringent than that of the manufacturer’s own part standard.

COMMERCIAL PART: Commercial parts are considered the same as COTS parts for this standard. Many individuals use this and “industry standards” as interchangeable terms. Commercial parts (such as bolts) are marked as noted in their procurement specification, and may also be known as Industry standard parts. Some have the manufacturer’s logo on them. Commercial parts may also be identified as vendor parts. Some aerospace companies create “company” standard parts and designate “industry standards” (e.g., NAS, AS, AN, and ANSI) which are listed or marked on the commercial parts.

VENDOR PART: Part produced by any outside company considered as catalog parts. These parts are available for open purchase. The organization's procuring activity may require a lot certification/quality conformance report. The "vendor" or "supplier" part numbers may be defined as "original fastener manufacturer's" internal part numbers, such as those developed by a specific company. Vendor parts also have an original manufacturer part number. A commercial part would typically be designed and controlled by the manufacturer's drawing system, thus being defined as a manufacturer's part number or vendor's part number.

SUPPLIER TYPES IN THIS DOCUMENT: Entities where parts and materiel can be acquired.

APPROVED SUPPLIER: An entity selling materiel that has been determined by the procuring organization to use acceptable counterfeit risk mitigation and quality management processes. Approved suppliers are authenticated by the procuring activity per the organization's QMS procedures and have available, or can be made available by supplier upon request, documentation specified in 3.2.1 of this procedure. Periodic assessments are performed based on the organizations' QMS. When periodic assessments are not available for the supplier, the organization implements risk mitigation practices; see Section 4 of this procedure.

NOTE: Forms of verification or authentication that may be conducted include:

- a. Determine if the supplier is authorized;
- b. Use of the same group of suppliers on a consistent basis who comply with the requirement to only procure from an authorized supplier; or
- c. Request traceability history from the supplier which provides evidence of the chain of custody.

AUTHORIZED (FRANCHISED) DISTRIBUTION: Transactions conducted by an organization distributing product within the terms of a contractual agreement with the original manufacturer.

NOTE: Contractual agreement terms may include, but are not limited to, distribution region, distribution products or lines, and warranty flow down from the original manufacturer. Franchised distribution is considered synonymous with authorized distribution.

AUTHORIZED (FRANCHISED) DISTRIBUTOR: An organization that performs authorized distribution. A franchised distributor is considered synonymous with an authorized distributor.

AUTHORIZED SUPPLIER (SPECIFIC FOR FASTENERS): A supplier, distributor, or aftermarket manufacturer with a contractual arrangement with, or the express written authority of, the original manufacturer or contract design activity to buy, stock, repackage, sell, or distribute the part.

NOTE: An authorized supplier may also include:

- a. A manufacturer who is able to provide documented verification that the material provided meets the procurement specification/part standard requirements as specified on the purchase order.
- b. A manufacturer or distributor identified in the bill of material or specified on a source or vendor controlled drawing and identified by their name, location, CAGE, and/or DUNS Code.
- c. The organization's build-to-print manufacturer that is identified as the manufacturer shown in the first article inspection report.

MANUFACTURER'S AUTHORIZED DISTRIBUTORS: The procuring activity verifies the manufacturer's authorized distributors when these sources are used. Manufacturer's authorized distributors provide or have available qualification and lot certification/quality conformance reports.

NOTE: Available documentation is shown in 3.2.1 of this procedure. In some industries, the qualification/first article documentation is provided by the manufacturer based on the product specification (the standard and its applicable procurement requirement specification).

NON-APPROVED SUPPLIER: A fastener supplier that does not meet the definition for approved supplier.

NON-AUTHORIZED SUPPLIER: A fastener supplier that does not meet the definition for authorized supplier. A supplier that does not have the required documentation is considered a non-authorized supplier. The non-authorized supplier is not listed on the appropriate AVL, QML, or QPL. See Section 4 for the procuring entities' risk mitigation activities. The definition of a non-authorized supplier includes, but is not limited to, the following:

- a. A supplier that does not have, or cannot supply documented traceability back to the original manufacturer or their authorized vendor/distributor(s).
- b. A supplier that does not have, or cannot supply fastener part Certificate of Conformance (CoC) documentation or industry standard documentation.

3. AVOIDANCE AND DETECTION PLAN REQUIREMENTS, TRAINING, PROCUREMENT

3.1 Counterfeit Avoidance Plan Requirement

The organization shall have a counterfeit avoidance plan and associated documented procedures/work instructions in place to comply with the requirements described in Sections 3 through 6 of this document. Figure 1 shows the overall flow for procuring fasteners.

Procurement of Fasteners

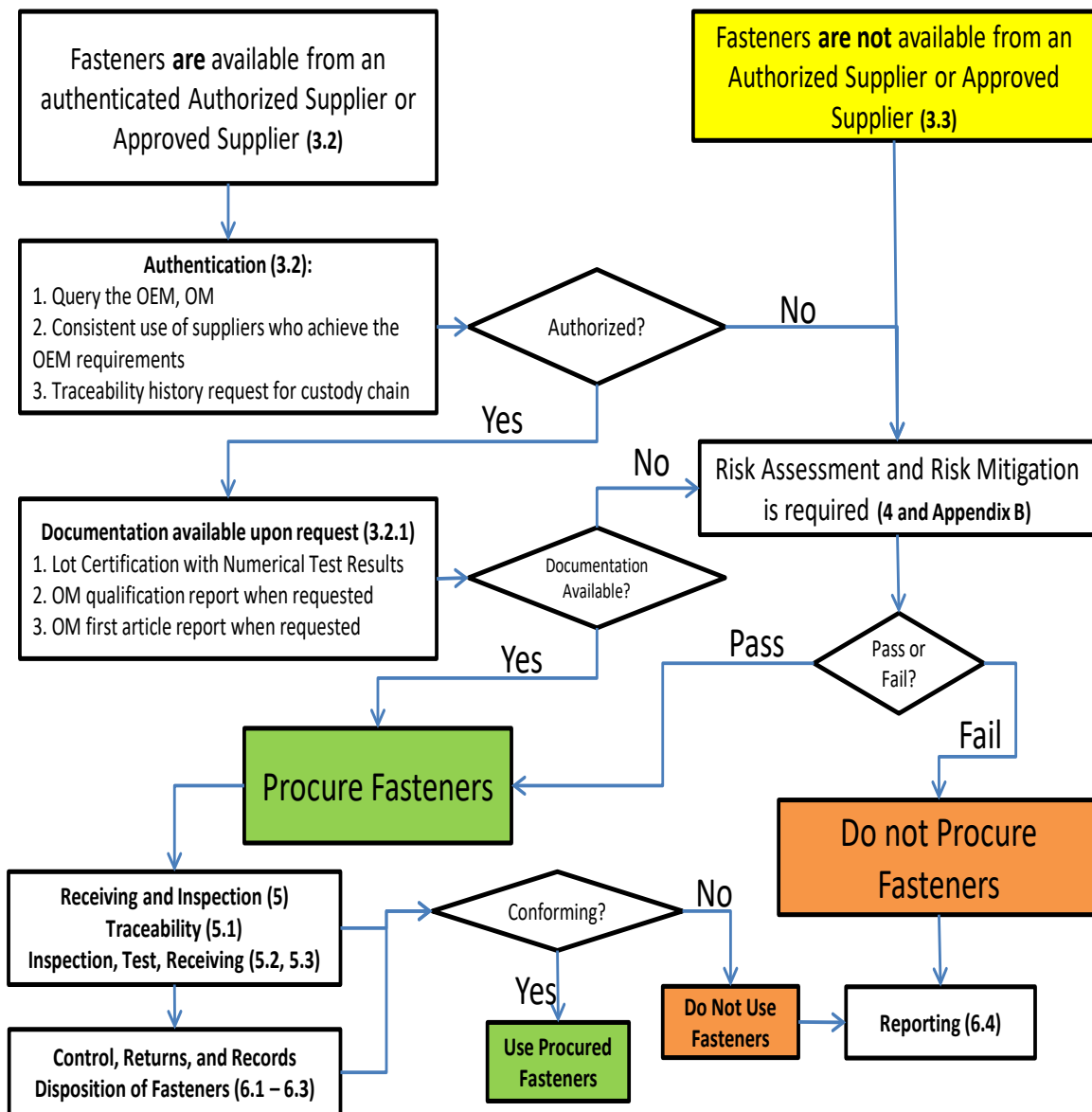


Figure 1

3.1.1 Training

The organization shall train employees in the awareness, avoidance, detection, mitigation, and disposition of suspect counterfeit or counterfeit fasteners, relevant to their organizational role and/or function.

NOTE: Relevant personnel may include those involved with the customer interface, management, program and project management, procurement, quality assurance, inspection, receiving, manufacturing, and engineering activities.

3.2 Procurement from Authorized or Approved Suppliers

The organization shall purchase all fasteners and fastening devices directly from authorized suppliers or approved suppliers. The organization's plan shall define the process for determining authorized suppliers or approved suppliers.