



AEROSPACE STANDARD

AS5553®

REV. E

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Superseding AS5553D

(R) Counterfeit Electrical, Electronic, and Electromechanical (EEE) Parts;
Avoidance, Detection, Mitigation, and Disposition

RATIONALE

This standard addresses the evolving threat of counterfeit electrical, electronic, and electromechanical (EEE) parts entering the aerospace supply chain which poses performance, reliability, and safety risks.

Revision E contains clarifications throughout the document to reduce implementation costs. These changes address obsolescence management, EEE Part procurement, purchasing information, part acceptance, material control, refresher training, record retention, and assessment for compliance with applicable AS5553 requirements. This revision also adds requirements for AS6171 risk mitigation if AS6171 is required by contract.

FOREWORD

Electronics industry organizations must produce and continually improve products to meet or exceed customer and regulatory authority requirements for performance, safety, and reliability. The globalization of the aerospace industry and the resulting diversity of regional/national requirements and expectations have complicated this objective. The industry faces the challenge of assuring quality and integrating authentic products purchased from suppliers throughout the world and at all levels within the supply chain. Aerospace suppliers and contractors face the challenge of delivering products to multiple customers with varying quality expectations and requirements. This document standardizes requirements, practices, and methods related to EEE Parts management, supplier management, procurement, inspection, test/evaluation, and response strategies to mitigate Counterfeit Risk and to avoid, detect, disposition, and report Suspect Counterfeit/Counterfeit EEE Parts.

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1. SCOPE

1.1 Purpose and Application

This standard is for use by organizations that procure and integrate EEE Parts. These organizations may provide EEE Parts that are not integrated into assemblies (e.g., spares and/or repair EEE Parts). Examples of such organizations include, but are not limited to, the following: Original Equipment Manufacturers; contract assembly manufacturers; maintenance, repair, and overhaul (MRO) organizations; and suppliers that provide EEE Parts or assemblies as part of a service. These requirements are intended to be applied (or flowed down as applicable) through the supply chain to all organizations that procure and integrate EEE Parts and/or systems, subsystems, or assemblies. The mitigation of Counterfeit EEE Parts in this standard is risk based. These mitigation steps will vary depending on the criticality of the application and desired performance and reliability of the equipment/hardware.

The requirements of this document are used in conjunction with the organization's higher-level quality standard(s) (e.g., AS 9100, ISO 9001, ASQ/ANSI E4, ASME NQA-1, AS9120, or equivalent) and other quality management system documents (e.g., AS9110 used by MRO organizations). They are not intended to stand alone, supersede, or cancel requirements found in other quality management system documents, requirements imposed by contracting authorities, or applicable laws and regulations unless an authorized exemption/variance has been obtained. This document is not intended to make a legal determination of fraud, for which appropriate legal counsel should be consulted for further action.

For the purposes of this document, the term "risk" is synonymous with Counterfeit Risk.

1.2 Additional Guidance

ARP6328 provides additional guidance information that the organization can consider when implementing AS5553.

NOTE: Refer to ARP6328 for information previously contained in the AS5553 appendices prior to Revision B of AS5553.

2. REFERENCES

2.1 Applicable Documents

The following publications form a part of this document to the extent specified herein. For references with dates, only the edition cited applies. For references without dates, the latest edition of the referenced document applies. In the event of a 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 (U.S. and Canada only) or +1 724-776-4970 (Outside U.S. and Canada), www.sae.org.

AIR6273	Terms, Definitions, and Acronyms Counterfeit Materiel or Electrical, Electronic, and Electromechanical Parts
ARP6328	Guideline for Counterfeit Electrical, Electronic, and Electromechanical (EEE) Parts; Avoidance, Detection, Mitigation, and Disposition Systems
AS6081	Counterfeit Electrical, Electronic, and Electromechanical (EEE) Parts: Avoidance, Detection, Mitigation, and Disposition - Independent Distribution
AS6171	Test Methods Standard; General Requirements, Suspect/Counterfeit, Electrical, Electronic, and Electromechanical Parts

AS6496	Counterfeit Electronic, Electrical and Electromechanical Parts: Avoidance, Detection, Mitigation, and Disposition - Authorized Distribution
AS9100	Quality Management Systems - Requirements for Aviation, Space, and Defense Organizations
AS9110	Quality Management Systems - Requirements for Aviation Maintenance Organizations
AS9120	Quality Management Systems - Requirements for Aviation, Space, and Defense Distributors
EIA-STD-4899	Requirements for an Electronic Components Management Plan
STD-0016	Standard for Preparing a DMSMS Management Plan

2.1.2 ANSI Publications

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

ASQ/ANSI E4 Quality Management Systems for Environmental Information and Technology Programs

2.1.3 ASME Publications

Available from ASME, Two Park Avenue, New York, NY 10016-5990, Tel: 800-843-2763 (U.S./Canada), 001-800-843-2763 (Mexico), 646-616-3100 (outside North America), www.asme.org.

ASME NQA-1 Quality Assurance Requirements for Nuclear Facilities Applications

2.1.4 IEC Publications

Available from IEC Secretariat, 3 rue de Varembe, PO Box 131, CH-1211 Geneva 20, Switzerland, Tel: +41 22 919 0211, www.iec.ch.

IEC 62402 Obsolescence Management

2.1.5 ISO Publications

Available from International Organization for Standardization, ISO Central Secretariat, Chemin de Blandonnet 8, CP 401, 1214 Vernier, Geneva, Switzerland, Tel: +41 22 749 01 11, www.iso.org/store.

ISO 9000 Quality Management Systems - Fundamentals and Vocabulary

ISO 9001 Quality Management Systems - Requirements

2.1.6 U.S. Government Publications

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

MIL-STD-11991 General Standard for Parts, Materials, and Processes

SD-22 Diminishing Manufacturing Sources & Material Shortages (DMSMS) Guidebook, Defense Standardization Program Office, March 2024

2.2 Terms and Definitions

For the purposes of this document, the terms and definitions listed in AIR6273, ISO 9000, and the following apply. In the event of a conflict of definitions, the definitions herein shall take precedence.

Throughout the text of this document, wherever the term “product” occurs, it can also mean “service.” Throughout the text of this document, wherever the term “part” occurs, it is synonymous with “component” and “EEE Part.”

2.2.1 COUNTERFEIT EEE PART

1. An unauthorized (a) copy, (b) imitation, (c) substitute, or (d) modified EEE Part, which is knowingly, recklessly, or negligently misrepresented as a specified genuine item from an Original Component Manufacturer or Authorized Aftermarket Manufacturer; or
2. A previously used EEE Part or a part which has been modified, and is knowingly, recklessly, or negligently misrepresented as new without disclosure to the customer that it has been previously used.

NOTE 1: This definition may differ from civil or criminal laws that address the acts of counterfeiting or fraud and is not intended to make a legal determination. According to some civil and criminal statutes, used EEE Parts sold as new that have not been modified are not counterfeit. These issues are covered under existing laws covering fraud. For civil matters, this issue would typically be covered under civil fraud and terms and conditions of a purchase order or contract that specifies EEE Parts must be new.

NOTE 2: Parts that have been refinished, upscreens, or uprated and have been identified as such are not considered counterfeit solely because of their modified status.

NOTE 3: Examples of counterfeit parts can include, but are not limited to: identifying lower grade parts as higher grade parts, or falsifying serial numbers, date codes, or performance characteristics.

2.3 Related Definitions

2.3.1 AUTHORIZED AFTERMARKET MANUFACTURER

The Manufacturer is authorized by the Original Component Manufacturer (OCM) to produce and sell EEE Parts, usually due to an OCM decision to discontinue production of an EEE Part.

2.3.2 AUTHORIZED SOURCE

Original Component Manufacturers and OCM-authorized sources of supply for an EEE Part (i.e., franchised distributors, authorized distributors), and Authorized Aftermarket Manufacturers.

2.3.3 COUNTERFEIT RISK

The possibility that the part is not of the origin or pedigree represented and/or the possibility of hazard or loss as a result of acquiring and integrating a counterfeit part.

NOTE: For the purposes of this document, the term “risk” is synonymous with Counterfeit Risk.

2.3.4 ELECTRICAL, ELECTRONIC, AND ELECTROMECHANICAL (EEE) PART

Refer to AIR6273.

2.3.5 EXCLUSIVE SUPPLIER

A Supplier who provides EEE Parts that it obtains directly from Authorized Sources, but the Exclusive Supplier may not itself be an authorized distributor for those parts.

NOTE: EEE Parts obtained from suppliers other than those authorized by the OCM will not normally convey the OCM's warranties and technical support.

2.3.6 MANUFACTURER

An organization that produces and sells products with legal rights or authority under the organization's name or contracts with another to do so; includes Original Component Manufacturer (OCM) and Original Equipment Manufacturer (OEM).

2.3.7 ORIGINAL COMPONENT MANUFACTURER (OCM)

An entity that designs and/or engineers a part or owns any intellectual property rights of that part.

NOTE 1: The part and/or its packaging are typically identified with the OCM's trademark, logo, and/or name.

NOTE 2: OCMs may contract, license, or authorize the manufacturing of their product.

NOTE 3: OCMs may also authorize distribution of their product.

NOTE 4: More than one OCM may produce a part to a common specification.

NOTE 5: Organizations are not OCMs if they acquire parts which they have not designed, developed, or own the intellectual property rights, and relabel or repackage the parts to supply as their own new parts.

2.3.8 ORIGINAL EQUIPMENT MANUFACTURER (OEM)

A company that designs, develops, or owns the intellectual property rights to products manufactured and assembled from EEE Parts under the company's brand name.

2.3.9 SUSPECT COUNTERFEIT EEE PART

Refer to AIR6273.

3. REQUIREMENTS

3.1 Counterfeit EEE Parts Control Plan

The organization shall develop, document, and implement a risk-based Counterfeit EEE Parts control plan which identifies the organizational processes used for risk identification, mitigation, detection, avoidance, disposition, and reporting of Suspect Counterfeit/Counterfeit EEE Parts and/or assemblies containing such EEE Parts. The control plan shall include, at a minimum, the processes described in 3.1.1 through 3.2.

The control plan and associated processes (including training) shall be maintained, updated, and sustained based on evolving counterfeiting techniques and trends.

NOTE: Since counterfeiting is an ongoing threat, and the methods used to counterfeit parts are continuously evolving, the plan should be considered a living document subject to evaluation and, if warranted, implementation of new Counterfeit Risk mitigation methods such as those contained in industry standards.