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Aerospace series - Quality management systems - Data Matrix Quality Requirements for Parts Marking

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

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Supersedes EN 9132:2006

English Version

Aerospace series - Quality management systems - Data Matrix Quality Requirements for Parts Marking

Série aérospatiale - Systèmes de management de la qualité - Exigences qualité du marquage des pièces en code-barres Data Matrix

Luft- und Raumfahrt - Qualitätsmanagementsysteme - Data Matrix Qualitätsanforderungen für Teilemarkierung

This European Standard was approved by CEN on 4 December 2016.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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European foreword

This document (EN 9132:2017) has been prepared by the Aerospace and Defence Industries Association of Europe - Standardization (ASD-STAN).

After enquiries and votes carried out in accordance with the rules of this Association, this Standard has received the approval of the National Associations and the Official Services of the member countries of ASD, prior to its presentation to CEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by August 2017, and conflicting national standards shall be withdrawn at the latest by August 2017.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 9132:2006.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Rationale

This standard has been revised to clean up the general text/content and to reformat the document to the latest format/style guide. This standard was created to provide for uniform quality and technical requirements relative to metallic parts marking performed within the aviation, space, and defence industry. This standard can be invoked as a stand-alone requirement or used in conjunction with EN 9100-series standards (i. e., EN 9100, EN 9110, EN 9120).

Foreword

To assure customer satisfaction, the aviation, space, and defence industry organizations must produce and continually improve safe, reliable products that meet or exceed customer and regulatory authority requirements. The globalization of the industry, and the resulting diversity of regional/national requirements and expectations, has complicated this objective. End-product organizations face the challenge of assuring the quality of, and integrating, product purchased from suppliers throughout the world and at all levels within the supply chain. Furthermore, suppliers and processors, within the industry, face the challenge of delivering product to multiple customers having varying quality expectations and requirements.

The aviation, space, and defence industry established the International Aerospace Quality Group (IAQG) for the purpose of achieving significant improvements in quality and safety, and reductions in cost, throughout the value stream. This organization includes representation from companies in the Americas, Asia/Pacific, and Europe. This document standardizes data matrix quality requirements for parts marking for the industry. The establishment of common requirements, for use at all levels of the supply-chain by organizations, should result in improved quality and safety, and decreased costs, due to the elimination or reduction of organization-unique requirements and the resultant variation inherent in these multiple expectations.

1 Scope

This standard defines uniform quality and technical requirements relative to metallic parts marking performed using “data matrix symbology” within the aviation, space, and defence industry. ISO/IEC 16022 specifies general requirements (e. g., data character encodation, error correction rules, decoding algorithm). In addition to ISO/IEC 16022 specification, part identification with such symbology is subject to the requirements in this standard to ensure electronic reading of the symbol.

The marking processes covered by this standard are as follows:

- Dot Peening;
- Laser;
- Electro-Chemical Etching.

Further marking processes will be included, if required.

Unless specified otherwise in the contractual business relationship, the company responsible for the design of the part shall determine the location of the data matrix marking. Symbol position should allow optimum illumination from all sides for readability.

This standard does not specify information to be encoded.

1.1 Convention

The following conventions are used in this standard:

- The word “shall” indicates mandatory requirements;
- The word “should” indicates requirements with some flexibility allowed in compliance methodology. Producers choosing other approaches to satisfy a “should” shall be able to show that their approach meets the intent of the standard’s requirement;
- The words “typical”, “example”, “for reference” or “e. g.” indicate suggestions given for guidance only;
- Appendices to this document are for information only and are provided for use as guidelines;
- Dimensions used in this document are as follows. Metric millimetre (mm) sizes followed by inches (in) in parentheses, unless otherwise stated.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 9102, *Quality Systems — First article inspection requirement*

ISO/IEC 16022, *Information technology — Automatic identification and data capture techniques — Data Matrix bar code symbology specification*