SLOVENSKI STANDARD
SIST EN 9131:2009

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Aeronavtika - Sistemi vodenja kakovosti - Dokumentacija o neskladnosti

Aerospace series - Quality management systems - Nonconformance documentation

Luft- und Raumfahrt - Qualitätsmanagementsystems - Nichtkonformitäts Dokumentation

Série aérospatiale - Systèmes de management de la qualité - Documentation des non-conformités

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03.120.10	Vodenje in zagotavljanje kakovosti	Quality management and quality assurance
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Aerospace series - Quality management systems - Nonconformance documentation

Série aérospatiale - Systèmes de management de la qualité - Documentation des non-conformités

Luft- und Raumfahrt - Qualitätsmanagementsystems - Nichtkonformitäts Dokumentation

This European Standard was approved by CEN on 18 October 2008.

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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 Management Centre has the same status as the official versions.

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (EN 9131:2009) 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of an identical text or by endorsement, at the latest by October 2009, and conflicting national standards shall be withdrawn at the latest by October 2009.

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.

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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

This standard was reviewed by the Domain Technical Coordinator of ASD-STAN's Quality Domain.

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 standard has been significantly revised further defining process requirements and data expectations; restructuring the nonconformity documentation data and providing further definition of data descriptions; and providing process defect, cause, and corrective action codes.

This standard was created to provide for the uniform submittal of nonconformance information for notification and/or approval when contractually invoked at any level or as guidance within the aviation, space, and defence industries. This standard can be invoked as a stand alone requirement or used in conjunction with AS/EN/JISQ series standards (i.e., 9100, 9110, 9120).

To assure customer satisfaction, aerospace industry organizations must produce, and continually improve, safe, reliable products that meet or exceed customer and regulatory authority requirements. The globalization of the aerospace 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. Aerospace suppliers and processors face the challenge of delivering product to multiple customers having varying quality expectations and requirements.

The aerospace 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 aerospace companies in the Americas, Asia/Pacific, and Europe.

This document standardizes requirements for nonconformance data definition and documentation for the aerospace 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

1.1 Application

This standard defines the common nonconformance data definition and documentation that must be exchanged between an internal or external supplier or sub-tier supplier and the customer when informing about a nonconformity requiring formal decision. The requirements are applicable - partly or totally - when reporting a product nonconformity to the owner or operator as user of the end item (e.g. engine, aircraft, spacecraft, helicopter etc.), if specified by contract.

Reporting of nonconformance data, either electronically or conventionally on paper, is subject to the terms and conditions of the contract. This also includes, where applicable, data access under export control regulations.

1.2 Purpose

The process of exchanging coordinating and approving nonconformance data via waiver/concession or product quality escape varies with the multiple relationships and agreements among all parties concerned. The information provided by this standard forms an architecture for submitting and managing data that allows for concise and accurate communication using various methods. The main objective of this standard is to provide the definition of a data set that can be integrated into any form of communication (e.g., electronic data interchange, submission of conventional paper forms).

2 Normative references

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

ISO 9000:2005, *Quality management systems — Fundamentals and vocabulary.*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 9000 and the following apply.

3.1
customer
recipient of a product provided by an internal/external supplier or subcontractor

3.2
mandatory
common and transferable data systematically filled in and provided

The data field must be printed out on the paper form.

3.3
optional
all data fields that are not defined as mandatory by this standard

These fields may be requested by a customer or need by the originator for their own purposes.

3.4
product
any vehicle, engine, equipment, component, deliverable software or parts and materials thereof

3.5
product quality escape
any product released by an internal or external supplier or sub-tier supplier that is subsequently determined to be nonconforming to contract and/or product specification requirements

3.6
waiver/concession:
written authorization from the customer to the internal or external supplier to use or release a product which does not conform to the specified requirements

NOTE Waiver/concession and product quality escape differ with respect to the point in time when a nonconformance is detected during the product life cyle. Waiver/concession is evident before delivery to the customer, while a product quality escape is identified after delivery to the customer.

4 Requirements

4.1 Data related to the description of a nonconformity (i.e., content, format, size) shall be in accordance with the complete set defined in Annex A, "List of nonconformance documentation" and with the contractual requirements.

a) Mandatory data fields, identified in bold text and marked with an asterisk (*) shall be systematically recorded and reported to the customer.

b) Optional data fields shall be recorded when required by contractor due to originator's needs provided that it is not in contradiction with contractual requirements.

NOTE 1 For any data field, whether mandatory or optional, recorded and reported to the customer that is not applicable shall have N/A entered in the field, prior to final approval/signature.

NOTE 2 Customers may require different optional data fields be recorded and reported. It is therefore recommended to ensure the Information Technology System is capable of modifying the optional data fields and inactivating those not being used to be able to fulfil new customer's requirements and where existing customers change their requirements. This contains also the capability of the Information Technology System to process with data types and data sizes specified in this standard.

4.2 The entities responsible for entering and approving/acknowledging nonconformance data - in particular disposition, category of the non-conformity and associated limitation - shall respond in accordance with the terms and conditions of the contract or regulatory requirements.

4.3 Attached files shall be in a protected format (e.g., pdf, tif, jpg). Formats which can be easily changed (e.g., doc, xls, ppt) should be avoided. In such cases, appropriate precautions shall be taken to prevent inadvertent changes to the document.

4.4 Some data systems actually impose file-size constraints (e.g., maximum 500 kbyte). Due to the fact that pictures, tables, etc. occupy large amounts of electronic memory space, a “file optimization tool” (e.g., number of dpi, appropriate compressed format) shall be used to minimize the size of attached files.

4.5 When the description of a nonconformity is not required in an electronic format and/or is required as a printout, it shall be in a format similar to the example depicted in Annex B, “Form layout example”. However, the size and order of the fields may be changed to suit the individual application provided that:

a) The contents of the boxes specified in this standard are maintained; alternatively a cross reference can be used.

b) The form identified as a nonconformance data description.

c) Complies with contractual/regulatory requirements.

When required, continuation/additional sheets and attachments shall include the same reference number as the original document.

NOTE Reference Annex A, “List of nonconformance documentation data”, the data fields ‘Nonconformance Description’ (see No. 19) and ‘Disposition’ (No. 25) may be presented either as a summary or in a clearly defined sub-structure (see No. 19a-i and No. 25a-e).

4.6 The forms may be pre-printed, computer generated, or accessed via a net-based system (intranet/internet), but in all cases, the printing of lines and characters shall be clear and legible. The details entered on the forms shall preferably be machine/computer printed, but may be handwritten as long as block letters are used and the document remains legible.

NOTE The use of abbreviations shall be kept at a minimum.

4.7 The information in the data fields shall be in English at a minimum, but other languages may be acceptable (e.g., bilingual: English and native) when contractually required.

5 Code catalog

The following codes are recommended to define affected processes, causes for process deviations, and corrective actions taken to remedy the nonconformance. If codes are defined by the terms and conditions of the contract and/or the originators already have codes defined that satisfying their needs, these contracted codes shall take precedence over those proposed in the following sections.

5.1 Process codes

A product nonconformance is typically associated to a process deviation. See Table 1, “Nonconformance process codes”, for a list of process codes.

5.2 Cause codes

The causes for process deviations are defined in Table 2, “Nonconformance cause codes”. In order to assist categorization, the list is set up to facilitate the use of process improvement tools (e.g., cause and effect diagram). The ‘Main Term’ code can be used as the cause code, if appropriate, or further definition may be provided.

NOTE One or more cause codes may be used to define the cause(s) for a product nonconformance.

5.3 Corrective action codes

Where possible, the corrective action codes defined in Table 3, “Nonconformance corrective action codes”, are intended to directly correspond to the cause codes identified in Table 2.

NOTE One or more corrective action codes may be used to define the corrective action(s) taken for a product nonconformance/cause code.

Table 1 — Nonconformance process codes

Main term	Process code	Definition / Description
P1 – Shipping and transportation	P11	Shipping
	P12	Transportation
	P13	Order Preparation
	P14	Preparation of Packaging
	P15	Packaging
P2 - Manufacturing	P201	Assembly
	P202	Test
	P203	Balancing
	P204	Benching
	P205	Blasting
	P206	Bonding
	P207	Brazing
	P208	Broaching
	P209	Casting
	P210	Cleaning
	P211	Coating
	P212	Composite Manufacturing
	P213	Crimping
	P214	Deburring
	P215	Drilling
	P216	Electrochemical Processing
	P217	Etching
	P218	Forging
	P219	Forming
	P220	Grinding
	P221	Heat Treatment
	P222	Precision Hole Making
	P223	Honing and Lapping
	P224	Hot Isostatic Pressing
	P225	Inspection
	P226	Machining
	P227	Marking
	P228	Melting
	P229	Milling
	P230	Molding
	P231	Painting
	P232	Peening
	P233	Plating
	P234	Polishing
	P235	Riveting
	P236	Rolling / Pressing
	P237	Soldering
	P238	Stamping
	P239	Surface Treatment
	P240	Turning
	P241	Welding
P3 – Document preparation	P31	Documentation Error
	P32	Incomplete