



SLOVENSKI STANDARD

SIST EN 9278:2018

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Aeronavtika - Splošna načela upravljanja zastarelosti kemikalij, materialov in procesov

Aerospace series - General Principles of Obsolescence Management of chemicals, materials and processes

Luft- und Raumfahrt - Allgemeine Grundsätze des Obsoleszenzmanagements von Chemikalien, Werkstoffen und Prozessen

Série aérospatiale - Principes généraux de la gestion de l'obsolescence des produits chimiques, des matériaux et des procédés

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ICS:

21.020	Značilnosti in načrtovanje strojev, aparatov, opreme	Characteristics and design of machines, apparatus, equipment
49.020	Letala in vesoljska vozila na splošno	Aircraft and space vehicles in general

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EUROPEAN STANDARD

EN 9278

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Aerospace series - General Principles of Obsolescence Management of chemicals, materials and processes

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et des procédés

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Obsoleszenzmanagements von Chemikalien,
Werkstoffen und Prozessen

This European Standard was approved by CEN on 6 May 2018.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (EN 9278:2018) 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of an identical text or by endorsement, at the latest by February 2019, and conflicting national standards shall be withdrawn at the latest by February 2019.

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

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Introduction

In the aeronautics and space fields, the component life time compared to the lengthy life cycle of finished products and the arrival of new regulations drive organisations into structuring obsolescence management.

This need has become important in these fields as a result of:

- the effort necessary for the qualification of materials and processes (due to a high level of performance and security requirements, to the complexity of interactions between systems, to the large number of industrial actors, to the multinational nature of programmes, etc.);
- the regulation requirement of conformity from the produced configuration to the qualified configuration (for example of certification by an official organization).

These characteristics reinforce three aerospace industry priorities:

- traceability;
- stability of technical choices;
- anticipation of evolutions.

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New regulations such as RoHS or REACH, creating potential obsolescences (related to authorization and substance use restriction processes), force to take this obsolescence risk into account.

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They created increasingly stronger concerns for organisations willing to express a need of information from the aerospace industry information within themselves, and within each of their programmes and with respect to their suppliers regarding necessary and accessible data that shall be supplied, shared and tracked. For example, information exchange principles are given in Annex A.

Obsolescence risk is meant as a potential or proven event, resulting from the non-availability of a product.

The submentioned differentiation will be observed in obsolescence cases:

- potential: obsolescence is predicted without a known deadline;
- proven: obsolescence is indicated with a known deadline;
- endured: obsolescence was unexpected, it is assessed.

Obsolescences of chemicals and their effects on products, especially materials, processes and mechanical part are tackled in this general recommendation, developed within the “Programme Management” working group to which representatives of aerospace and armament industries participated.

The obsolescences related to chemicals originate in:

- new regulations or evolution of existing laws (environment, health, safety, etc.);
- evolution for suppliers: changes of reference, evolutions of products, manufacturing processes, formulation, rationalising of product ranges, manufacturing halts, etc.;
- supplier failure: bankruptcies, evolution of industrial organisation, industrial accidents (fire, flooding, etc.);
- import – export obligations (ITAR, export controls, export licence, etc.);
- market laws or industrial rules (volume of production too low, ageing technology, etc.);
- etc.

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EN 9278:2018 (E)**1 Scope**

Obsolescence is a significant risk factor for an organisation and/or a programme activity regarding the continuity of productions, services and maintenance in operational conditions of equipments and systems. It can appear in any phase of the product life cycle. Thus it is essential that the organisation determines the best strategy to be implemented in order to control these risks, implying its customers and suppliers in the definition of this strategy.

This recommendation is a document meant to be used as guidelines, for an organisation and/or a given programme, for the implementation of a coordinated management process of obsolescence risks related to chemical products and to their effects on products, especially on materials, processes and mechanical parts.

Can be subject to obsolescences:

- all categories of equipments as well as their components;
- materials and processes used to produce, operate or maintain a product;
- all that can be bought, manufactured, repaired, be it done internally or externally;
- means of production, test and maintain.

This document excludes obsolescences related to electronic components and softwares (for more information on that subject, see EN 62402).

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2 Normative references

There are no normative references in this document.

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3 Terms and definitions**3.1****obsolescence**

impossibility in supplying a product from original manufacturers

Note 1 to entry: Such a product is qualified as obsolete.

Note 2 to entry: An obsolescence can have different origins: regulations, technical evolution, supplier's failure, industrial evolutions, etc.

Note 3 to entry: The supplying impossibility can be permanent, temporary or potential.

3.2**programme**

coordinated set of technical, administrative and financial tasks, intended to design, develop, produce and use a product, satisfying a need under the best economic conditions, as well as ensuring its support and considering the constraints of a withdrawal

[SOURCE: EN 9200]

3.3**organisation**

set of facilities and persons with responsibilities, powers and relations

EXAMPLE Company, society, firm, business, etc.

[SOURCE: according to EN ISO 9000]

3.4**process**

set of related resources and activities contributing to obtain a defined result and which transform input elements into output elements

[SOURCE: according to EN 9200]

3.5**product**

result of activities or processes

Note 1 to entry: Products mean here finished products (aircraft, equipment, etc.), components they are constituted of (composed, referenced article of the product, etc.), components constitutive of their processes (e.g. surface treatment).

[SOURCE: according to EN 9200]

3.6**chemical**

preparation or a mix of substances

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3.7**supplier**

organisation or person who provides a product or a service

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Note 1 to entry: The supplier can be understood as the subcontractor.

[SOURCE: according to EN ISO 9000]

3.8**supply chain**

totality of the organisation functions and its suppliers enabling to ensure the availability of materials, parts, assemblies, equipments as well as industrial means and competences necessary to the manufacture and operation

Note 1 to entry: According to the IAQG, supply chain is translated into French by *chaîne de fournisseurs*.

3.9**use case – point of use**

description of the use of a product or a substance, including its operating, control and operability conditions, its interfaces, its main functions and requirements, etc.

Note 1 to entry: It must not be confused with the point of use which is the location of use of a component in a product.

EN 9278:2018 (E)**3.10****substance**

chemical element and its compounds in the natural state or obtained by any manufacturing process

[SOURCE: according to GIFAS REACH Guide]

3.11**life cycle**

this describes the whole series of developments of the product throughout its life starting from the expression of its need until the disposal, whatever the form is

Note 1 to entry: The life cycle includes the following phases:

- initial statement of requirement;
- feasibility;
- definition;
- development;
- production;
- use;
- withdrawal.

[SOURCE: according to EN 9200]

4 Objectives of the obsolescence management process

The aim of this process is to ensure that the product, subject of the programme, can be manufactured and supported throughout its life cycle (maintenance, spares, reparations, etc.). It enables to anticipate obsolescences and minimise their impact and their cost on the products of the organisation (actual and in the near future).

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The process consists in **scheduled and coordinated actions** intended to ensure the availability of a product during its operating life, through technically and economically practicable means of replacement.

The process shall include the strategic vision of the operators of the supply chain (this vision can differ from an operator to another), the organisation-supplier balance of power (suppliers' certification) as well as global environment (media pressure, brand image).

All the actors of the supply chain are responsible for obsolescence management throughout the life cycle of a finished product with regards to customers or users. In particular, a purchaser shall state to his suppliers the requirements to which he shall himself comply.

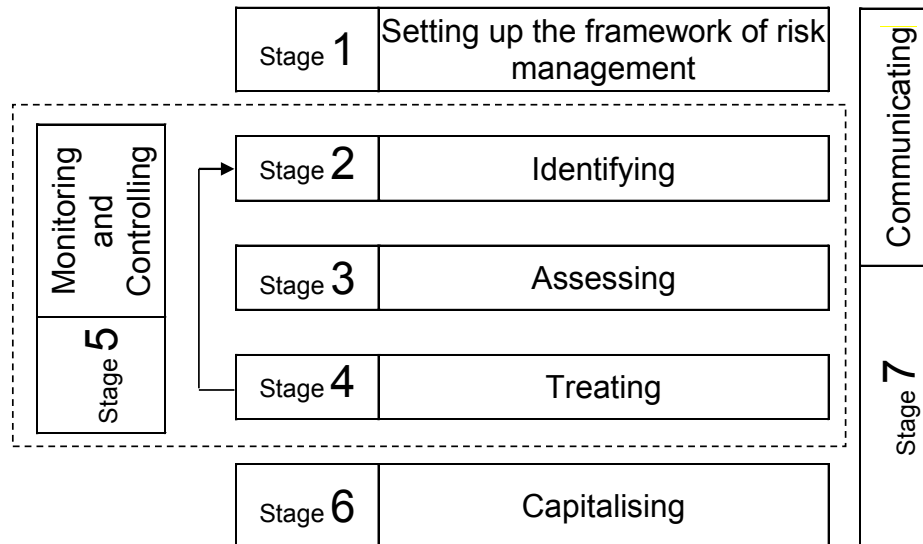
However, beyond these considerations, the key of obsolescence management is the circulation of information so that information received by any operator of the organisation, programme or supply chain can be reported, centralised in one unique focal point, and then treated, analysed, made use of and finally passed on at programme or service levels.

The aim of this process is to give priority as far as possible to **proactive** treatment above **reactive** treatment (endured).

Detectability is especially important and belongs to the organisation and the programme. In the aerospace field, action plans to be implemented in order to resolve obsolescences are often long and costly. Thus, an obsolescence detected early enough allows an easier implementation while ensuring a safety margin. Furthermore, the sooner the impacts are identified, the sooner it is possible to make sure

that all applications are taken care of, and, in this way, to avoid “bad surprises” when the time comes to implement the replacement solution or to stop the current solution.

Obsolescence risk management is part of a process that is similar to risk management as described in the EN 9239, given in the following Figure 1 as a reminder.



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Figure 1 — Main stages of risk management

This process relates both to the **organisation** (then including, for example, all obsolete products at the same time) and the **programmes** (affected by their own obsolescences).

One of the issues is optimising the structure between actions carried on by the organisation and those dealt with by each programme. Another issue is to share the efforts between various programmes within one organisation, or even between several organisations.

The organisation is the owner of the obsolescence management process, and the programme is in charge of the development of this process within an obsolescence management plan meeting in particular the customer’s requirements.

5 What comes under the organisation

5.1 General

The following tasks come under the organisation:

- 1) formalising the obsolescence management policy;
- 2) defining an obsolescence management process;
- 3) defining a strategy following the criticality of obsolescences;
- 4) keeping an up-to-date reference document of substances, technologies, processes and products;
- 5) monitoring and alerting;
- 6) contractualising obsolescence management.

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The organisation shall implement a structure in order to deal with these tasks. It defines responsibilities, organisation and operating modes. This structure relies on multidisciplinary competences (technics, finance, purchase, logistics, legal, etc.), and on the quality reference framework of the organisation and the norms it imposes itself (for example following EN 9100). This structure manages obsolescences for the totality of the products put on the market by the organisation including those entrusted to its suppliers.

5.2 Formalising the obsolescence management policy

Obsolescence management is part of a global approach of risk management and quality assurance.

The organisation shall assess the impacts of obsolescence risks:

- for its products and programmes:
 - performances;
 - operating security (reliability, maintainability, availability, safety);
 - costs and schedules;
 - difficulties of remanufacturing;
 - etc.
- as well as for itself:
 - its image;
 - its control of conformity with laws and regulations, especially in the environmental field;
 - etc.

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The organisation must formalise its obsolescence management policy relating to:

- orientations chosen for proactivity regarding obsolescence;
- technologies to be favoured, search for technological breakthroughs;
- competitive advantages (patent registrations, etc.);
- purchase policy;
- etc.

5.3 Defining an obsolescence management process

The organisation is in charge of defining an obsolescence management process, respecting the recommendations of this document.

This process shall allow for each product and programme to identify obsolescences and find a solution adapted to each product and programme. It shall aim at anticipating obsolescences in order to minimise their effects on the finished product (cost, availability delays, quality, etc.).