



SLOVENSKI STANDARD

oSIST prEN 15999:2009

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Conservation of cultural heritage - Guidelines for management of environmental conditions - Recommendations for showcases used for exhibition and preservation of cultural heritage

Erhaltung des kulturellen Erbes - Leitlinien für die Handhabung von Umweltbedingungen - Empfehlungen für Schauvitrienen, die zur Ausstellung und Erhaltung des kulturellen Erbes verwendet werden

Conservation des biens culturels - Lignes directrices pour la gestion des conditions environnementales - Recommandations pour les vitrines destinées à exposer et conserver des biens culturels

Ta slovenski standard je istoveten z: prEN 15999

ICS:

97.195 Umetniški in obrtniški izdelki Items of art and handicrafts

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
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English Version

Conservation of cultural heritage - Guidelines for management of environmental conditions - Recommendations for showcases used for exhibition and preservation of cultural heritage

Conservation des biens culturels - Lignes directrices pour
la gestion des conditions environnementales -
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Handhabung von Umweltbedingungen - Empfehlungen für
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kulturellen Erbes verwendet werden

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 346.

If this draft becomes a European Standard, 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.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

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Foreword

This document (prEN 15999:2009) has been prepared by Technical Committee CEN/TC 346 “Conservation of cultural heritage”, the secretariat of which is held by UNI.

This document is currently submitted to the CEN Enquiry.

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Introduction

Better material knowledge of objects and their interaction with the environment, results in better preservation. With increasing development of mass cultural tourism the number of exhibitions and visitors are likely to continue to expand in the future.

In light of this new knowledge, and to prevent risks of decay related to the exhibitions, the showcase is a useful tool to preserve and protect objects.

In a showcase, environmental parameters such as hygrometry, dust, pollutants, and risks of physical damage such as theft, and vandalism can be better controlled.

This document concerns all those in charge of the preservation and the exhibition of cultural heritage objects or in charge of designing, making or fitting out showcases.

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1 Scope

This document defines the characteristics and the conditions for use of showcases for the exhibition of cultural heritage, reducing environmental interaction, and complying with the requirements for better preservation.

2 Normative references

Not applicable.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

absorption

physical/chemical process that occurs when a gas or liquid solute diffuses into a solid to form a solution or is transported and kept into the volume by capillary forces

3.2

accessibility

physical capability of intervention in a display case: handling of an object, technical intervention, and maintenance

3.3

buffers

material which resists change of relative humidity, acidity, or temperature, by adsorbing/adsorbing or desorbing vapours, gases, ions, and heat

3.4

preservation

management of any object or collections of cultural heritage and all actions in order to avoid and minimize any future deterioration

3.5

conservation material

stable and inert material close to or touching objects and exercising no effect on them or their environment

3.6

microclimate

synthesis of the ambient physical conditions and their variability (e.g. average levels and fluctuations, time and space distributions) of the atmospheric variables (e.g. temperature, humidity, radiation, air motions) including heat and mass exchanges with other bodies (e.g. infrared emission, lighting, evaporation/condensation, particulate deposition) over a period of time representative of all the conditions determined by natural and manmade forcing factors

3.7

pollutants

gaseous or particulate chemical contaminants introduced into the atmosphere, that damage the environment and in the specific case of cultural heritage generate corrosion, incrustation, colour fading, soiling, or any other form of decay

3.8

showcase

a closed container of any dimension, designed to preserve and display objects in safe and secure conditions

prEN 15999:2009 (E)**3.9****support**

device to hold and support an object without interference or damage, guaranteeing its stability

4 Principles and components of a showcase for exhibition of objects**4.1 Functions of the showcase**

The fundamental functions of a showcase are:

- to display an object while protecting it,
- to prevent and minimize any kind of adverse effects to the objects,
- to reduce the exchange rate of air and associated components such as water vapour, dust, and pollutants, between the internal volume and the outside environment,
- to improve object preservation, safety and security.

4.2 Criteria of design or choice of the showcase

The design, the adaptation or the choice of a showcase shall be determined by the aim of showing an object in conditions of safety and security, and at the same time providing the best conditions needed for the object preservation. It shall conform to standards or regulations of public institutions.

It is necessary to take into account:

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a) the characteristics of the object:

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- dimensions (height, width, depth) and weight,
- physical, chemical, and structural nature of the exposed materials,
- brittleness and sensitivity in relation to the material history of the object;

b) the collection management of the institution: turnover of the collections, exhibition duration, handling of the objects and of the showcase;

c) the maintenance and interior cleaning of the showcase: they shall be easy and without danger for the objects;

e) the showcase and the public: stability, sufficient space of circulation, lighting;

f) environmental characteristics of the area where the showcase will be located.

d) placement of the object in the exhibition.

4.3 Components of the showcase

The showcase is composed of:

- an exhibition volume for the objects,
- technical compartments with devices to control lighting, microclimate, pollutants and biological deterioration;
- supports;

- a base to ensure static stability.

4.3.1 Exhibition volume

The exhibition volume contains and presents the objects.

It shall be made with stable, inert and neutral materials.

Its dimensions take into account the size of the objects, their condition, props, supports and mountings, the accessibility and any element of the museographical context.

The contact between the leaf and the frame ensures the permanent sealing of the interior volume. A leaf allowing access to at least 80% of this volume shall facilitate the handling of the objects or any operations.

It allows the installation of sensors/devices to monitor or control the internal environmental factors and facilitates the registration of data.

4.3.2 Technical compartments

The technical compartments have their own access allowing for the maintenance of the installations.

The technical compartment dedicated to the regulation of the microclimate of the showcase is related to the exhibition volume. The air circulation between the technical compartment and the exhibition volume allows a fast and homogeneous air exchange.

The sealing of the opening is the same as for the exhibition volume.

The technical compartment dedicated to the light sources is isolated from the exhibition volume. It has its own ventilation if necessary, with the possibility of controlling the temperature and humidity, while avoiding air leakage, light escape and dust contamination.

The technical compartments of the showcase shall be stable and damp vibrations.

4.3.3 Base and attachment unit of the showcase

The base or any attachment unit of the showcase shall ensure its stability and limit the vibrations.

The base shall be conveniently large to guarantee the stability and balance of the exhibition volume. In the event of fixing of the showcase, the system shall take into account the weight of the showcase and its contents, and the quality of the surface of fixing.

4.3.4 Device of presentation of the collections

4.3.4.1 Overlay inside the showcase

The bottom and the inner walls of the showcase should consist of inert and neutral materials.

4.3.4.2 Supports

The supports shall respect the physical integrity of the objects, without exerting internal tensions or external forces. The materials of the supports and fixings shall be inert.

The object together with its support should be made stable, either by a sufficient surface of installation, or by the fixing inside the showcase in good equilibrium even in the case of vibrations.

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The contact between the object and the support shall be sufficient and ensure a good balance without involving deformations. According to hardness and surface quality of the materials in contact, they shall be insulated by an intermediate material, taking into account their hardness and their surface finish.

The materials of the supports and fixings should have the same qualities as the materials of manufacture (see 5.1.1).

4.4 Security

The assembly of the showcase shall preserve the degree of resistance of the glazing. The non-glazed parts, (bottom, ceiling, back), shall have a resistance equivalent to the resistance of glazing and shall be composed of non-dismountable elements with common hand tools.

The leaf is closed by a safety system when it is located on a side accessible by the public. When the height of the leaf is higher than one meter or when the leaf consists of sliding panes, it is equipped with two closing points, high and low.

Bell jars, with safety glass or organic glass, are fixed at the support by antitheft screws. Their base can be crimped or stuck in a metal rod with catch in wallet.

The choice of glazing is modulated according to the level of safety required by the exposed objects. It respects the standardized class of material.

In case of particularly attractive collections or collections of high value, the showcase shall be equipped with a certified shock or warning device. The alarm can be an acoustic alarm, an independent alarm or an alarm using cable or radio links to the centralized warning system of the establishment.

Safety can be reinforced by the fixing of the showcase at the wall or the ground, by taking into account the environmental conditions (see 5.4) and stability (see 4.3.3).

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5 Preservation recommendations for showcases exhibiting cultural objects**5.1 Constituting materials, assembly and fixing****5.1.1 Characteristics of constituting materials**

Not all materials are suitable for long-term preservation of exhibits. When the materials forming the showcase, or the objects, are chemically unstable, they degrade, possibly releasing (harmful) volatile organic compounds (VOC). The materials used to produce the showcase, e.g. structure, panes, varnishes, sealants, glue, shall be carefully selected, after checking of the available documentation (compliance certificates, technical report, instructions) or after tests. The materials shall be stable and not cause any reaction with objects or any damage to people. In the event of construction elements assembled with by glue or in the presence of varnishes or sealants, a convenient time of aging is recommended before the installation of the objects.

To prevent the VOC accumulation in the showcase, the materials shall comply with the condition of

- chemical inertia and innocuousness: the constituting materials shall not cause any reaction with the objects to which they are near or in direct contact;
- chemical and physical stability: the initial properties of material remain constant and do not produce any reaction or transformation.

These criteria are to be considered according to conditions under which the objects are put together with the materials:

- contact between objects and materials: objects shall be in contact only with stable and inert materials.