



# SLOVENSKI STANDARD

## SIST EN 15659:2019

01-december-2019

Nadomešča:  
SIST EN 15659:2009

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**Varnostne shranjevalne enote - Klasifikacija in metode preskušanja požarne  
odpornosti - Shranjevalne enote za zaščito papirja do 170 °C**

Secure storage units - Classification and methods of test for resistance to fire - Light fire  
storage units

Wertbehältnisse - Klassifizierung und Methoden zur Prüfung des Widerstandes gegen  
Brand - Leichte Brandschutzschränke

Unités de stockage en lieu sûr - Classification et méthodes d'essais de résistance au feu  
- Meubles ignifuges premier niveau

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**Ta slovenski standard je istoveten z: EN 15659:2019**

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**ICS:**

13.220.40	Sposobnost vžiga in obnašanje materialov in proizvodov pri gorenju	Ignitability and burning behaviour of materials and products
13.310	Varstvo pred kriminalom	Protection against crime
35.220.99	Druge naprave za shranjevanje podatkov	Other data storage devices

**SIST EN 15659:2019**

**en,fr,de**

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EUROPEAN STANDARD

EN 15659

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 2019

ICS 13.220.40; 13.310

Supersedes EN 15659:2009

English Version

## Secure storage units - Classification and methods of test for resistance to fire - Light fire storage units

Unités de stockage en lieu sûr - Classification et  
méthodes d'essais de résistance au feu - Meubles  
ignifuges premier niveau

Wertbehältnisse - Klassifizierung und Methoden zur  
Prüfung des Widerstandes gegen Brand - Leichte  
Brandschutzschränke

This European Standard was approved by CEN on 8 March 2019.

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 COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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## European foreword

This document (EN 15659:2019) has been prepared by Technical Committee CEN/TC 263 "Secure storage of cash, valuables and data media", the secretariat of which is held by BSI.

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 2020, and conflicting national standards shall be withdrawn at the latest by February 2020.

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.

This document supersedes EN 15659:2009.

Compared with EN 15659:2009, the following changes were made:

- The protection levels were renamed from LFS 30 P and LFS 60 P to LFS 30 and LFS 60;
- that customers know the difference between this fire resistance standard and the fire resistance standard EN 1047-1, the scope of the standard was adapted;
- as the standard could lead to different interpretations in different test houses regarding the choice of test specimens a new Clause 5 and an Annex A have been added as well as Clause 6.1 has been adapted;
- due to testing knowledge gained since the publication of the standard EN 15659 in 2009 it could be seen that the depth is not as critical as the width of a specimen. Therefore, the tolerance on the depth was changed from  $\pm 15\%$  to  $\pm 20\%$ ;
- the fire exposure time now starts from the beginning of the test (7.4.2);
- the requirement for the 3 % wall tolerance has been updated in clause 5.1 (for series production) and 6.2 (for the test specimens);
- a shrinking tube for the measuring device cables is not needed anymore (7.3.3), the testing laboratory doesn't need to turn of the flames after 30 min or 60 min (7.4.2) and the photographic record shall now also include details of the interior of the test specimen. (7.4.3);
- references to the standards have been updated;
- editorial changes have been made in 3.1, 3.2, 4.1, 4.2, 6.1, 6.2 and 7.4.1.

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

**EN 15659:2019 (E)****Introduction**

The testing conditions given in this document provide a basis for simulating fires to determine, in a reproducible way, the fire resistance of light fire storage units at various protection levels. The protection levels enable a comparison to be made of the resistance against fire provided by different constructions.

The threshold value for the maximum temperature increase of 150 K at every measuring point in the protection levels LFS 30 and LFS 60 for light fire storage units from a starting temperature of  $(21 \pm 1)^\circ\text{C}$ , as defined in this document, refers to the relatively short-term stress due to high temperatures during a fire test. It is not normally experienced by paper media stored in light fire storage units in the normal and correct way.

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## 1 Scope

This document specifies requirements for light fire storage units providing protection against fire.

The method of test is specified to determine the ability of light fire storage units to protect paper media from the effects of fire. Two levels of fire exposure periods (LFS 30 and LFS 60) are specified using the maximum temperature increase permitted within the storage space of the light fire storage unit.

Protection after the fire exposure of 30 min (LFS 30) or 60 min (LFS 60) is not ensured by this document, but by European Standard EN 1047-1. Requirements are also specified for the test specimen, the technical documentation for the test specimen, correlation of the test specimen with the technical documentation, preparation for type testing and test procedures.

A scheme to classify the light fire storage units from the test results is also given (see Table 1).

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

EN 1363-1:2012, *Fire resistance tests - Part 1: General Requirements*

EN 60584-1, *Thermocouples - Part 1: EMF specifications and tolerances*

## 3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

### 3.1

#### **light fire storage unit**

storage unit designed to protect paper media, except for paper grades where data loss occurs at temperatures below 170°C, as well as valuables against the effects of temperatures up to 170°C

Note 1 to entry: A light fire storage unit can have doors, drawers, lids, connections, compartments and fittings.

### 3.2

#### **compartment**

part of a light fire storage unit which can be closed with a separate door, lid or cover

Note 1 to entry: A compartment formed by inserting

### 3.3

#### **lock**

device which verifies an entered code and performs a blocking function on the boltwork of the door

## 4 Requirements, classification and locks

4.1 Light fire storage units shall provide protection against the effects of fire (see Clause 7) and be classified as specified in Table 1.

**Table 1 — Protection level requirements**

Protection level		Maximum temperature increase
30 min	60 min	
LFS 30	LFS 60	150 K
NOTE 1 Where LFS is the symbol applied for light fire storage units which represent protection of data on paper, excluding those paper grade which lose data below 170°C. NOTE 2 The numerical values in the protection level are the duration of fire exposure during the type test in minutes.		

4.2 Light fire storage units shall be fitted with at least one lock.

## 5 Technical design range

### 5.1 General requirements

On the basis of the technical documentation (see 6.2) the testing laboratory shall check, if all applied models of the manufacturer are part of one single technical design range (*TDR*). Calculation examples are given in Annex A.

If models are not part of a technical design range, these models shall be seen as an additional technical design range.

Models are part of a technical design range if all of the following points are fulfilled:

- same product type (all having one door or two doors or drawers);
- common construction features (type, specification and thickness of construction and materials, rabbet geometry, height of drawers etc.) and
- internal width and internal depth according to 5.2.

In series production, the wall and door thickness shall not be below the specified minimum limit of the type tested thickness by more than 3 %.

### 5.2 Internal base of a technical design range

#### 5.2.1 Accepted deviation in internal width

On the basis of the technical documentation (see 6.2) the mean internal width *MW* is calculated as follows:

$$MW = \frac{W_{TDR\ max} + W_{TDR\ min}}{2} \quad (1)$$

where

$W_{TDR\ max}$  is the model with the widest internal width of the technical design range according to 5.1.

$W_{TDR\ min}$  is the model with the narrowest internal width of the technical design range according to 5.1.



In a technical design range the internal width of the widest TDR model shall not be 15 % above the MW-value. The internal width of the narrowest TDR model shall not be 15 % below the MW-value.

### 5.2.2 Accepted deviation in internal depth

On the basis of the technical documentation (see 6.2) the mean internal depth  $MD$  is calculated as follows:

$$MD = \frac{D_{TDR\ max} + D_{TDR\ min}}{2} \quad (2)$$

where

$D_{TDR\ max}$  is the model with the deepest internal depth of the technical design range according to 5.1.

$D_{TDR\ min}$  is the model with the shallowest internal depth of the technical design range according to 5.1.

In a technical design range the internal depth of the deepest TDR model shall not be 20 % above the MD-value. The internal depth of the shallowest TDR model shall not be 20 % below the MD-value.

## 6 Test specimen, technical documentation and correlation

### 6.1 Test specimen

The models with the smallest and largest internal height of a technical design range (see Clause 5) shall be tested (see also Annex A).

NOTE This document aims to assess a technical design range by testing the two most critical models of a technical design range.

If in series production more than one lock configuration is possible, the test specimen used in the type test shall be coordinated with the testing laboratory.

Two identical light fire storage units shall be available per tested model: one for the fire endurance test, the other for verifying correlation of the filling material with the technical documentation. The testing laboratory shall decide which test specimen will be used for the type test. The test specimen shall be modified at its base for installing the measuring instrumentation (see 7.3.1 and Figure 2) and may have, but need not have a plinth.

### 6.2 Technical documentation

Detailed technical documentation about the technical design range and test specimen (drawings, specifications of materials, installation and processing advice) shall be submitted to the testing laboratory before the type test. The drawings shall give specifications as to height, width and depth of the test specimens, materials and their thicknesses, dimensions of rabbet edges, boltwork, lock configuration, welds including the method of their execution, seals, etc. The mass of the plinth shall be given, if available.

Samples and detailed specifications of all heat protection materials and seals used in the test specimens shall accompany the test specimens.

NOTE 1 With reference to all heat protection materials, the technical documentation should include: a) quality control parameters, and b) details of the performance characteristics, or c) details of the constituent materials and processing methods.

The date(s) on which the test specimens were filled with fire protection materials shall be given.