

<b>STN</b>	<b>Bezpečnostné úschovné objekty</b> <b>Klasifikácia a metódy skúšania odolnosti proti</b> <b>požiaru</b> <b>Časť 1: Dátové skrine a puzdrá</b>	<b>STN</b> <b>EN 1047-1</b>  93 7706
------------	--	---

Secure storage units - Classification and methods of test for resistance to fire - Part 1: Data cabinets and data inserts

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

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 02/20

Obsahuje: EN 1047-1:2019

Oznámením tejto normy sa ruší  
STN EN 1047-1 (93 7706) z mája 2006

**130335**

EUROPEAN STANDARD

**EN 1047-1**

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 2019

ICS 13.310

Supersedes EN 1047-1:2005

English Version

## Secure storage units - Classification and methods of test for resistance to fire - Part 1: Data cabinets and data inserts

Unités de stockage en lieu sûr - Classification et  
méthodes d'essai de résistance au feu - Partie 1 :  
Meubles de rangement fermés et cartouches à  
disquettes

Wertbehältnisse - Klassifizierung und Methoden zur  
Prüfung des Widerstandes gegen Brand - Teil 1:  
Datensicherungsschränke und Dateneinsätze

This European Standard was approved by CEN on 12 May 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.

CEN members are the national standards bodies of 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 United Kingdom.



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

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

**EN 1047-1:2019 (E)**

<b>Contents</b>	<b>Page</b>
European foreword.....	3
Introduction .....	5
1 Scope.....	6
2 Normative references.....	6
3 Terms and definitions .....	7
4 Requirements, classification and locking .....	7
5 Test specimens, documents and correlation .....	8
5.1 Test specimen.....	8
5.1.1 Data cabinets .....	8
5.1.2 Diskette inserts.....	9
5.2 Technical documentation.....	9
5.3 Correlation of test specimen and technical documentation.....	9
6 Test methods .....	10
6.1 Principle .....	10
6.2 Test equipment.....	10
6.3 Preparation for test.....	11
6.3.1 Data cabinets .....	11
6.3.2 Diskette inserts.....	13
6.3.3 Contents of the test specimen.....	14
6.3.4 Conditioning.....	14
6.3.5 Furnace temperature measurement.....	14
6.4 Procedure.....	14
6.4.1 Correlation.....	14
6.4.2 Fire endurance test.....	14
6.4.3 Fire shock and impact test.....	15
6.4.4 Examination .....	18
7 Expression of results.....	18
8 Test report.....	19
9 Technical design range .....	20
9.1 General requirements .....	20
9.2 Internal base of a technical design range.....	20
9.2.1 Accepted deviation in internal width .....	20
9.2.2 Accepted deviation in internal depth .....	20
10 Marking.....	21
Annex A (informative) Examples of specimen preparation for the fire shock and impact test.....	22
Annex B (informative) Example illustrating the requirements for data inserts.....	24
Annex C (informative) Calculation examples for technical design ranges .....	25

## European foreword

This document (EN 1047-1:2019) 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 1047-1:2005.

Compared with EN 1047-1:2005, the following changes were made:

- type tests in the past have shown that testing intermediate heights in the fire endurance test do not give a quality benefit. Therefore, this standard requires the test of the smallest and highest model (see 5.1.1.1 and Annex C);
- for the fire shock and impact test the number of test specimens now is dependent on if a plinth is used (see 3.5, 5.1.1.2.1, 5.1.1.2.2, 5.3 and 6.4.4);
- due to testing knowledge gained since the publication of the standard EN 1047-1 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  $\pm 20\%$ ;
- new clauses have been added to explain for which technical design ranges the results of the type tests are usable, see 5.1, 5.2, Clause 9 and Annex C;
- a requirement on the material thickness of the test specimen compared to the technical documentation has been added (5.3); photographic documentation shall include pictures from the interior of the test specimen (6.4.4);
- references have been updated;
- the definition 3.3 has been made up-to-date;
- corrections have been made in Table 1;
- editorial changes have been made in 4.2, 5.2, 6.1 and 6.2.2.

This document, EN 1047 *Secure storage units — Classification and methods of test for resistance to fire*, is composed of two parts:

- *Part 1: Data cabinets and diskette inserts*
- *Part 2: Data rooms and data container*

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

**EN 1047-1:2019 (E)**

Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## **Introduction**

The testing conditions given in this document provide a basis for simulating fires to determine, in a reproducible way, the fire resistance of data cabinets and diskette inserts in various protection classes. The protection classes enable a comparison to be made of the resistance against fire provided by different constructions.

The threshold values for the maximum temperature increases in the protection classes S 60 P/S 120 P (150 K), S 60 D/S 120 D (50 K) and S 60 DIS/S 120 DIS (30 K) for data cabinets as well as DI 60 P/DIS (30 K) and DI 120 P/DIS (30 K) for diskette inserts from a starting temperature of  $(21 \pm 1)$  °C, and for the maximum relative humidity (85 %) for the D and DIS protection classes, as defined in this document, refer to the relatively short-term stress due to high temperatures during a fire test. They are not normally experienced by data media stored in data cabinets and diskette inserts in the normal and correct way.

**EN 1047-1:2019 (E)****1 Scope**

This document specifies requirements for fire resisting data cabinets and diskette inserts.

Two methods of test are specified to determine the ability of fire resisting data cabinets to protect temperature and humidity sensitive contents from the effects of fire: a fire endurance test and a fire shock and impact test. Two levels of fire severity (S 60 and S 120) based upon time of fire exposure; and three protection classes (P, D and DIS) are specified using the maximum temperature increases and humidity values permitted within the storage space of the data cabinet.

Diskette inserts (DI 60 P/DIS and DI 120 P/DIS) are installed in data cabinets of protection class S 60 P or S 120 P, respectively, and subjected to a fire endurance test (see 5.1.2).

Requirements are also specified for test specimens, 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 fire resisting data cabinets and diskette inserts from the test results is also given (see Table 1).

Diskette inserts are only installed in data cabinets having the same design as the series of protection class S 60 P and S 120 P, respectively, in which the insert has been tested in using methods defined in 5.1.2. Where several inserts are installed, they are built in one beside the other or one above the other from bottom to top, respectively. The volume and total height of the installed inserts do not exceed 50 % of the total internal volume or 50 % of the internal height, respectively, of the data cabinets into which they are installed. The dimensions of the insert can be adapted by increasing the width and depth to the corresponding dimensions of the data cabinets. A reduction of these dimensions as well as a change of the height is only admitted within the specified tolerance.

The temperature increases during type-tests on data cabinets and diskette inserts will be considered in deciding the permitted diskette insert installations. For a permitted installation, the temperature increase of the intended data cabinet ( $\Delta T_A \cdot K$ ) does not exceed the temperature increase of the tested data cabinet ( $\Delta T_B \cdot K$ ) in which the diskette insert has been type-tested by more than the difference between the maximum value for the diskette insert ( $\Delta T_i \cdot K$ ) and the maximum admissible temperature increase (30 K), i.e.  $\Delta T_A - \Delta T_B \leq 30 K - \Delta T_i$  (see example in Annex B).

A description of the installation of the diskette inserts can be given in the technical documentation of the manufacturer.

**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 (IEC 60584-1)*

EN 61515, *Mineral insulated metal-sheathed thermocouple cables and thermocouples (IEC 61515)*

**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**