

**Secure storage units - Classification and methods of  
test for resistance to fire - Part 2: Data rooms and data  
container**

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN 1047-2:2009+A1:2013 sisaldab Euroopa standardi EN 1047-2:2009+A1:2013 ingliskeelset teksti.	This Estonian standard EVS-EN 1047-2:2009+A1:2013 consists of the English text of the European standard EN 1047-2:2009+A1:2013.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 13.02.2013.	Date of Availability of the European standard is 13.02.2013.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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English Version

**Secure storage units - Classification and methods of test for  
resistance to fire - Part 2: Data rooms and data container**

Unités de stockage en lieu sûr - Classification et méthodes  
d'essai de résistance au feu - Partie 2: Conteneurs et  
chambres réfractaires

Wertbehältnisse - Klassifizierung und Methoden zur  
Prüfung des Widerstandes gegen Brand - Teil 2:  
Datensicherungsräume und Datensicherungscontainer

This European Standard was approved by CEN on 23 July 2009 and includes Amendment 1 approved by CEN on 10 December 2012.

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## Foreword

This document (EN 1047-2:2009+A1:2013) 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of an identical text or by endorsement, at the latest by August 2013, and conflicting national standards shall be withdrawn at the latest by August 2013.

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.

This document includes Amendment 1 approved by CEN on 10 December 2012.

This document supersedes A1 EN 1047-2:2009 A1.

The start and finish of text introduced or altered by amendment is indicated in the text by tags A1 A1.

Part 1 of this Standard has been published as:

- EN 1047-1, *Secure storage units — Classification and methods of test for resistance to fire — Part 1: Data cabinets and diskette inserts.*

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## Introduction

The testing conditions given in this European Standard provide a basis for simulating fires to determine, in a reproducible way, the fire resistance of data rooms and data containers.

The values for the maximum temperature increase in protection classes R60D and C60D specified in accordance with Table 2 in this European Standard relate to the relatively short time of high temperature exposure occurring during a fire test; in general, they are not experienced by data media and systems hardware stored in data rooms and data containers in the normal and correct way.

EN 1363-1 establishes the general principles for determining the fire resistance of various elements of construction when subjected to standard fire exposure conditions. Alternative and additional procedures to meet special requirements are given in EN 1363-2. The development of the temperatures and the relative humidity in the interior of a data room and data container cannot be measured under the standard series EN 1363.

The sensitivity of media (see 3.5) and hardware systems (see 3.6) to temperature and humidity requires additional protection with regard to excessively high temperatures and relative humidity, proof of which cannot be furnished through type tests in accordance with the European Standards EN 1363-1 and EN 1363-2. This additional protection requires a series of product solutions, the performance of which is type tested and certified on the basis of the standard series EN 1047.

EN 1047-1 covers the type testing of data cabinets as freestanding units.

EN 1047-2 covers the type testing of data rooms and data containers. For wall, ceiling and floor elements type tested within the framework of this system test, proof of an additional protection can be furnished in accordance with the European Standards EN 1363-1 and EN 1363-2.

## 1 Scope

This part of the European Standard EN 1047 specifies requirements for data rooms and data containers. It includes a method of test for the determination of the ability of data rooms and data containers to protect temperature and humidity sensitive data media (see 3.5) and hardware systems (see 3.6) from the effects of fire. A test method for measuring the resistance to mechanical stress (impact test) provided by data rooms type B and data containers is also specified.

Requirements are also specified for test specimens, the technical documentation of the test specimens, materials specimens, physical fittings, the correlation of test specimens with the technical documentation and the preparation for type testing as well as test procedures.

In addition, a scheme to classify data rooms and data containers from the test results is given (see Table 2).

As well as providing protection against fire, correctly installed data rooms and data containers offer protection against impacts caused by failure during fire of components and objects external to the data room or data container.

Data rooms and data containers having the same design, protection and construction features (type and thickness of construction and protective materials, rebate geometry, lockings, doors, etc.) will only be given the same protection classification as that of the test specimen if the tolerances are within the ranges specified in Table 1.

**NOTE** This European Standard does not regulate the use of data rooms in the meaning of the building laws of the respective countries. In the construction of data rooms, the respective national requirements should be considered.

**Table 1 — Permitted differences between the series products and the test specimen**

		Minimum	Maximum
Data rooms type A and type B			
	internal height	- 50 %	+ 50%
	internal width	- 70 %	no limit <sup>1)</sup>
	internal length	- 70 %	no limit <sup>1)</sup>
Data containers			
	internal height	- 50 %	increase not permitted
	internal width	- 15 %	+ 50 % <sup>3)</sup>
	internal length	- 15 %	+ 50 %
Door openings (clear opening dimensions)			
	height	- 50 %	increase not permitted
	width	- 25 %	increase not permitted
Compact thickness of walls, the ceiling, floor and door		- 3 % <sup>2)</sup>	no limit
Openings (outside dimensions) e.g. ventilation openings		no limit	+ 15 %
<p><sup>1)</sup> For the type test, load bearing structures may be installed in the test specimen. Proof of an existing load bearing structure in the fire endurance test (see 6.6.1) is required if the dimensions of the series product differ from those of the test specimen.</p> <p><sup>2)</sup> Deviations from the tolerance (- 3 % for walls, ceiling, floor and door) are only allowed upon permission by the certification body and/or testing laboratory.</p> <p><sup>3)</sup> Enlargement of the internal width of the data container (maximum + 50 %) in connection with the installation of additional wall panels is only allowed upon permission by the certification body and/or testing laboratory respectively.</p>			

## 2 Normative references

**A1** The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies. **A1**

EN 206-1, *Concrete — Part 1: Specification, performance, production and conformity*

**A1** *deleted text* **A1**



EN 1363-1:1999, *Fire resistance tests — Part 1: General requirements*

EN 1363-2:1999, *Fire resistance tests — Part 2: Alternative and additional procedures*

EN 1364-1:1999, *Fire resistance tests for non-loadbearing elements — Part 1: Walls*

EN 1365-1, *Fire resistance tests for loadbearing elements — Part 1: Walls*

EN 1365-2, *Fire resistance tests for loadbearing elements — Part 2: Floors and roofs*

EN 60584-1, *Thermocouples — Part 1: Reference tables (IEC 60584-1:1995)*

EN 61515, *Mineral insulated thermocouple cables and thermocouples (IEC 61515:1995)*

### 3 Terms and definitions

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

#### 3.1

##### **test specimen**

data room type A, data room type B or data container designed to protect media, hardware systems and valuables against the effects of fire, or construction elements (e.g. floor, wall) of the data room or data container

#### 3.2

##### **data room type A**

room consisting of walls, ceiling and floor which provides the fire resistance specified in this standard (see Table 2) when installed within walls and ceilings fulfilling the requirements for integrity, insulation and load bearing capacity for 90 min according to EN 1365-1 and EN 1365-2, respectively. The floor of the data room type A shall satisfy the fire resistance requirements specified in this standard and provide the same protection against the penetration of water vapour as the wall and ceiling construction

##### 3.2.1

##### **exterior cell**

construction built for testing to simulate the room into which the internal cell of the data room type A in accordance with 3.2 is installed

##### 3.2.2

##### **internal cell**

independent and self-supporting construction intended for installation as a data room type A in a building situation which satisfies the requirements for walls, ceiling and floor specified in 3.2

#### 3.3

##### **data room type B**

room consisting of walls, ceiling and floor which provides the fire resistance specified in this standard (see Table 2) when the floor onto which it is installed fulfils the requirements for integrity, insulation and load bearing capacity for 90 min according to EN 1365-2. The floor of the data room type B shall satisfy the fire resistance requirements specified in this standard and provide the same protection against the penetration of water vapour as the wall and ceiling construction

#### 3.4

##### **data container**

structure which can be transported in one piece or in modular parts and which provides the fire resistance specified in this standard (see Table 2) when the floor onto which it is installed fulfils the requirements for integrity, insulation and load bearing capacity for 90 min according to EN 1365-2. The floor of the data container shall satisfy the fire resistance requirements specified in this standard and provide the same protection against the penetration of water vapour as the wall and ceiling construction