

# SVENSK STANDARD

## SS-EN 16121:2013+A1:2018



Fastställt/Approved: 2018-03-23  
Publicerad/Published: 2018-03-23  
Utgåva/Edition: 1  
Språk/Language: engelska/English  
ICS: 97.140

---

**Möbler för offentlig miljö – Förvaringsmöbler – Krav på säkerhet, hållfasthet, hållbarhet och stabilitet**

**Non-domestic storage furniture – Requirements for safety, strength, durability and stability**

This preview is downloaded from [www.sis.se](http://www.sis.se). Buy the entire standard via <https://www.sis.se/std-80002985>

# Standarder får världen att fungera

*SIS (Swedish Standards Institute) är en fristående ideell förening med medlemmar från både privat och offentlig sektor. Vi är en del av det europeiska och globala nätverk som utarbetar internationella standarder. Standarder är dokumenterad kunskap utvecklad av framstående aktörer inom industri, näringsliv och samhälle och befrämjar handel över gränser, bidrar till att processer och produkter blir säkrare samt effektiviserar din verksamhet.*

## Delta och påverka

Som medlem i SIS har du möjlighet att påverka framtida standarder inom ditt område på nationell, europeisk och global nivå. Du får samtidigt tillgång till tidig information om utvecklingen inom din bransch.

## Ta del av det färdiga arbetet

Vi erbjuder våra kunder allt som rör standarder och deras tillämpning. Hos oss kan du köpa alla publikationer du behöver – allt från enskilda standarder, tekniska rapporter och standardpaket till handböcker och onlinetjänster. Genom vår webbtjänst e-nav får du tillgång till ett lättnavigerat bibliotek där alla standarder som är aktuella för ditt företag finns tillgängliga. Standarder och handböcker är källor till kunskap. Vi säljer dem.

## Utveckla din kompetens och lyckas bättre i ditt arbete

Hos SIS kan du gå öppna eller företagsinterna utbildningar kring innehåll och tillämpning av standarder. Genom vår närhet till den internationella utvecklingen och ISO får du rätt kunskap i rätt tid, direkt från källan. Med vår kunskap om standarders möjligheter hjälper vi våra kunder att skapa verklig nytta och lönsamhet i sina verksamheter.

**Vill du veta mer om SIS eller hur standarder kan effektivisera din verksamhet är du välkommen in på [www.sis.se](http://www.sis.se) eller ta kontakt med oss på tel 08-555 523 00.**



# Standards make the world go round

*SIS (Swedish Standards Institute) is an independent non-profit organisation with members from both the private and public sectors. We are part of the European and global network that draws up international standards. Standards consist of documented knowledge developed by prominent actors within the industry, business world and society. They promote cross-border trade, they help to make processes and products safer and they streamline your organisation.*

## Take part and have influence

As a member of SIS you will have the possibility to participate in standardization activities on national, European and global level. The membership in SIS will give you the opportunity to influence future standards and gain access to early stage information about developments within your field.

## Get to know the finished work

We offer our customers everything in connection with standards and their application. You can purchase all the publications you need from us - everything from individual standards, technical reports and standard packages through to manuals and online services. Our web service e-nav gives you access to an easy-to-navigate library where all standards that are relevant to your company are available. Standards and manuals are sources of knowledge. We sell them.

## Increase understanding and improve perception

With SIS you can undergo either shared or in-house training in the content and application of standards. Thanks to our proximity to international development and ISO you receive the right knowledge at the right time, direct from the source. With our knowledge about the potential of standards, we assist our customers in creating tangible benefit and profitability in their organisations.

**If you want to know more about SIS, or how standards can streamline your organisation, please visit [www.sis.se](http://www.sis.se) or contact us on phone +46 (0)8-555 523 00**



Europastandarden EN 16121:2013+A1:2017 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN 16121:2013+A1:2017.

Denna standard ersätter SS-EN 16121:2013, utgåva 1, SS-EN 14727:2005, utgåva 1.

The European Standard EN 16121:2013+A1:2017 has the status of a Swedish Standard. This document contains the official version of EN 16121:2013+A1:2017.

This standard supersedes the Swedish Standard SS-EN 16121:2013, edition 1, SS-EN 14727:2005, edition 1.

© Copyright/Upphovsrätten till denna produkt tillhör SIS, Swedish Standards Institute, Stockholm, Sverige. Användningen av denna produkt regleras av slutanvändarlicensen som återfinns i denna produkt, se standardens sista sidor.

© Copyright SIS, Swedish Standards Institute, Stockholm, Sweden. All rights reserved. The use of this product is governed by the end-user licence for this product. You will find the licence in the end of this document.

*Uppllysningar om sakinnehållet i standarden lämnas av SIS, Swedish Standards Institute, telefon 08-555 520 00. Standarder kan beställas hos SIS som även lämnar allmänna upplysningar om svensk och utländsk standard.*

*Information about the content of the standard is available from the Swedish Standards Institute (SIS), telephone +46 8 555 520 00. Standards may be ordered from SIS, who can also provide general information about Swedish and foreign standards.*

Denna standard är framtagen av kommittén för Möbler, SIS/TK 391.

Har du synpunkter på innehållet i den här standarden, vill du delta i ett kommande revideringsarbete eller vara med och ta fram andra standarder inom området? Gå in på [www.sis.se](http://www.sis.se) - där hittar du mer information.



EUROPEAN STANDARD

**EN 16121:2013+A1**

NORME EUROPÉENNE

EUROPÄISCHE NORM

September 2017

ICS 97.140

Supersedes EN 16121:2013

English Version

## Non-domestic storage furniture - Requirements for safety, strength, durability and stability

Meubles de rangement à usage collectif - Exigences  
pour la sécurité, la résistance, la durabilité et la  
stabilité

Behältnismöbel für den Nicht-Wohnbereich -  
Anforderungen an die Sicherheit, Festigkeit,  
Dauerhaltbarkeit und Standsicherheit

This European Standard was approved by CEN on 29 June 2013 and includes Amendment 1 approved by CEN on 27 June 2017.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, 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: Avenue Marnix 17, B-1000 Brussels**

**SS-EN 16121:2013+A1:2018 (E)**

<b>Contents</b>	<b>Page</b>
European foreword.....	4
<b>1 Scope</b> .....	<b>5</b>
<b>2 Normative references</b> .....	<b>5</b>
<b>3 Terms and definitions</b> .....	<b>5</b>
<b>4 Test sequence and tolerances</b> .....	<b>7</b>
4.1 Individual units.....	7
4.2 Range of units.....	7
4.3 Tolerances.....	7
<b>5 Safety requirements</b> .....	<b>8</b>
5.1 Principles of safety requirements.....	8
5.1.1 General.....	8
5.1.2 Determination of centre of gravity.....	8
5.1.3 Determination of total mass.....	8
5.2 General safety requirements.....	9
5.3 Shear and squeeze points.....	9
5.3.1 Shear and squeeze points when setting up and folding.....	9
5.3.2 Shear and squeeze points under influence of powered mechanism.....	9
5.3.3 Shear and squeeze points during use.....	9
5.4 Hinged horizontal lids.....	10
5.5 Vertical glass components.....	10
5.6 Stability.....	10
5.7 Structural safety.....	11
5.7.1 Structural safety tests.....	11
5.7.2 Structural safety requirements.....	13
<b>6 Strength and durability</b> .....	<b>13</b>
6.1 General.....	13
6.2 Strength and durability requirements.....	14
<b>7 Information for use</b> .....	<b>15</b>
<b>8 Test report</b> .....	<b>15</b>
<b>Annex A (normative) Modified requirements for schools, kindergartens and similar applications</b> .....	<b>16</b>
A.1 General.....	16
A.2 Requirements.....	16
A.3 Additional requirements for furniture for kindergartens.....	17
<b>Annex B (normative) Selecting product from a range of furniture</b> .....	<b>18</b>
B.1 Range of units.....	18
<b>Annex C (informative) Guidance of test severity in relation to application</b> .....	<b>19</b>

<b>Annex D (informative) Suggested loads for tests not specified in this standard</b> .....	<b>20</b>
<b>D.1 Suggested loads for tests not specified in this standard</b> .....	<b>20</b>
<b>D.1.1 General</b> .....	<b>20</b>
<b>D.1.2 Stability</b> .....	<b>20</b>
<b>D.1.2.1 General</b> .....	<b>20</b>
<b>D.1.2.2 Suggested stability requirements</b> .....	<b>20</b>
<b>D.1.3 Strength and durability</b> .....	<b>20</b>
<b>D.1.3.1 General</b> .....	<b>20</b>
<b>D.1.3.2 Suggested strength and durability requirements</b> .....	<b>21</b>
<b>Bibliography</b> .....	<b>22</b>

## SS-EN 16121:2013+A1:2018 (E)

### European foreword

This document (EN 16121:2013+A1:2017) has been prepared by Technical Committee CEN/TC 207 “Furniture”, the secretariat of which is held by UNI.

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 March 2018, and conflicting national standards shall be withdrawn at the latest by March 2018.

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 27 June 2017.

This document supersedes EN 16121:2013.

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

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



## 1 Scope

This European Standard specifies requirements for the safety, strength, durability and stability for all types of non-domestic storage furniture.

It does not apply to domestic storage, office storage, industrial storage, kitchen, catering equipment, retail storage <sup>A1</sup> deleted text <sup>A1</sup> and industrial storage lockers.

Requirements for strength and durability do not apply to the structure of the building for example the strength of wall hanging cabinets includes only the cabinets and the parts used for attachment. The wall and the wall attachments are not included.

It does not include requirements for the resistance to ageing, degradation and flammability.

## 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 71-1:2011, *Safety of toys — Part 1: Mechanical and physical properties*

EN 716-2:2008+A1:2013, *Furniture — Children's cots and folding cots for domestic use — Part 2: Test methods*

EN 12150-1:2000, *Glass in building — Thermally toughened soda lime silicate safety glass — Part 1: Definition and description*

EN 12600:2002, *Glass in building — Pendulum test - Impact test method and classification for flat glass*

EN 14072:2003, *Glass in furniture — Test methods*

EN 16122:2012, *Domestic and non-domestic storage furniture — Test methods for the determination of strength, durability and stability*

## 3 Terms and definitions

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

### 3.1

#### **accessible parts**

parts to which access can easily be gained by the user when in its intended configuration of use and for which the probability of unintentional user contact is high

Note 1 to entry: This includes, but is not limited to:

- the exposed edges and corners of storage units to which the user has access when the doors, drawers and extension elements are closed,
- the corners and edges of handles.

### 3.2

#### **parts accessible during setting up and folding**

parts to which access can only be gained when setting up and folding the furniture

**SS-EN 16121:2013+A1:2018 (E)**

**3.3  
shear and squeeze points**

such points exist if the distance between two accessible parts moving relative to each other can be less than 25 mm or more than 8 mm in any position during movement

Note 1 to entry: For the definition of shear and squeeze points for furniture intended for use in schools and kindergartens, see A.2.2.

**3.4  
unit**

complete item of furniture including the structure and all components such as drawers, doors and other storage features

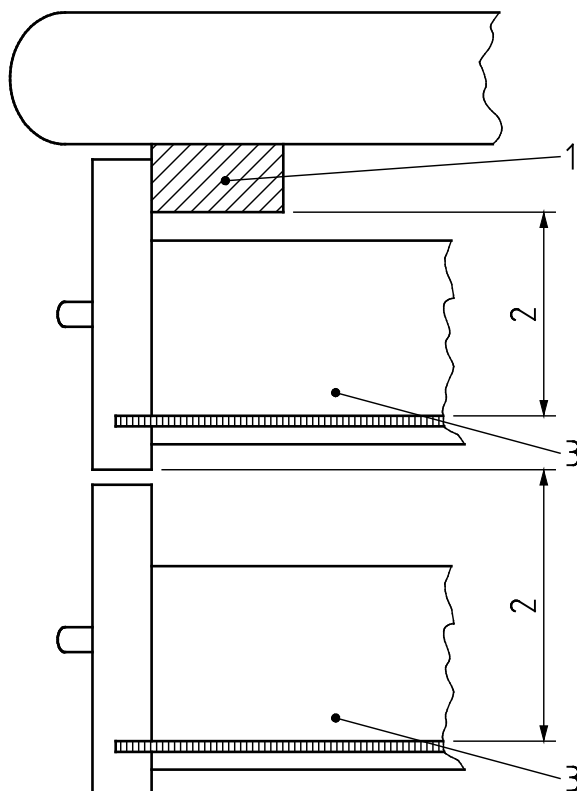
**3.5  
total mass**

mass (kg) of the unit, or component plus the load defined in Table 2

**3.6  
clear height**

unobstructed height above the top of the bottom surface

Note 1 to entry: The top of the extension element bottom and the lower edge of the extension element above, or the structure of the unit (see Figure 1).



- Key**
- 1 structure of the unit
  - 2 clear height *H*
  - 3 extension element

**Figure 1 — Clear height**

### 3.7

#### **levelling device**

adjustable device intended to keep the item of furniture perpendicular to the floor

Note 1 to entry: Adjustable feet or similar.

### 3.8

#### **tray**

storage element that is designed, under normal use, to be removed from the storage unit and used independently

### 3.9

#### **potential energy**

*Nm*

multiplication of the total mass (kg) of the unit (or the part), gravity ( $m/s^2$ ) and the height (m) above the floor to the centre of gravity

Note 1 to entry: For the purpose of this standard gravity can be considered to be  $10 m/s^2$ .

## 4 Test sequence and tolerances

### 4.1 Individual units

When a single unit is supplied for test all the safety tests (5) shall be carried out on the same sample and in the order in which they are listed in this standard. Tests for strength and durability (6) may be carried out on a second sample.

### 4.2 Range of units

For a range of units featuring similar construction and sharing hardware, or single units with features utilising identical hardware and fixings (e.g. a unit with different size drawers), selected tests shall be carried out on the worst case units/components as detailed in Annex B.

The tests shall be carried out in the order in which they are listed in this standard.

If one unit or component within a range of products does not satisfy the requirements of this standard then compliance for the full range cannot be claimed.

### 4.3 Tolerances

Unless otherwise stated, the following tolerances are applicable:

— Forces:  $\pm 5\%$  of the nominal force;

Forces may be replaced by masses. The relationship  $10 N = 1 kg$  may be used.

— Velocities:  $\pm 5\%$  of the nominal velocity;

— Masses:  $\pm 1\%$  of the nominal mass;

— Dimensions:  $\pm 1 mm$  of the nominal dimension;

— Angles:  $\pm 2^\circ$  of the nominal angle.

NOTE For the purposes of uncertainty measurement, test results are not considered to be adversely affected when the above tolerances are met.