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**BS EN 12503-1:2013**



BSI Standards Publication

## **Sports mats**

Part 1: Gymnastic mats, safety requirements

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This British Standard is the UK implementation of EN 12503-1:2013. It supersedes BS EN 12503-1:2001 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee SW/136/22, Sports, Playground and other Recreational Equipment - Gymnasium and Playing Field Equipment.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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English Version

## Sports mats - Part 1: Gymnastic mats, safety requirements

Tapis de sport - Partie 1: Tapis de gymnastique, exigences de sécurité

Sportmatten - Teil 1: Turnmatten, sicherheitstechnische Anforderungen

This European Standard was approved by CEN on 21 December 2012.

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



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## Foreword

This document (EN 12503-1:2013) has been prepared by Technical Committee CEN/TC 136 "Sports, playground and other recreational facilities and equipment", the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by August 2013, and conflicting national standards shall be withdrawn at the latest by August 2013.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 supersedes EN 12503-1:2001.

This standard EN 12503 "Sports mats" consists of:

- Part 1: *Gymnastic mats, safety requirements;*
- Part 2: *Pole vault and high jump mats, safety requirement;*
- Part 3: *Judo mats, safety requirements;*
- Part 4: *Determination of shock absorption;*
- Part 5: *Determination of the base friction;*
- Part 6: *Determination of the top friction;*
- Part 7: *Determination of static stiffness.*

In relation to EN 12503-1:2001, the following main amendments have been made:

- a) Peak deceleration for type 3 in Table 2 has been modified;
- b) Annex B (informative) has been introduced.

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.

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## 1 Scope

This European Standard specifies safety requirements (including performance requirements) for 8 types of gymnastic mats used in school, training and competition, see Clause 4.

The performance and safety values cover shock absorption, anti-slip characteristics of the base and top friction characteristics of the surface.

NOTE For the specific requirements of international official competitions, see appropriate international regulations.

## 2 Normative references

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.

EN 12503-4, *Sports mats — Part 4: Determination of shock absorption*

EN 12503-5, *Sports mats — Part 5: Determination of the base friction*

EN 12503-6, *Sports mats — Part 6: Determination of the top friction*

## 3 Terms and definitions

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

### 3.1 shock absorption

ability of the mat to reduce impact forces on the athlete, expressed as a maximum deceleration under defined test conditions

### 3.2 deflection

ability of the mat to deform to an impact whilst maintaining the athletes stability, expressed as maximum deflection under defined test conditions

### 3.3 resilience

ability of the mat to return energy after an impact, expressed as resilience in percent under defined test conditions

### 3.4 surface

upper side of the mat on which the athlete moves

### 3.5 base

under side of the mat designed to be in contact with the floor during use