

Sports mats —

Part 3: Specification for fire safety requirements for mats, mattresses and landing areas

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Committees responsible for this British Standard

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- British Amateur Gymnastics Association
- British Association of Advisers and Lecturers in Physical Education (BAALPE)
- British Athletic Federation (BAF)
- British Judo Association
- British Rubber Manufacturers Association Ltd
- British Textile Technology Group
- Department of Economic Development for Northern Ireland
- Institute of Leisure and Amenity Management (ILAM)
- Rapra Technology Ltd
- Sports Hall and Fitness Equipment Association

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Foreword

This British Standard has been prepared by Technical Subcommittee SW/14/3 and is a revision of BS 1892-2.10:1990 with all aspects apart from flammability omitted.

BS 1892-2.10:1990, which was withdrawn in 2001, is superseded by the BS EN 12503 series (which includes seven parts) for all aspects of the safety performance of sports mats apart from fire safety, which is covered for the UK only by this standard.

Ignition resistance is the initial approach to fire safety. This preventative approach has in human terms and property protection terms the most benefits and is accepted as the primary approach to the problem. Accepting that the chance of ignition by various means can occur, the fire safety in life terms has to be considered according to the circumstances that exist in each case.

Where premises have no additional factors and other risks to consider, and the means of escape is good, then this situation is obviously better than premises that have additional fire hazards.

The flammability requirements originally developed in BS 1892-2.10:1990, and contained here in revised form, originate from the publication of Home Office Fire Circular Ignition 1/88 (FSC1/88) [1]. The procedure in this edition has been simplified and no longer contains tests on cut mats or ignition from below. The use of cut or damaged mats in which the filling is exposed will seriously compromise fire safety. Ignition from below is more likely to occur as the result of poor housekeeping in storage areas. It is essential to consider these important aspects during the fire hazard assessment.

An assessment of the premises by a joint survey of the management and the Local Authority Fire Prevention Officer is a basic starting point to allowing a lower ignition resistance to certain equipment. The ultimate aim of the producers of mats should be that the recommended 0 and 5 levels should be met as early as possible.

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

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 17 and a back cover.

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1 Scope

This British Standard specifies fire safety requirements for mats, mattresses and landing areas.

NOTE 1 Recommendations for the use and storage of these products are given in Annex A.

NOTE 2 Requirements for soft play areas are not included in this standard, though certain recommendations exist for these products. For further information please refer to, *Indoor play areas – Guidance on safe practice* [2].

2 Normative references

The following referenced documents are indispensable for the application 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.

BS 5852, *Methods of test for assessment of the ignitability of upholstered seating by smouldering and flaming ignition sources*.

BS EN 12503-1, *Sports mats — Part 1: Gymnastic mats, safety requirements*.

BS EN 12503-2, *Sports mats — Part 2: Pole vault and high jump mats, safety requirements*.

BS EN 12503-3, *Sports mats — Part 3: Judo mats, safety requirements*.

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

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

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

BS EN 12503-7, *Sports mats — Part 7: Determination of static stiffness*.

3 Terms and definitions

For the purposes of this British Standard the following terms and definitions apply.

3.1

ignition source

source of energy that is used to ignite combustible materials or products

3.2

primary source

<in a test> initial heat supply

3.3

smouldering

combustion of a material with or without the emission of light and generally evidenced by smoke and an increase in temperature but without a flame

3.4

progressive smouldering

smouldering that is self-propagating, i.e. independent of the ignition source

3.5

flaming

undergoing combustion in the gaseous phase with the emission of light and heat

3.6

flammability

ability of a material or product to burn with a flame under specified test conditions

3.7

ignitability

measure of the ease with which a material, product or component can be ignited so as to flame or progressively smoulder

3.8

gymnasium mat

<in a test> any mat, mattress or landing area, including items such as gymnasium, judo and wrestling mats, and landing areas

3.9

upper surface

surface normally facing the sports person when the mat is in use

3.10

reverse surface

surface normally in contact with the floor when the mat is in use

4 General requirements

Mats, mattresses and landing areas shall comply with the requirements of BS EN 12503 (all parts) and the fire safety requirements of this standard.

5 Classification

5.1 Risk of ignition

Ignitability requirements for mats shall be classified according to the following application risk areas:

Low fire risk hazard area (L);

High fire risk hazard area (H).

NOTE It should be the responsibility of the building management to ensure that the use to which the building is put conforms to the ignition requirements for the appropriate classification.

In assessing which classification applies the following shall be taken into account.

a) Position and size of the premises:

- 1) surrounding risk, adjacent premises or storage;
- 2) number of floors, area;
- 3) number and size of rooms, open plan, etc.;
- 4) staircases.

b) Type of construction:

- 1) brick, concrete, wooden;
- 2) fire resistance;
- 3) separation of risk areas, storage, kitchen, boiler rooms;
- 4) age of building.

c) Type of use:

- 1) education: voluntary, private, public;
- 2) numbers of participants and spectators involved;
- 3) density;
- 4) licensed use, liquor, restaurant.

d) Fire precautions:

- 1) means of escape for proposed use;
- 2) systems: alarm, manual and associated systems;
- 3) fire fighting installations: hose reels, sprinklers, extinguishers;
- 4) active system, automatic ventilation;
- 5) separation of risk;
- 6) evacuation procedures.

e) Management:

- 1) overall responsibility for the building and its use, maintenance and upkeep;
- 2) type of management: voluntary, professional, part-time;
- 3) numbers of staff available;
- 4) training of staff;
- 5) health and safety aspects;
- 6) acquiring licences where necessary;
- 7) liaison with emergency services;
- 8) procedures for control, storage and maintenance of cellular foam equipment;
- 9) changes to structure, liaison with Building Control Officer and Local Fire Authority;
- 10) risk assessment made in liaison with Local Fire Authority and emergency services.

NOTE For example low fire risk hazard areas (L) include small premises, with no public admitted as spectators and where management has control. High fire risk hazard areas (H) include multi-occupied premises where the public is admitted in large numbers.

6 Sampling and performance

6.1 Sampling

Prototypes representative of a design shall comply with 6.2. All subsequent production shall be subjected to such supervision and inspection procedures as to provide reasonable assurance that the performance of each article when new is at least equal to that of the prototypes.

6.2 Performance

The ignitability of the mat, mattress or landing area when tested in accordance with Annex B shall comply with Table 1.

Table 1 — Ignitability of mats, mattresses and landing areas

Construction of test specimen	Levels of hazard area	
	Low	High
Composite	Ignition source 0 and 3	Ignition source 0 and 5
NOTE Levels of ignition are defined in BS 5852.		

NOTE Attention is drawn to S.I.1324, *The Furniture and Furnishings (Fire) (Safety) Regulations 1988* [3] for the combustion modification of fillings for all categories. For foam fillings not referred to in S.I.1324, attention is drawn to Schedule 1 Part 3 of S.I.1324.