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**BS 4163:2021**



**BSI Standards Publication**

**Health and safety for design and  
technology in educational and similar  
establishments — Code of practice**

**bsi.**

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## Foreword

### Publishing information

This British Standard is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 31 October 2021. It was prepared by Technical Committee GME/27, *Safety in school workshops*. A list of organizations represented on this committee can be obtained on request to the committee manager.

### Supersession

This British Standard supersedes [BS 4163:2014](#), which is withdrawn.

### Information about this document

The Health and Safety at Work etc. Act 1974 [1] places a general duty on employers to ensure, as far as reasonably practicable, the health and safety of employees and other persons affected by their activities.

The Management of Health and Safety at Work Regulations (MSHWR) 1999 [2] require employers to carry out risk assessments for the purpose of identifying what is required to comply with this general duty and any relevant Regulations made under this Act.

Implementation of this British Standard is not a legal requirement but it does provide one means of demonstrating that reasonably practicable steps have been taken to minimize risks from the machinery, equipment, processes and materials used. The recommendations in this British Standard cannot ensure the health and safety of learners and employees without proper training and supervision. Anyone in charge of a teaching space covered by this British Standard is advised to consider the desirability of having recognized accredited training in health and safety.

This British Standard is intended to be a useful guide to those who teach and manage in design and technology areas in educational establishments, and it aims to contribute to the prevention of accidents and dangerous occurrences. Employers and employees can incorporate the recommendations of this British Standard into their working environment.

This British Standard has also been written for persons responsible for providing services, equipment and machinery in educational establishments, and for persons employed to work in these establishments. If similar resources are used in other school departments and colleges of further education, the recommendations of this British Standard can be applied to these departments. They can also be applied where learners are undergoing initial teacher training.

Risk assessment is an important part of health and safety and teachers need to be made aware of the five step approach (information is available via the HSE toolbox<sup>1)</sup>). In design and technology teaching areas, risk assessments are likely to be applied to the working environment, equipment, processes, techniques and activities.

Practical experience provides opportunities to introduce learners to concepts of risk assessment and safe working methods. With encouragement, learners can develop their understanding of risk assessment processes and, through application of this process, they can be trained to use appropriate control measures to minimize risks to themselves and others. Teachers need to be fully conversant with hazards in the area that they supervise, and that they plan, organize, control and monitor the work so that risks can be controlled.

<sup>1)</sup> The HSE toolbox is available at: <https://www.hse.gov.uk/toolbox/>.

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introduction of new technologies so long as appropriate risk assessments are made and the employer accepts their introduction.

This publication can be withdrawn, revised, partially superseded or superseded. Information regarding the status of this publication can be found in the Standards Catalogue on the BSI website at [bsigroup.com/standards](https://bsigroup.com/standards), or by contacting the Customer Services team.

Where websites and webpages have been cited, they are provided for ease of reference and are correct at the time of publication. The location of a webpage or website, or its contents, cannot be guaranteed.

### **Hazard warnings**

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### **Use of this document**

As a code of practice, this British Standard takes the form of recommendations and guidance. It is not to be quoted as if it were a specification. Users are expected to ensure that claims of compliance are not misleading.

Users may substitute any of the recommendations in this British Standard with practices of equivalent or better outcome. Any user claiming compliance with this British Standard is expected to be able to justify any course of action that deviates from its recommendations.

It has been assumed in the preparation of this British Standard that the execution of its provisions will be entrusted to appropriately qualified and experienced people, for whose use it has been produced.

### **Presentational conventions**

The provisions of this standard are presented in roman (i.e. upright) type. Its recommendations are expressed in sentences in which the principal auxiliary verb is "should".

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

Where words have alternative spellings, the preferred spelling of the Shorter Oxford English Dictionary is used (e.g. "organization" rather than "organisation").

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## Section 1: General

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### 1 Scope

This British Standard provides recommendations and guidance for persons responsible for the safe use of equipment and machinery in educational and similar establishments and covers:

- a) health and safety management;
- b) planning services; and
- c) teaching areas, equipment, tools and processes.

*NOTE Teaching areas includes preparation areas where materials are manipulated and processed, equipment is used and design and/or manufacturing takes place (e.g. food, catering, textiles, graphics, electronics, technology, craft, engineering, manufacturing, woodworking of all types, vocational workshops, motor vehicle workshops and computer areas).*

This British Standard also provides recommendations for persons who provide instruction to learners, employees, trainee teachers and adults in the use of equipment and machinery in educational and similar establishments.

The recommendations cover the supply and safe use of equipment, machine tools and materials and chemicals, personal protection and safety management, with particular reference to the hazards involved.

This British Standard applies to schools of all types, including those maintained by local authorities, academies, free schools, independent schools and any type of school for learners with special educational needs. It will also be helpful to further education colleges, universities, teacher training establishments, adult education workshops, and workshops in hospitals and prisons.

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### 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes provisions of this document<sup>2)</sup>. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

#### Standards publications

[BS 546](#), *Two-pole and earthing-pin plugs, socket-outlets and socket-outlet adaptors*

[BS 1363-1](#), *13 A plugs, socket-outlets and adaptors – Part 1: Specification for rewirable and non-rewirable 13 A fused plugs*

[BS 1363-2](#), *13 A plugs, socket-outlets and adaptors – Part 2: Specification for 13 A switched and unswitched socket outlets*

[BS 1363-4](#), *13 A plugs, socket-outlets and adaptors – Part 4: Specification for 13 A fused connector units switched and unswitched*

[BS 1710](#), *Specification for identification of pipelines and services*

[BS 5499-4](#), *Safety signs – Part 4: Code of practice for escape route signing*

[BS 5733](#), *General requirements for electrical accessories – Specification*

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<sup>2)</sup> Documents that are referred to solely in an informative manner are listed in the Bibliography.