

Buildings and structures for agriculture —

Part 23: Fire precautions — Code of practice

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Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Committee B/549, Agricultural buildings and structures, upon which the following bodies were represented:

- British Commercial Glasshouse Manufacturers' Association
- British Precast Concrete Federation Ltd.
- British Veterinary Association
- Cold Rolled Sections Association
- DEFRA — Department of the Environment, Food and Rural Affairs
- Environmental Agency
- Fibre Cement Manufacturers' Association Ltd.
- Galvanizers' Association
- HSE — Health and Safety Executive
- Institution of Structural Engineers
- Northern Ireland Department of Agriculture and Rural Development
- Royal Institute of British Architects
- Royal Institution of Chartered Surveyors
- Rural Design and Building Association
- Silsoe Research Institute
- Steel Construction Institute
- The Scottish Executive — Environment and Rural Affairs Department
- Water UK

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Contents

	Page
Committees responsible	Inside front cover
Foreword	ii
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Fire hazard	3
5 General fire precautions	4
6 Structural fire protection of low risk single storey buildings	5
7 Livestock and special purpose buildings	8
8 Fire detection and extinguishing systems	10
9 Warning and safety signs	13
Annex A (informative) European classification of fire performance of construction materials and products	14
Index	17
Bibliography	16
Table 1 — Methods of measuring fire performance of building materials, components and structures	6
Table 2 — Fire resistance of load bearing elements, compartment walls and external walls	6
Table 3 — Fire performance of roof coverings and internal linings of livestock buildings	9
Table 4 — Special purpose buildings and compartments	10
Table A.1 — European fire classification test methods	14

Foreword

This British Standard has been prepared by Technical Committee B/549. It supersedes BS 5502-23:1990 which is withdrawn.

This code of practice is primarily concerned with the safety of persons and livestock, but also includes recommendations for the protection of property. It is intended for use for buildings not covered by UK Building Regulations [1], [2], [3]. Compliance with this British Standard may demand technical/constructional provisions of a higher standard than are generally considered satisfactory.

This revision incorporates changes introduced as a result of the new series of European Standards covering methods of test for determining fire performance and fire detection, and fighting equipment specifications (see Clause 2). These European Standards have been mandated to support the Construction Products Directive (CPD) [4], an EU Directive which seeks to remove technical barriers to trade within the European Economic Area (EEA) and which is supported by the use of CE marking. CE marking confirms that products meet the technical requirements of European Standards. In the UK, the CPD was implemented by the Construction Products Regulations [5], which came into force on 27 January 1991 and were amended on 1 January 1995 by the Construction Products (amendment) Regulations 1994.

Products conforming to the new European Standards will have their fire performance classified in accordance with the new European methods of test. For most products covered by the new European Standards a transition or overlap period will exist between the publication of the new European Standard (BS EN) and the withdrawal of the existing national standard (BS). This transition period exists in order to allow equivalence of performance to be determined, national regulations to be changed, where necessary, and manufacturers to bring their products into line with the new standards. During the transition period existing national fire performance requirements for materials and products will run in parallel with the new provisions. Where possible, these new provisions have been introduced into the revision of this code of practice. Annex A gives further background information about this process.

BS 5502 is issued in the following broad parts:

- *Part 0: Introduction and consolidated index;*
- *Parts 10 to 19: Reference information and legislation;*
- *Parts 20 to 39: General design;*
- *Parts 40 to 59: Livestock buildings;*
- *Parts 60 to 79: Crop buildings;*
- *Parts 80 to 99: Ancillary buildings.*

More specifically, the general design series comprises:

- *Part 20: Code of practice for general design considerations;*
- *Part 21: Code of practice for selection and use of construction materials;*
- *Part 22: Code of practice for design, construction and loading;*
- *Part 23: Code of practice for fire precautions;*
- *Part 24: Code of practice for energy management;*
- *Part 25: Code of practice for design and installation of services and facilities;*
- *Part 30: Code of practice for control of infestation;*
- *Part 31: Guide to waste management;*
- *Part 32: Guide to noise attenuation;*
- *Part 33: Guide to control of odour pollution;*
- *Part 34: Guide to control of dust;*
- *Part 35: Guide to control of gases and vapours.*

It has been assumed in the drafting of this part of BS 5502 that the execution of its provisions is entrusted to appropriately qualified and experienced people.

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

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.

Attention is drawn to the following statutory regulations: Building Regulations England and Wales [1], Scotland [2], Northern Ireland [3], Construction Products Regulations [5], Fire Precautions Act [6].

NOTE The Fire Safety Order [7], to be implemented in 2004, could influence the recommendations given in this code.

Summary of pages

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

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1 Scope

This part of BS 5502 gives recommendations for the fire precautions for single storey agricultural buildings and structures which are not covered by building regulations, and which are used for the purposes of horticulture, crop and livestock farming. This part of BS 5502 is not applicable to those buildings used for the storage of explosives or commercial quantities of chemicals.

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 476-3:2004, *Fire tests on building materials and structures — Part 3: Classification and method of test for external fire exposure to roofs*.

BS 476-6, *Fire tests on building materials and structures — Part 6: Method of test for fire propagation for products*.

BS 476-7, *Fire tests on building materials and structures — Part 7: Method of test to determine the classification of the surface spread of flame of products*.

BS 476-20, *Fire tests on building materials and structures — Part 20: Method for determination of the fire resistance of elements of construction (general principles)*.

BS 476-21, *Fire tests on building materials and structures — Part 21: Methods for determination of the fire resistance of loadbearing elements of construction*.

BS 476-22, *Fire tests on building materials and structures — Part 22: Methods for determination of the fire resistance of non-loadbearing elements of construction*.

BS 476-23, *Fire tests on building materials and structures — Part 23: Methods for determination of the contribution of components to the fire resistance of a structure*.

BS 750, *Specification for underground fire hydrants and surface box frames and covers*.

BS 2782-1:Method 140D, *Methods of testing plastics — Part 1: Thermal properties — Method 140D: Flammability of a test piece 550 mm × 35 mm of thin polyvinyl chloride sheeting (laboratory method)*.

BS 2782-1:Method 140E, *Methods of testing plastics — Part 1: Thermal properties — Method 140E: Flammability of a small, inclined test piece exposed to an alcohol flame (laboratory method)*.

BS 3251, *Specification — Indicator plates for fire hydrants and emergency water supplies*.

BS 5266 (all parts), *Emergency lighting*.

BS 5306-0, *Fire extinguishing installations and equipment on premises — Part 0: Guide for the selection of installed systems and other fire equipment*.

BS 5306-1, *Fire extinguishing installations and equipment on premises — Part 1: Hydrant systems, hose reels and foam inlets*.

BS 5306-2, *Fire extinguishing installations and equipment on premises — Part 2: Specification for sprinkler systems*.

BS 5306-3, *Fire extinguishing installations and equipment on premises — Part 3: Maintenance of portable fire extinguishers — Code of practice*.

BS 5499-1, *Graphical symbols and signs — Part 1: Safety signs, including fire safety signs. Specification for geometric shapes, colours and layout*.

BS 5502-25, *Buildings and structures for agriculture — Part 25: Code of practice for design and installation of services and facilities*.

BS 5502-52, *Buildings and structures for agriculture — Part 52: Code of practice for design of alarm systems, emergency ventilation and smoke ventilation for livestock housing*.

BS 5502-81, *Buildings and structures for agriculture — Part 81: Code of practice for design and construction of chemical stores. Code of practice for design and construction of chemical stores*.

BS 5839-1, *Fire detection and alarm systems for buildings — Part 1: Code of practice for system design, installation and servicing*.

BS 7671, *Requirements for electrical installations — IEE Wiring Regulations — Sixteenth edition.*

BS 7807, *Code of practice for design, installation and servicing of integrated systems incorporating fire detection and alarm systems and/or other security systems for buildings other than dwellings.*

BS 7974, *Application of fire safety engineering principles to the design of buildings — Code of practice.*

BS EN 3 (all parts), *Portable fire extinguishers.*

BS EN 671-1, *Fixed fire fighting systems — Hose systems — Part 1: Hose reels with semi-rigid hose.*

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

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

BS EN 1365-3, *Fire resistance tests for loadbearing elements — Part 3: Beams.*

BS EN 1365-4, *Fire resistance tests for loadbearing elements — Part 4: Columns.*

BS EN 1634 (all parts), *Fire resistance tests for door and shutter assemblies.*

BS EN 1869, *Fire blankets.*

BS EN 12845, *Fixed firefighting systems — Automatic sprinkler systems — Design, installation and maintenance.*

BS EN 13501-1:2002, *Fire classification of construction products and building elements — Part 1: Classification using test data from reaction to fire tests.*

BS EN 13823, *Reaction to fire tests for building products — Building products excluding floorings exposed to the thermal attack by a single burning item.*

BS EN ISO 1182, *Reaction to fire tests for building products — Non-combustibility test.*

3 Terms and definitions

For the purposes of this part of BS 5502, the following terms and definitions apply.

3.1

area

<any part of a roof> area normal to the slope

3.2

area

<storey of a building> total area bounded by the inner finished surfaces of the enclosing wall or, on any side where there is no enclosing wall, by the outermost edge of the floor on that side

3.3

boundary

border between land under the same occupation as the building and land under a different occupation

NOTE Where a building faces a farm dwelling a notional boundary is assumed to pass between them, so situated as to enable adjacent sides and external walls of both buildings to conform to the recommendations of this code of practice or the Building Regulations [1], [2], [3], as applicable.

3.4

cavity

any concealed space or hidden void within a building which could provide a ready route for smoke or fire spread, e.g. spaces in roof construction and cavities in walls

3.5

cavity barrier

physical barrier or seal designed to restrict the passage of smoke and/or the spread of fire

3.6

compartment wall

wall constructed between compartments to achieve a stated period of fire resistance and which is imperforate, except for openings fitted with self-closing doors or shutters having the same period of fire resistance as the wall