

CONFIRMED
DECEMBER 2007

Laboratory furniture and fittings —

Part 1: Introduction

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Laboratory Apparatus Standards Policy Committee (LBC/-) to Technical Committee LBC/18, upon which the following bodies were represented:

Association for Science Education
Association of the British Pharmaceutical Industry
British Furniture Manufacturers' Federation
British Laboratory Ware Association
British Occupational Hygiene Society
British Woodworking Federation
CLEAPSS
Chartered Institution of Building Services Engineers
Chartered Society of Designers
Chemical Industries Association
Department of Education and Science
Department of Health
Department of the Environment (Property Services Agency)
Department of Trade and Industry (Laboratory of the Government Chemist)
Furniture Industry Research Association
GAMBICA (BEAMA Ltd.)
Health and Safety Executive
Institute of Medical Laboratory Sciences
Manufacturing, Science and Finance Union
Medical Research Council
National Association of Teachers in Further and Higher Education
Royal Institute of British Architects
Royal Society of Chemistry
Universities Safety Association
University Grants Committee

This British Standard, having been prepared under the direction of the Laboratory Apparatus Standards Policy Committee, was published under the authority of the Standards Board and comes into effect on 31 May 1991

© BSI 07-1999

The following BSI references relate to the work on this standard:
Committee reference LBC/18
Draft for comment 90/55172 DC

ISBN 0 580 19484 1

Amendments issued since publication

Amd. No.	Date	Comments

Contents

	Page
Committees responsible	Inside front cover
Foreword	ii
1 Scope	1
2 Definitions	1
3 Statutes and regulations	1
4 Guidance documents	2
5 Safety	2
Appendix A Bibliography	5
Index	6
Publication(s) referred to	Inside back cover

Foreword

This Part of BS 3202 has been prepared under the direction of the Laboratory Apparatus Standards Policy Committee. It, together with Parts 2, 3 and 4, supersedes BS 3202:1959, which is withdrawn.

This Part of BS 3202 provides an introduction to the series of Parts, the other Parts being as follows:

- *Part 2: Specification for performance;*
- *Part 3: Recommendations for design;*
- *Part 4: Recommendations for installation.*

This British Standard is intended to give guidance to those who may be involved in the supply, installation and use of laboratory furniture.

There has been considerable innovation and progress in laboratory design since the publication of BS 3202:1959. The need for a performance-oriented approach has been recognized and, although general requirements as to the quality of materials and workmanship are given, BS 3202 has been based mainly on performance tests devised to take account of the conditions and hazards to which laboratory furniture is subjected during everyday use.

An index covering all Parts of BS 3202 is included in this Part.

Product certification. Users of this British Standard are advised to consider the desirability of third party certification of product conformity with this British Standard based on testing and continuing surveillance, which may be coupled with assessment of a supplier's quality systems against the appropriate Part of BS 5750.

Enquiries as to the availability of third party certification schemes will be forwarded by BSI to the Association of Certification Bodies. If a third party certification scheme does not already exist, users should consider approaching an appropriate body from the list of Association members.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their 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 14, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

1 Scope

This Part of BS 3202 defines terms used in all Parts of BS 3202 and covers general safety considerations for laboratory furniture and fittings.

NOTE The titles of the publications referred to in this standard are listed on the inside back cover.

2 Definitions

For the purposes of this British Standard, the following definitions apply.

2.1

adaptable building

a building, within which physical rearrangement of building elements, services and furniture is possible

2.2

adjustable furniture

furniture which can be adjusted by the users to suit their own needs

2.3

assembly

set of components put together to form a composite item of furniture

2.4

boom

horizontal member, suspended above work surface, containing services

2.5

component

an individual item of furniture which forms part of a furniture system

2.6

fixed furniture

furniture which cannot be relocated by the users to suit their own needs

2.7

furniture system

a way of relating components to form an assembly

2.8

interface

coordinating plane between adjoining components

2.9

mobile furniture and equipment

items fitted with wheels or castors

2.10

modular grid

grid in which the distance between consecutive lines is the basic module or a multimodule

2.11

module

unit of size used as an incremental step in dimensional coordination

NOTE 1 The preferred multimodule for laboratory furniture is 300 mm. Submodular increments are 50 mm (first preference) or 25 mm (second preference)

NOTE 2 The size of the basic module is standardized at 100 mm.

2.12

overbench unit

item of furniture above work surface

2.13

relocatable furniture

furniture which can be relocated by the users to suit their own needs

2.14

service

any gas, liquid or electrical supply or extract

2.15

spine

space reserved for services within furniture system

2.16

tolerance

permitted variation of a dimension

2.17

underbench unit

item of furniture below work surface

2.18

workstation

an area dedicated to a specific worker

2.19

work place

work surface with associated activity space, storage and service outlets

2.20

work surface

horizontal surface on which laboratory work is to be carried out

NOTE A work surface may be a component of a furniture system or part of a table or bench.

3 Statutes and regulations

3.1 Health and safety at work etc. Act 1974

This is the principal Act which applies to laboratories. Its objectives are to:

- a) secure the health, safety and welfare of persons at work;

b) protect persons other than persons at work against risks to health or safety arising out of, or in connection with, the activities of persons at work;

c) control the keeping and use of explosive or highly flammable or otherwise dangerous substances, and generally prevent the unlawful acquisition, possession and use of such substances; and to control the emission into the atmosphere of noxious or offensive substances from premises or any class prescribed for the purposes of the Act.

The Act imposes duties on everyone concerned with work activities. Duties on designers, manufacturers, importers and suppliers of articles and substances for use at work include under Section 6 of the Act:

- 1) to ensure so far as is reasonably practicable that articles by virtue of their design and construction are safe and without risks to health at all times when used, set, cleaned and maintained and as regards substances when they are used, handled, stored or processed;
- 2) to carry out or arrange for the carrying out of such testing and examination as may be necessary;
- 3) to provide adequate information about the use for which the article is designed and about any risks to health to which a substance may give rise;
- 4) to provide revisions of information to persons supplied if anything becomes known about the article or substance which gives rise to serious risk to health or safety.

3.2 Factories Act 1961 and Offices, Shops and Railway Premises Act 1963

These Acts will apply to certain laboratories. They contain more specific requirements than the Health and Safety at Work etc. Act (see 3.1) and refer to such matters as cleanliness, overcrowding, temperature, lighting, drainage, safety of machinery and plant, welfare provisions, etc., all of which have relevance to laboratories and workshops. Even if these Acts do not apply to a particular laboratory, the standards they lay down form useful guidelines.

3.3 Regulations

Regulations that may be applicable include:

- a) Carcinogenic Substances Regulations 1967;
- b) Genetic Manipulation Health and Safety Regulations 1981;
- c) Highly Flammable Liquids and Liquefied Petroleum Gases Regulations 1972;

d) The Ionising Radiations Regulations 1985 and Approved Code of Practice;

e) Electricity at Work Regulations 1989;

f) Pressure Systems and Pressure Vessels 1990;

g) Control of Substances Hazardous to Health Regulations (COSHH) 1989.

NOTE This list is by no means exhaustive and reference should be made also to the Health and Safety Executive's current list of publications.

3.4 Other legislation and codes of practice relevant to laboratories

Other legislation and codes of practice applicable to laboratories includes:

- a) Gas Safety Regulations 1980;
- b) Petroleum Acts;
- c) Control of Pollution Acts;
- d) Fire Precautions Act 1971;
- e) Building Regulations;
- f) IEE Regulations.

These Acts and regulations may be enforced by local authorities, the fire authorities or, in some cases, by the Health and Safety Executive.

4 Guidance documents

There is a considerable volume of guidance material available which can have a bearing on the furniture and fittings to be provided in laboratories, e.g. guidance notes prepared by the Health and Safety Executive, the Fire Protection Association and many others. Useful reference material is listed in the bibliography in Appendix A.

5 Safety

5.1 General

Safety considerations for the design and installation of particular items of furniture are contained in the appropriate Parts of BS 3202. The summary given in 5.2 to 5.5 includes factors affecting both the design of layouts and the selection of furniture.

5.2 Work places

Generally, features which may cause injury if a human body collides with them should be avoided.

The edges and corners of benches should be slightly chamfered and rounded. Materials that easily give rise to splinters should be avoided. If plywood is used in the construction, the edges should be protected or covered.

It is essential that surfaces in laboratories where Grade C radio-isotopes are used be easily cleanable and non-absorbent.