

Specification for

Performance of handles and handle assemblies attached to cookware

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Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Furniture and Household Equipment Standards Committee (FHM/-) to Technical Committee FHM/9 upon which the following bodies were represented:

- Association of Manufacturers of Domestic Electrical Appliances
- British Cookware Manufacturers' Association
- British Hardware Federation
- British Plastics Federation
- British Retailers' Association
- Catering Equipment Manufacturers' Association
- Consumer Standards Advisory Committee of BSI
- Cooperative Wholesale Society Ltd.
- Crown Suppliers
- Department of Education and Science
- Department of Health and Social Security
- Department of Trade and Industry (Consumer Safety Unit, CS Division)
- Rubber and Plastics Research Association of Great Britain

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Foreword

This British Standard has been prepared under the direction of the Furniture and Household Equipment Standards Committee in response to accident statistics which demonstrate that serious accidents can occur as a direct result of the premature failure of the handle or handle attachment system of domestic or institutional cookware.

This standard sets levels of performance for cookware for use on the top of a stove, cooker or hob by the accelerated simulation of hazards experienced in normal service. This standard is applicable to the handles and fixings of a wide range of cookware, such as saucepans, stewpans, pressure cookers, frying pans and deep-fat fryers, in sizes up to 10 L. In addition, certain requirements are extended to include the knobs which might be encountered on the lids, etc. of cookware.

The relationship between the diameter of an item of cookware and of the heat source upon which it is regularly used is critical to the service life of that item. The use of too small a pan or too large a heat source, either of which will allow heat to pass up the outside of the pan and play directly upon the handle and/or its fixing system, can severely affect the anticipated performance of an item. This relationship is only within the control of the ultimate user and attention is drawn to the need for this to be considered when selecting and using cookware, particularly on ring-radiant electric burners and with gas flames.

This standard is not intended to be suitable for certification purposes in its own right, but to serve as a reference standard to be called up in appropriate individual product standards or in cases of dispute.

This standard was amended in 1988, on the basis of experience gained in its application since publication, to provide clarification and simplification of the testing procedures required for verification of compliance with BS 6743 and with other British Standards which refer to it. The amendment was made in order to render the specified testing procedures realistic and was not considered to relax safety requirements to any significant degree.

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 12, 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 British Standard specifies safety-related performance requirements for the handles and knobs on items of cookware for use on the top of a stove, cooker or hob and includes the fixing systems used for attachment to the cookware. These requirements apply to all cookware, as defined, regardless of material of manufacture. The standard does not cover any other requirements for cookware and does not include items of ovenware specifically confined to use within the oven.

Handles, knobs and fixing systems are tested as complete items of cookware but individual components, suitably mounted, may be similarly evaluated for development purposes.

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 cookware

a utensil, in the form of a hollow container, intended for use in the preparation and/or cooking of food or beverages on the top of a stove, cooker or hob

2.2 cookware body

that part of an item of cookware intended to retain the contents during use and including the base, side(s), lid and any movable or removable section(s)

2.3 fixing system

the attachment method, or methods, utilized in fastening a handle to the body of an item of cookware or to fix a knob to a lid or movable section

2.4 gross capacity

the capacity obtained when the cookware body is filled to the brim with water at 15 ± 2 °C and allowed to level off for 1 min whilst standing on a level surface

2.5 handle

a projection affixed to the body of an item of cookware and intended to facilitate the carrying and handling of the article in normal use

NOTE A handle, or part of a handle, affixed to a lid is regarded as a knob.

2.6 knob

a short projection or strap affixed to the lid, or other movable section, of an item of cookware to facilitate its attachment, removal or adjustment in normal use

NOTE A handle, or part of a handle, affixed to a lid is regarded as a knob.

2.7 handle (or knob) assembly

the complete arrangement of a handle (or knob) and its fixing system as embodied in a finished, manufactured item of cookware or mounted onto a rigid support such that the position and fixing conditions in an actual item of cookware are exactly simulated

2.8 shallow items

articles of cookware of overall internal depth 75 mm or less, frying pans and woks

3 Construction, materials and use

3.1 Construction

NOTE Handles and knobs should be of such proportions that they can be held safely and with a secure grip. The provision of moulded finger grips and/or a textured matt finish may be of assistance in providing secure gripping features.

Any exposed length of metal, or flame guard, between a handle and the body of the cookware shall not exceed 25 mm for saucepans, etc., or 40 mm for shallow items.

3.2 Materials

All materials shall be finished smooth and free from burrs, splinters or sharp edges.

When tested in accordance with Appendix K of BS 1224:1970 for a duration of 16 h, any plated metal surface shall be free from corrosion products visible to the unaided eye other than those which can be polished away with a soft cloth.

Any tinning shall comply with BS 3788.

NOTE All materials used for the construction of cookware should comply with the requirements of the appropriate Statutory Instruments relating to usage and/or material if the cookware is to be used for the preparation of food or beverages and the material is liable to come into contact with the contents.

3.3 Selection and size

The type and minimum number of handles to be used on cookware of a given gross capacity shall be in accordance with Table 1.

Table 1 — Selection criteria

Size of cookware		Number and type of handle(s)
Gross capacity	Maximum diameter ^a	
L	mm	
< 2	—	1 straight
2 to 5	< 250	1 straight <i>or</i> 2 loop/flange
> 5 to 10	250 and over	1 straight and 1 loop/flange <i>or</i> 2 loop/flange <i>or</i> a single handle, provided that this enables both hands to be used
^a Alternative criterion for shallow items.		

Where an item of cookware has a single straight handle only this shall be not less than 150 mm in length when measured along its top surface from the point of contact with the cookware and including any flame guard.

Loop or flange handles shall be not less than 50 mm in the dimension adjoining the circumference of the body of the cookware.

NOTE Knobs should be of such dimensions that, in normal use, the hand cannot readily contact the material of the cookware. The provision of an extended ring of material at the base of a knob to act as a finger-guard can be advantageous in this respect.

3.4 Position with respect to cookware

Handles shall be positioned above the centre of gravity of the cookware when filled to its gross capacity. For shallow items there shall be a minimum clearance of 30 mm between the handle and the horizontal projection of the base of the cookware at the point 0.33 *l* as shown in Figure 4(a).

The mass of a handle shall be such that the cookware is stable when placed empty, and without any lid, on a level surface.

Knobs shall be positioned so as to provide ease of movement and/or maximum stability to any removable section or lid during and after its removal. It shall not be possible to contact a heated surface of the cookware in using the knob for its normal purpose.

3.5 Attachment to cookware

Attachment shall be by riveting, welding and/or threaded fixing for handles and knobs not integral with the body of the cookware. Asymmetrical knobs shall be fixed at two points.

Welded stud fixings shall be capable of withstanding an applied torque of 11 N m per stud for handle attachment and 4 N m per stud for knob attachment without visible distortion of the stud or weld.

Threaded fixings shall incorporate a locking washer or similar device to hold them secure.

Attachment of handles and knobs to cookware shall be firm and close, presenting no traps for dirt within the cookware where contact with food could be made in normal use.

It shall not be possible to touch, from the exterior of the cookware body with a spherical probe of diameter 14 mm, any part of a metal fixing system directly attached to, or penetrating, the cookware body which may reach a temperature exceeding 50 °C in normal use.

4 Performance

4.1 General

The requirements specified in this clause are intended to be applied to complete items of cookware, incorporating the handle and its fixing system, as produced for sale. Permanent deformation of, or failure in, the body of the cookware adjacent to a handle in a performance test shall be regarded as failure to satisfy the related requirement.

Handle assemblies, or knob assemblies, shall satisfy each of the appropriate requirements specified in 4.2 to 4.10. A handle, or part of a handle, affixed to a lid shall satisfy only those requirements appropriate to knob assemblies.

NOTE 1 It is possible for a minimum number of samples to be taken through all of the tests in a programmed sequence but it is not a requirement of this standard that samples should pass all of the tests sequentially and failure at any point in a sequential series of tests may be overruled by the satisfactory performance of new samples. A suggested sequence for testing cookware to the requirements of this standard is given in Appendix G.

For the purposes of proof testing or quality control of handles, knobs or handle assemblies or knob assemblies the requirements and tests specified shall be applied to handles, knobs and/or fixing systems suitably mounted to simulate their use in actual cookware but in making recommendations based on the results of such evaluations the selection and size requirements given in 3.3 shall be adhered to.

NOTE 2 For materials not known to be impact-sensitive it is desirable that the performance tests of Appendix A to Appendix D should induce, at their end-point, a gradual, or ductile, failure rather than a sudden, or brittle, one.