

Domestic kitchen equipment

Part 2. Specification for strength requirements and methods of test for fitted kitchen units

Equipements de cuisine
Partie 2. Exigences relatives à la résistance
mécanique et aux méthodes d'essai des
équipements de cuisines aménagées —
Spécifications

Einbauküchen für den Haushalt
Teil 2. Stabilität von Einbaumöbeln;
Anforderungen und Prüfung

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Consumer and Contract Goods Standards Policy Committee (CCM/-) to Technical Committee CCM/49, upon which the following bodies were represented:

Association of Consulting Scientists
Association of Manufacturers of Domestic Electrical Appliances
British Gas plc
British Laminated Plastics Fabricators' Association Ltd.
British Woodworking Federation
Consumer Policy Committee of BSI
Department of Trade and Industry (Consumer Safety Unit, C A Division)
Electricity Industry in United Kingdom
Furniture Industry Research Association
Incorporated Association of Architects and Surveyors
Institute of Housing
London Housing Consortium
Metal Sink Manufacturers' Association
National Federation of Housing Associations
Paintmakers' Association of Great Britain Ltd.
Society of British Gas Industries

This British Standard, having been prepared under the direction of the Consumer and Contract Goods Standards Policy Committee, was published under the authority of the Standards Board and comes into effect on 31 January 1992

© BSI 1992

The following BSI references relate to the work on this standard:
Committee reference CCM/49
Draft for comment 90/48068 DC

ISBN 0 580 20231 3

Amendments issued since publication

Amd. No.	Date	Text affected

Amendment No. 1
published and effective from 15 July 1993
to BS 6222 : Part 2 : 1992

Domestic kitchen equipment
Part 2. Specification for strength
requirements and methods of test for
fitted kitchen units

Corrections

AMD 7693
July 1993

Table 1. Summary of tests

In the section of the table titled 'Shelves :', in the row titled 'Deflection of shelves', column 4, delete '2.0' and substitute '1.75'.

In the section of the table titled 'Pivoted doors :', in the row titled 'Wear and fatigue', columns 3, 4 and 5, delete '20 000', '40 000' and 'E.3' and substitute '40 000', '80 000' and 'C.3' respectively.

In the section of the table titled 'Drawers :', in the row titled 'Downward static load', column 4, delete '37.5' and substitute '375'.

Contents

	Page
Committees responsible	Inside front cover
Foreword	2
Specification	
Section 1. General	
0 Introduction	3
1 Scope	3
2 Definitions	3
3 Grades	4
4 Range of units and worktops	4
5 Performance	4
6 Marking and claims of compliance	5
Section 2. Testing	
7 Principle	6
8 Samples for test	6
9 General requirements for tests	6
10 Test report	9
Appendices	
A Strength of carcase and underframe	10
B Tests on shelves and horizontal surfaces	10
C Tests on pivoted doors	11
D Tests on sliding doors	13
E Tests on flaps	14
F Tests on drawers and other runner-supported items	15
G Determination of strength of handles	17
H Determination of the strength of wall attachment devices used with wall units	18
J Drawer slamming apparatus and its calibration	18
Tables	
1 Summary of tests	7
2 Loads applied to parts other than the part being tested	8
3 Loads applied to parts undergoing tests	8
4 Steel impact plates	10
5 Velocities for calibrating drawer slamming apparatus	18
Figures	
1 Strength of shelf supports	11
2 Strength of pivoted doors	12
3 Slam open/shut of sliding doors	13
4 Strength of flaps	14
5 Downward static load on drawer	15
6 Slam shut of drawers	16
7 Retention of the bottom surface of drawers	17
8 Wear and fatigue of drawers and runners	17

Foreword

This Part of BS 6222 has been prepared under the direction of the Consumer and Contract Goods Standards Policy Committee. It specifies performance and strength requirements for fitted units to withstand the maximum loadings specified for general domestic use with higher test levels specified for heavy domestic use. It is recognized that accidental overloads occur from time to time but it would be impracticable to specify requirements for units to withstand such accidents.

The tests are designed to be applied to a unit that is fully assembled and ready for use.

Other Parts of BS 6222 are as follows:

Part 1	Specification for co-ordinating dimensions
Part 3	Specification for performance requirements for the durability of surface finish
Part 4	Code of practice for the protection, storage and installation of fitted kitchen units
Part 5 ¹⁾	Specification for strength requirements and methods of test for peninsular units and breakfast bars

With the publication of the first three Parts of BS 6222, BS 1195 : Part 1 and BS 1195 : Part 2 will be superseded and therefore withdrawn.

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.

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

¹⁾In preparation.

Section 1. General

0 Introduction

This Part of BS 6222 specifies requirements for fitted kitchen units which are intended to be capable of passing a number of tests without failure or significant damage. Two grades of fitted units are specified.

The tests are for the repeated operation of drawers, doors and flaps, the loading of storage surfaces and for the exceptional loads that should occur only occasionally.

Carcase handling tests are included to take account of the loads which are likely to be encountered when assembling and installing units.

Tests carried out in accordance with this standard are intended to demonstrate the ability of the item to give satisfactory service in its intended environment. It should be understood that such tests do not ensure that structural failure will not eventually occur as a result of habitual mis-use or after an excessively long period of service.

NOTE. It is expected that considerations relating to safety will be the subject of a European Standard in course of preparation.

1 Scope

This Part of BS 6222 specifies strength requirements and methods of test for fitted kitchen units and does not specify safety requirements.

The requirements are applicable to all materials and all types of construction.

The carcass handling test given in appendix A applies to unloaded units tested in the condition in which they are expected to be received on site and therefore excludes self-assembly units.

The standard does not cover assemblies of units forming peninsular units and breakfast bars which will be the subject of a separate Part in course of preparation.

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 Part of BS 6222 the following definitions apply.

2.1 units

Complete cabinets, including drawers, doors, loose shelves and fixtures.

2.2 base unit

Unit fitted with or able to support a worktop, normally floor standing.

2.3 fitted unit

Unit intended to be fixed to a wall.

2.4 wall unit

Unit intended to be wholly suspended by attachment to a wall.

2.5 tall unit

Unit that normally corresponds in height with the top of a fixed wall unit and is normally floor standing.

2.6 appliance housing

A unit designed to house a specific appliance, e.g. an oven, fridge etc.

2.7 pull-out larder unit

A larder unit to which access is gained by pulling the interior fitments out of the cabinet, instead of opening a door.

2.8 carcass

Unit excluding drawers, doors, loose shelves and fixtures.

2.9 shelf

Continuous horizontal surface intended for storage.

2.10 drawer

Item supported on runners designed for storage which may be withdrawn from a cabinet, including trays if supported in this manner.

2.11 door

Panel structure hinged or sliding in the vertical plane.

2.12 flap

Similar to a door but hinged in the horizontal plane.

2.13 worktop

Continuous horizontal surface intended for work.

2.14 cantilevered worktop

Projecting work surface either moveable or fixed, supported only at one end.

2.15 storage fixture

Storage component attached to or supported by a unit, e.g. wire baskets, etc.

NOTE. For the purpose of this Part of BS 6222 the term fixture excludes shelves and drawers.

2.16 special fixture

Fixture intended or designed for a particular use.

2.17 optional fixture

Fixture which may or may not be fitted to a unit.

2.18 range of units

Design-related group of units with the same basic details of construction.

2.19 normal use

Level of loading which is likely to occur most frequently.

2.20 performance

Ability of a unit to withstand working loads over its service life.

2.21 strength

Ability of a unit to withstand loads.

2.22 rigidity

Ability of a unit to resist deflection under applied load.

2.23 deflection

Distance through which a specified point moves during or as a result of a test procedure.

3 Grades

Fitted kitchen units shall be classified as either, grade G (general domestic) or grade H (heavy domestic). Grade G is applicable to general domestic situations where users are expected to exercise care. Grade H units are for locations where heavy use is foreseen or where the users are liable to fail to exercise care.

4 Range of units and worktops

When a range of units is to be tested the following units and components shall be submitted for test:

- (a) the largest base unit;
- (b) the largest wall unit;
- (c) the largest tall unit;
- (d) the largest appliance housing;
- (e) the largest 'built under' appliance housing;
- (f) the largest pull-out larder unit;
- (g) a shelf with the longest span;
- (h) a worktop with the greatest span fully supported by a base unit;
- (i) a bridging worktop supported at both ends and one side with the largest span recommended by the manufacturer;
- (j) a cantilevered worktop with the largest projection recommended by the manufacturer;
- (k) the door whose geometry creates the greatest bending moment on the hinge;

NOTE 1. This may be the bottom of a unit;

- (l) the largest sliding door;
- (m) the largest hinged flap;
- (n) the largest drawer;

NOTE 2. If different types of hinges are used doors, as defined, using each type should be submitted for test.

NOTE 3. If different types of runners are used, the largest drawer with each type should be submitted for test.

- (o) a cutlery drawer, or drawer not more than 150 mm deep which could be used for storing cutlery;

- (p) the fixtures included in the range of units.

NOTE 4. Other components that form part of the range and that could be tested by the methods given in the appendices or in BS 4875 (see 5.2) may also be submitted for test.

5 Performance**5.1 General**

A unit or component shall be considered to have passed the tests (except the wall attachment device test) at the specified grade if, at the completion of the tests, none of the following defects affects the strength or function of the unit or component:

- (a) a fracture of any member, joint or component;
- (b) any loosening of joints intended to be rigid;
- (c) deformation or wear of any component;
- (d) loosening of any components fixed to the unit.

The test of wall attachment devices (see appendix H) applies specifically to the wall attachment devices and support structure. For this reason, only criterion (a) above shall apply to the results of this test and then only in so far as the function of the cabinet structure and attachment devices is affected.

5.2 Freestanding units

When tested in accordance with BS 4875 : Part 5 or 7 freestanding units shall meet the performance requirements of test level 3 or 4 (equivalent to grades G and H respectively). When tested in accordance with BS 4875 : Part 6 or 8 a freestanding unit shall not overbalance.

5.3 Individual unit type

A type of unit described as complying with this Part of BS 6222 shall satisfy the performance requirements for its components given in 5.5 for either grade G or grade H.

5.4 Range of units

For a range of units to be described as complying with grade G or grade H of this Part of BS 6222, all types of units and components as designated in clause 4 shall comply with 5.2.

If one type of unit or component does not pass then the whole range of units will be deemed to have failed.

If all unit types and components satisfy the requirements for grade H except one which meets only grade G, the range of units shall be described as grade G.