

AS/NZS 4386.1:1996

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Australian/New Zealand Standard[®]

Domestic kitchen assemblies

Part 1: Kitchen units



AS/NZS 4386.1:1996

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee BD/89, Kitchen Units. It was approved on behalf of the Council of Standards Australia on 18 March 1996 and on behalf of the Council of Standards New Zealand on 22 April 1996. It was published on 5 July 1996.

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Australian Furnishing Research and Development Institute
 Australian Business
 Australian Committee of Independent Living Centres
 Australian Wood Panels Association
 Australian Woodworking Industry Suppliers Association
 Consumers Federation of Australia
 HIA-National Kitchen and Bathroom Association, Australia
 Housing Industry Association, Australia
 Kitchen and Allied Trades Associates, Australia
 Master Builders Australia
 New Zealand Joinery Manufacturers Federation
 New Zealand Manufacturers Federation
 New Zealand National Kitchen and Bathroom Association
 Royal Australian Institute of Architects
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Part 1: Kitchen units

PUBLISHED JOINTLY BY:

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee BD/89 on Kitchen Units.

It is one of a series of Standards which, when complete, will comprise:

AS/NZS

- 4386 Domestic kitchen assemblies
- 4386.1 Part 1: Kitchen units (this Standard)
- 4386.2 Part 2: Installation

These Standards are to be used in conjunction with the series of test methods for domestic kitchen assemblies which, when complete, will comprise:

AS/NZS

- 4387 Domestic kitchen assemblies—Methods of test
- 4387.0 Part 0: Introduction, list of methods and general requirements
- 4387.1 Method 1: Determination of strength of carcass and underframe
- 4387.2 Method 2: Determination of shelf deflection
- 4387.3 Method 3: Determination of strength of shelf supports
- 4387.4 Method 4: Determination of the strength of worktops and bottom surfaces
- 4387.5 Method 5: Determination of strength of hinged doors
- 4387.6 Method 6: Determination of slam open of hinged doors
- 4387.7 Method 7: Determination of slam shut of hinged doors
- 4387.8 Method 8: Determination of wear and fatigue of hinged doors
- 4387.9 Method 9: Determination of resistance to downward static load on drawers and other runner-supported items
- 4387.10 Method 10: Determination of slam open of drawers
- 4387.11 Method 11: Determination of slam shut of drawers
- 4387.12 Method 12: Determination of retention of the bottom surface of drawers
- 4387.13 Method 13: Determination of wear and fatigue of drawers, sliding shelves and runners
- 4387.14 Method 14: Determination of strength of handles
- 4387.15 Method 15: Determination of the strength of support frames for wall attachment devices
- 4387.16 Method 16: Determination of calibration of drawer slamming apparatus

The purpose of standardization of kitchen equipment is to allow components to be combined in arrangements which are harmonious and rational, with due account being taken of ergonomic and economic considerations.

The following aspects have to be considered:

- (a) The sizes of component parts.
- (b) The specific areas of each item of equipment, taking into account the possibility of their complete or partial overlapping.
- (c) The location of services (e.g. water, gas, drainage, electricity).
- (d) The combinations of components.

This Standard has been prepared according to the principles of the modular coordination of domestic kitchen assemblies.

This Standard recommends sizes for accommodating kitchen equipment in domestic dwellings.

Where mandatory notes to tables are used in this Standard, they are deemed to form an integral part of the Standard.

The term 'informative' has been used in this Standard to define the application of the appendix to which it applies. An 'informative' appendix is only for information and guidance.

This Standard makes reference to AFRDI (Australian Furniture Research and Development Institute Limited) Standards.

AFRDI Standards are available from:

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STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Australian/New Zealand Standard**Domestic kitchen assemblies****Part 1: Kitchen units**

1 SCOPE This Standard specifies the minimum requirements for the construction, durability, safety, ergonomics, strength, coordination of services and choice of components of fitted kitchen assemblies for use in domestic applications. This Standard is also applicable to small offices, holiday apartments, units and similar non-commercial applications. It is designed for use by manufacturers, builders, consumers, specifiers and regulatory authorities.

NOTES:

- 1 Alternative methods for determining compliance with this Standard are given in Appendix A.
- 2 Appendix B includes details for the ergonomic considerations of kitchen designs.
- 3 For kitchen units for people with disabilities, users of this Standard should also consult AS 1428.2 and AS 4299.
- 4 This Standard is primarily intended for Class 1, 2, 3 and a Class 4 part building as defined in the Building Code of Australia (BCA), but may also include Class 5 and 6.

2 APPLICATION This Standard applies to kitchen units, hardware and materials, as elements of kitchen assemblies.

This Standard covers dimensions for unit/assembly heights, widths and depths as well as space requirements for units, appliances and fittings in order to ensure that they fit together as elements of a kitchen assembly.

3 REFERENCED DOCUMENTS The following documents are referred to in this Standard:

AS

1199	Sampling procedures and tables for inspection by attributes
1399	Guide to AS 1199—Sampling procedures and tables for inspection by attributes
1428	Design for access and mobility
1428.2	Part 2: Enhanced and additional requirements—Buildings and facilities
1939	Degrees of protection provided by enclosures for electrical equipment (IP Code)
2131	Adhesives—For bonding decorative thermoset laminates (contact adhesives)
2458	Hardboard
2754	Adhesives for timber and timber products
2754.1	Part 1: Adhesives for plywood manufacture
2754.2	Part 2: Polymer emulsion adhesives
2924	Decorative thermosetting laminated sheet
3137	Approval and test specification—Luminaires (lighting fittings)
4299	Adaptable housing

AS/NZS

1859 Reconstituted wood-based panels

1859.1(Int) Part 1: Particleboard

1859.2(Int) Part 2: Medium density fibreboard (MDF)

2269 Plywood—Structural

3108 Approval and test specification—Particular requirements for isolating transformers and safety isolating transformers

4387 Domestic kitchen assemblies—Methods of test

4387.1 Method 1: Determination of strength of carcass and underframe

4387.2 Method 2: Determination of shelf deflection

4387.3 Method 3: Determination of strength of shelf supports

4387.4 Method 4: Determination of the strength of worktops and bottom surface

4387.5 Method 5: Determination of strength of hinged doors

4387.6 Method 6: Determination of slam open of hinged doors

4387.7 Method 7: Determination of slam shut of hinged doors

4387.8 Method 8: Determination of wear and fatigue of hinged doors

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4387.14 Method 14: Determination of strength of handles

4387.15 Method 15: Determination of the strength of support frames for wall attachment devices

ISO 9000 Quality management and quality assurance standards

ISO 9000.1 Part 1: Guidelines for selection and use

ISO 9004 Quality management and quality system elements

ISO 9004.1 Part 1: Guidelines

SAA/SANZ

HB18 Guidelines for third-party certification and accreditation

HB18.28 Guide 28—General rules for a model third-party certification scheme for products

AFRDI

104.94 Performance of furniture and furniture components in various climates

108.94 Requirements — surfaces finishes used on timber furniture

891001 Quality of furniture and joinery. Guide to the assessment and classification of materials and workmanship

891002 Quality of furniture and joinery. Guide to the measurement of dimensions

DIN

68 856.5 Hardware for furniture; terms for furniture fittings; height adjusters, furniture legs, underframes

68 856.7 Hardware for furniture; terms for furniture fittings; handles, knobs, escutcheons, escutcheon insets

68 857 Furniture fittings, cup-hinges and their mounting plates; requirements, testing

68 858 Furniture fittings; drawer slides; requirements, testing

68 930 Kitchen furniture; requirements, testing

4 NEW DESIGNS, MATERIALS AND INNOVATIONS Any alternative materials, designs and methods of assembly that do not comply with the specific requirements of this Standard, but that give equivalent results to those specified are not necessarily precluded, however, equivalent performance may need to be demonstrated.

5 DEFINITIONS For the purpose of this Standard the definitions below apply. (See Figures 1 and 2 for a pictorial representation of some of these definitions.)

5.1 Appliance housing—a unit designed to house a specific appliance, e.g. an oven or fridge.

5.2 Appliances—refrigerators, freezers, stoves, cooktops, ovens, dishwashing machines and other items of household equipment which require connection to an energy source and which are to be dimensionally coordinated with kitchen units/assembly.

5.3 Assembly—worktops and units assembled together.

5.4 Benchtop—see worktop.

5.5 Built-in appliance—an appliance which is inserted into a kitchen unit(s).

5.6 Cabinet—complete unit including drawers, doors, loose shelves and fixtures.

5.7 Cantilevered worktop—projecting work surface.

5.8 Carcass—the unfinished framework or skeleton of the unit, i.e. excluding drawers, doors, loose shelves or fixtures.

5.9 Deflection—distance through which a specified point moves during, or as a result of, a test procedure.

5.10 Depth—the horizontal distance from front to back.

5.11 Door—panel which can be hinged or sliding, which allows access to the carcass interior.

5.12 Drawer—item, moving on runners, designed for storage which may be withdrawn or partially withdrawn from a carcass.

5.13 Edging—strip of material applied to the edge of a panel.

5.14 End panel—a panel which is usually fitted on any side of a carcass which is visible in a kitchen assembly

5.15 Fitted unit—unit intended to be permanently fixed.

5.16 Fittings—equipment that may require connection to an energy source or water or both.

5.17 Floor unit—a floor standing unit below a worktop normally incorporating a kickboard or support system.

5.18 Height—a vertical dimension.

5.19 Hob—the rim surrounding the heatsource of an elevated or freestanding cooking appliance.

5.20 Importer—the persons or corporate body assuming legal responsibility for the product under the relevant State or Federal laws, if the product is not manufactured in Australia or New Zealand.

5.21 Infill panel—a panel which is fitted between a wall and a carcass or between two carcasses at a change of direction in a continuous run of cupboard units.

5.22 Island unit—a unit or units attached to the structure of the building only by the floor.

5.23 Kickboard—a fascia panel covering the void area under the base of the unit.

5.24 Kitchen—in dwellings (domestic living areas), a room or space for the storage, preparation, cooking and serving of meals, and for cleaning up afterwards. The working area comprises work surfaces, storage fitments, fitted and non-fitted appliances.

5.25 Manufacturer—the persons or corporate body assuming legal responsibility for the product under the relevant State or Federal laws, if the product is manufactured in Australia or New Zealand.

5.26 MDF—medium density fibreboard.

5.27 Moisture resistant—wood based panel made in accordance with AS/NZS 1859.1(Int) or AS/NZS 1859.2(Int).

5.28 Panel—single thickness of material usually matching the doors of kitchen units.

5.29 Peninsular unit—as per island unit, but attached to units which are fixed to the wall.

5.30 Plinth—underframe that may support any floor mounted units.

5.31 Racking—forcing a unit out of true rectangular shape as a result of a test procedure.

5.32 Return—a unit or units that are attached to the wall at one end.

5.33 Rigidity—ability of a unit or assembly to resist deflection under applied load.

5.34 Shall—indicates that a statement is mandatory.

5.35 Shelf—horizontal surface intended for storage.

5.36 Should—indicates a recommendation.

5.37 Sink unit—floor unit designed to accommodate a sink bowl(s) with or without draining board(s).

5.38 Storage accessories—storage component attached to or supported by a unit, e.g. wire baskets.

5.39 Strength—ability of a unit to withstand loads.

5.40 Tall unit (full height unit)—unit that normally corresponds in height with the top of an installed wall unit and is normally floor standing.

5.41 Thermoplastic adhesives—adhesives that can be softened by the application of heat, e.g. PVA, EVA.

5.42 Thermosetting adhesives—adhesives that cannot be softened by the application of heat, e.g. urea formaldehyde, epoxy, cross linked PVA.

5.43 Unit—completed cabinet, comprising a carcass, drawers, doors, loose shelves and fixtures.

5.44 Wall unit—a unit normally mounted to the wall above a worktop.

5.45 Width—the horizontal distance from left to right of an assembly.

NOTE: To avoid confusion the term 'length' should not be used.

5.46 Worktop—continuous horizontal surface intended for work.

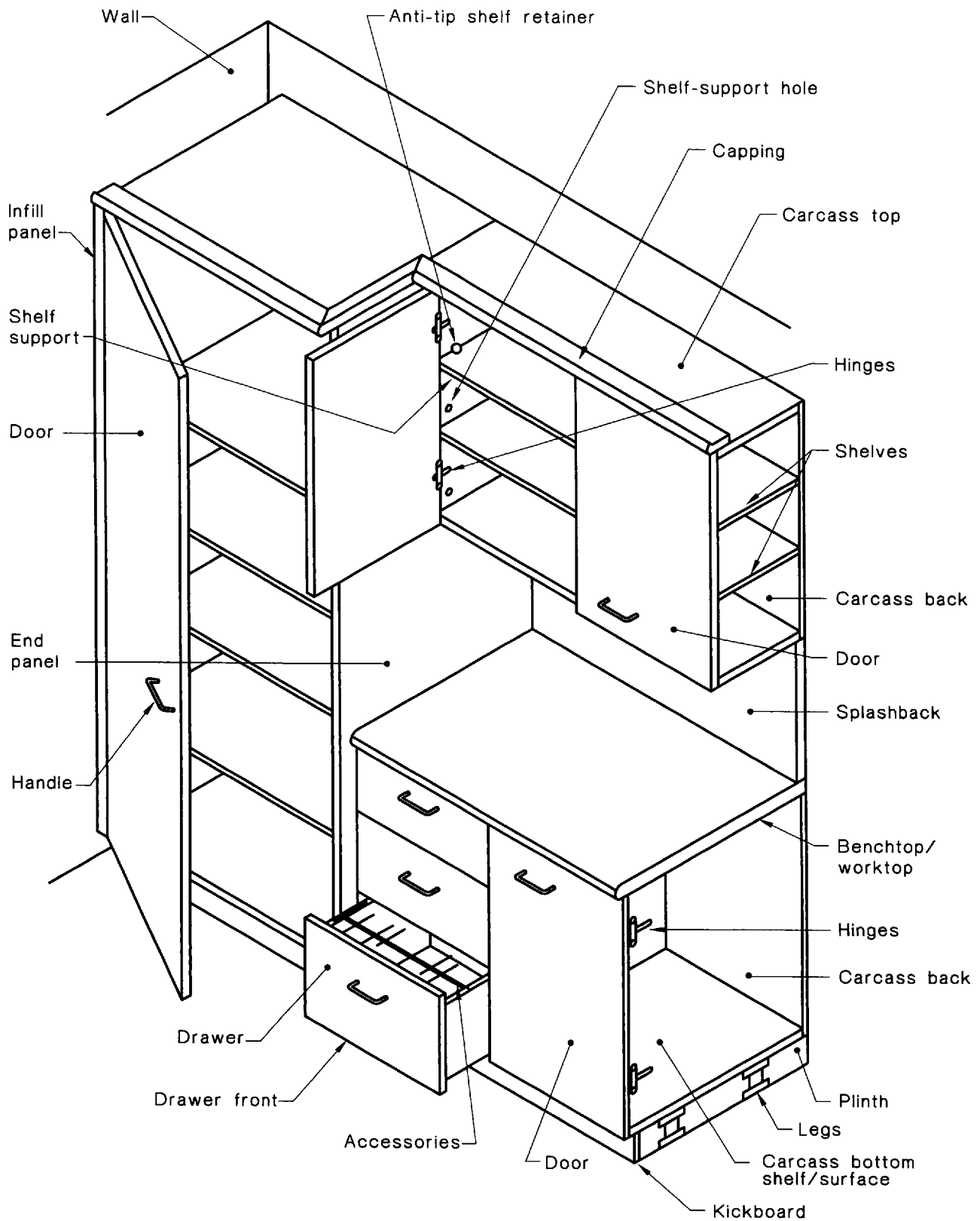


FIGURE 1 KITCHEN UNITS COMPONENTS

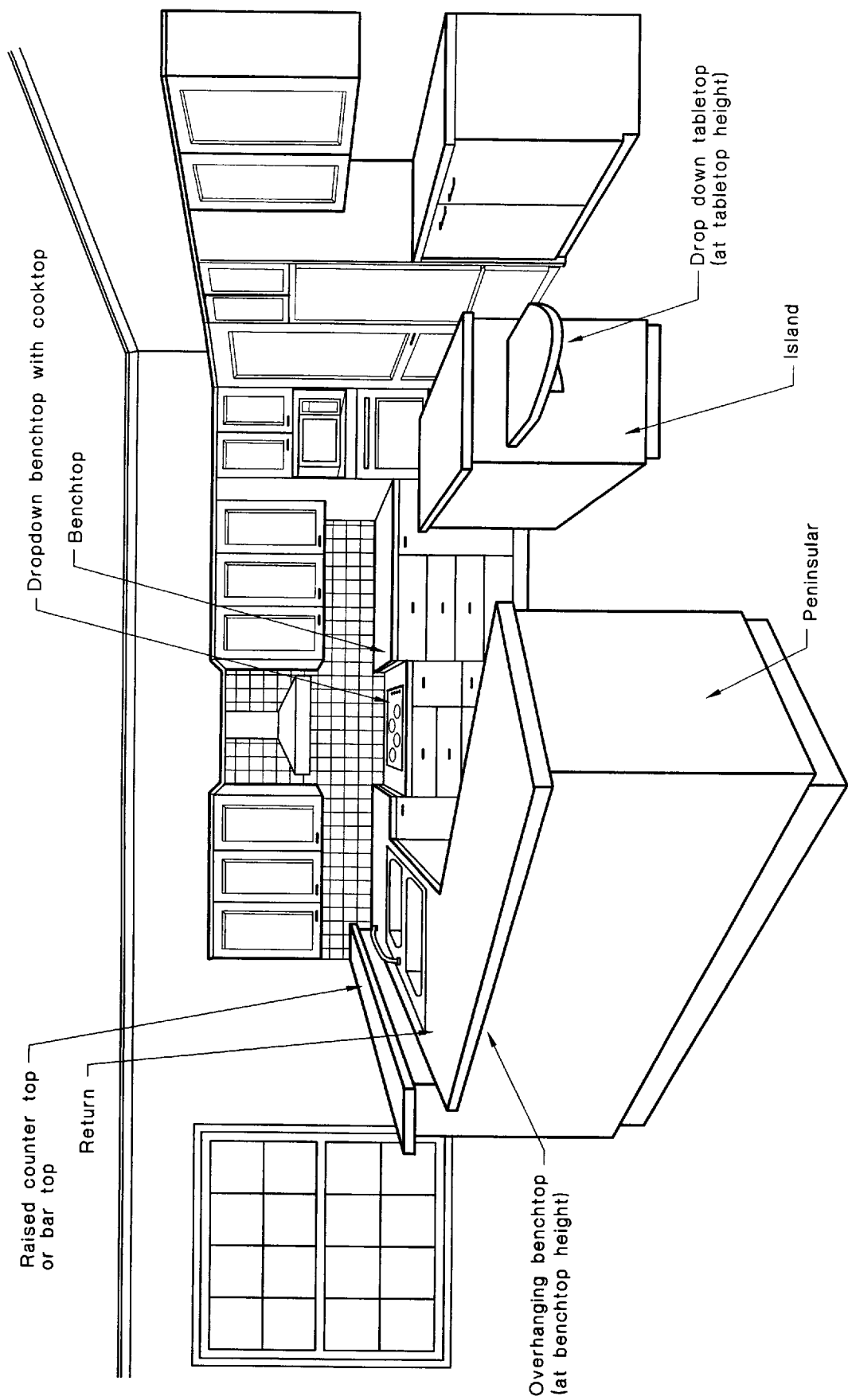


FIGURE 2 VARIOUS KITCHEN ASSEMBLY COMPONENTS

6 GENERAL REQUIREMENTS

6.1 Cabinet hardware

6.1.1 Definition The term 'cabinet hardware' includes the following items:

- (a) Hinges and hinge mounting plates.
- (b) Drawer slides.
- (c) Drawers and drawer systems.
- (d) Shelf supports.
- (e) Cabinet suspension brackets.
- (f) Adjustable legs.
- (g) Handles, knobs and pulls.
- (h) Kitchen accessories (waste bins, table slides, appliance action, ironing boards and the like.
- (i) Ducting to kitchen appliances.

6.1.2 Testing requirement All cabinet hardware used in the kitchens shall be tested to the relevant Deutsch Industry Norm (DIN) standard by an internationally recognized testing institute.

6.1.3 Installation requirement All cabinet hardware shall be installed as required by the manufacturer.

6.1.4 Standards for specific items These shall include the following:

- (a) *Hinges and hinge mounting plates*—DIN 68 857 and 68 930.
- (b) *Drawer slides and drawer systems*—DIN 68 858.
- (c) *Adjustable legs*—DIN 68 856.5.
- (d) *Lighting* Lighting consists of the following:
 - (i) *Lights and fittings*—AS 3137.
 - (ii) *Transformers*—AS/NZS 3108.
- (e) *Handles and pulls*—DIN 68 856.7.

6.2 Functional dimensions

6.2.1 Heights (See Figure 3)

6.2.1.1 Working height The working height is defined as the distance between the finished floor surface and the top of the working surface.

The working height shall be in the range of 850 mm to 1050 mm with a preferred height of 900 ±20 mm.

NOTES:

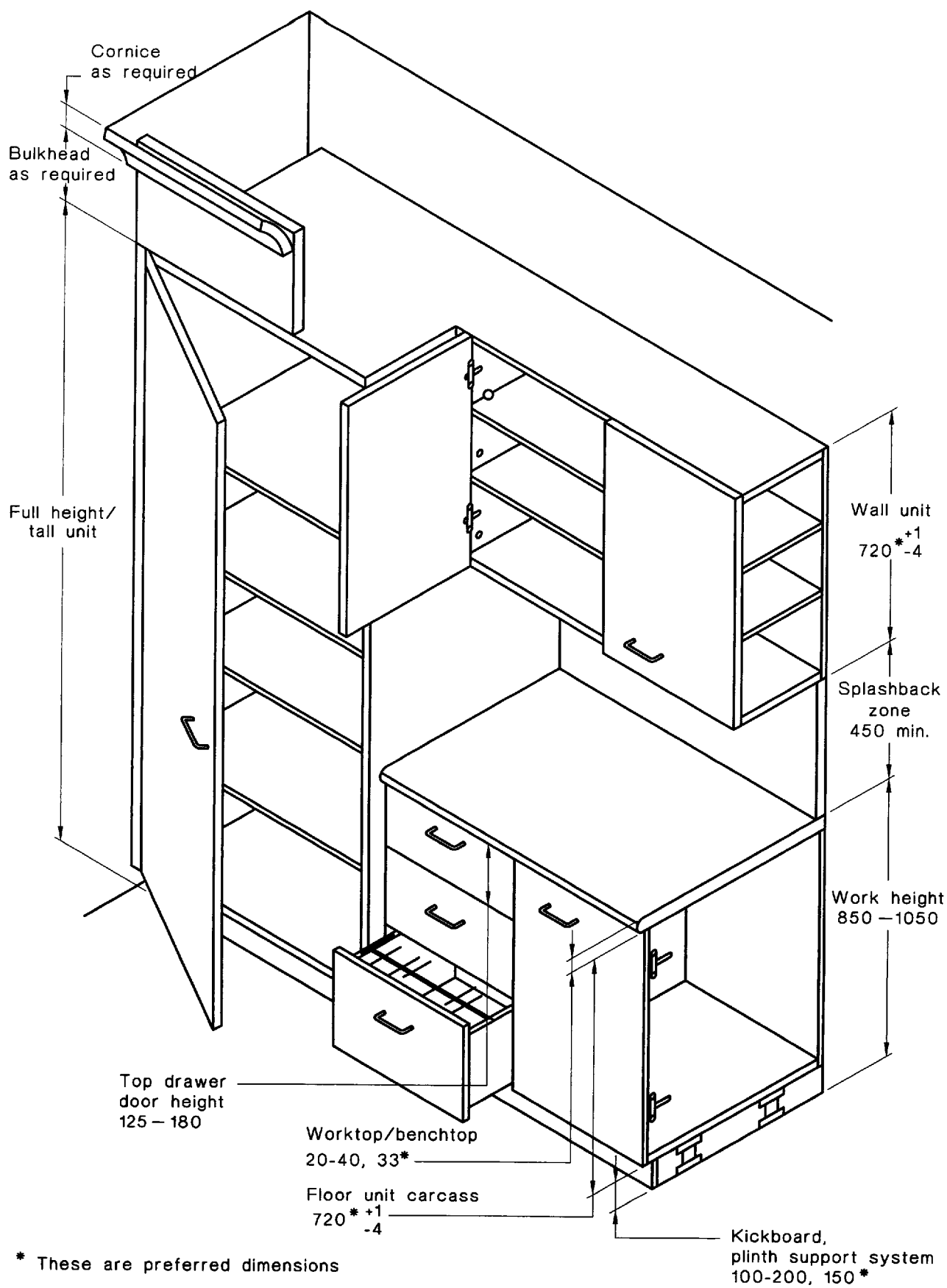
- 1 Heights should be coordinated with under worktop appliances (refer to Appendix C).
- 2 These heights refer to worktops used while standing (see Figure 3).

6.2.1.2 Plinth The height of the plinth of floor mounted units shall be in the range of 100 mm to 200 mm with a preferred height of 150 mm.

6.2.1.3 Splashback zone The clear vertical space between wall units and the worktop shall be at least 450 mm; the clear vertical space between cooking area and range hood or overhead wall unit shall be as required by the relevant statutory authority.

NOTES:

- 1 Above sinks, a clear vertical space of at least 600 mm between wall unit and the top surface of the sink is recommended.
- 2 The top edge of the wall units should be in alignment with that of the tall units.



DIMENSIONS IN MILLIMETRES

FIGURE 3 FUNCTIONAL DIMENSIONS—HEIGHTS

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