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CPD Article

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Kitchen Design: Back to Basics

Key Learning outcomes

- Describe the specific sizes of the minimum elements
- Ensure appropriate space is provided within a property to provide a functional kitchen
- Apply actions to improve the kitchen spaces provided in residential properties

We're all familiar with kitchens, and could easily name the common elements found in an average kitchen. But there's an argument that this familiarity can prevent us from really considering what makes a kitchen function well, and what minimum space standards should be applied. Add to this the fact that kitchen design is notoriously under-regulated, and that clear guidance is hard to find, and the result is many kitchen spaces that are too small for an attractive and functional kitchen.

This article aims to address these problems, by considering:

- A summary of the existing standards and regulations that can be applied.
- The minimum elements and space required for a functional kitchen.
- The elements that consumers expect in addition to the minimum requirements.
- The steps architects can take to aid kitchen designers in providing functional and attractive kitchens.

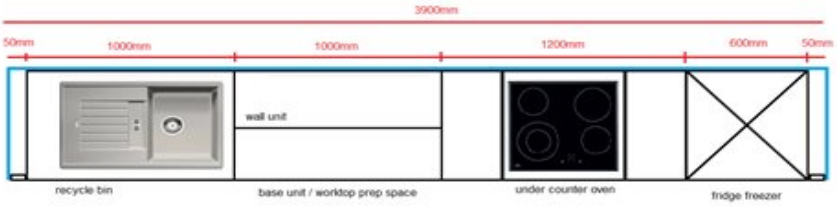
1.0 Standards and Guidance

With the exception of wheelchair accessible and adaptable dwellings, the building regulations include very little detail on minimum kitchen furniture provision and space standards. Historically, there have been attempts to outline minimum storage and fitment requirements for kitchens – for example through the Scheme Development Standards and the London Housing Design Guide – but all have since been replaced with much less stringent requirements (although, in our experience, many social housing providers continue to choose to follow the historical guidelines). The NHBC standards include some simple bullet points covering the functions the kitchen should provide for, but are not specific about the furniture required to comfortably perform these functions. All the guidelines ensure that kitchens in new build properties will meet the basic requirements of a kitchen, while leaving room for architects and kitchen designers to decide how to meet these standards.
In short, there is very little clear and specific technical guidance for architects on the actual minimum space required to provide a functional kitchen. This article aims to address this lack of clear guidance, by outlining the specific sizes of items that should always be included and by giving examples of how they might fit into a space.
A functional kitchen provides, at a minimum, the ability to cook, prepare, and store food. The fitted kitchen has evolved around these three basic functions, frequently adapted for the latest appliances and lifestyle trends. The kitchens featured in current consumer magazines are often open plan, with multiple appliances, and featuring large islands designed for cooking, entertaining, eating, and working. While desirable, this is not a realistic goal for many projects. When space is at a premium, it is necessary to provide at least enough space for the fundamental elements required in every kitchen, so that it can perform, at a minimum, the three basic functions.

A large open plan kitchen with an island is desirable, but not always possible

2.0 Minimum furniture requirements

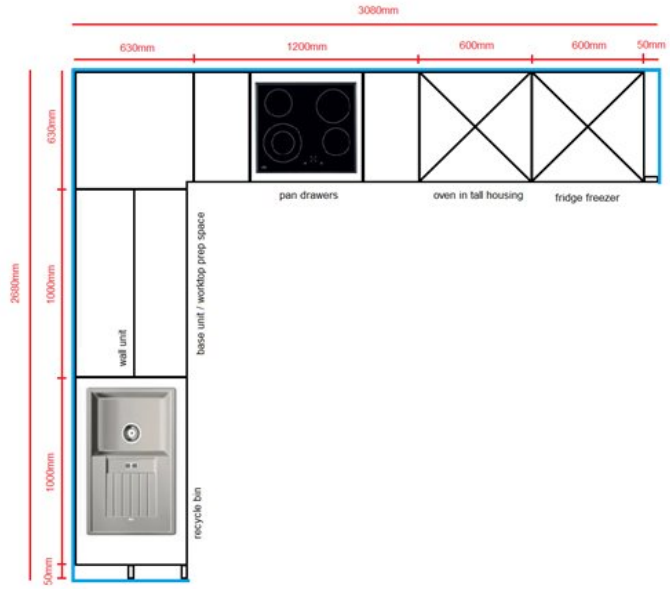
The cooking area should be at least 1200mm wide. This allows for a 600mm cooker space, or for a standard four-ring hob cut into the worktop with an oven underneath. Worktop, ideally 300mm wide, is required on either side for practicality, and to allow pan handles to protrude past the hob and not interfere with other rings or risk being knocked. For safety, a cooker or hob should never be placed on the end of a run without worktop either side.
If there is enough space, consider allowing for an oven in a tall housing. The oven will be much easier to use, and it will free up space under the hob for more storage, for example, for utensils and pans in a pan drawer unit.
The sink is an essential part of the preparation area. A standard single bowl sink will often require a base unit with a minimum width of 500mm, although some single bowl sinks will require wider units. One and a half bowl sinks will require at least 600mm width. The sink drainer can be placed over a washing machine or a dishwasher, however, the sink unit is also an ideal place for waste and recycling.
Worktop space will be required for preparation, as well as dishing up food and storing small appliances. It's much more practical for a kitchen to contain fewer but longer stretches of worktop, than to have lots of worktop broken up in between appliances or around the room. So, when allowing for base units for storage, you should also think about how their size and position affects the preparation space, and whether the position of services, doors, or windows means that the preparation space must be broken up unnecessarily.
Different types of items stored in the kitchen will need different storage options. Heavy items such as pans and plates should be stored at base level – ideally in a drawer to reduce bending and stretching. Lighter items such as glasses and mugs, and ambient food, can be stored comfortably higher up in wall units. Using a 1000mm wide base with a 1000mm wide wall unit above will give a reasonable amount of storage for two people, while also providing a wide stretch of worktop for food preparation.
A fridge could be under the worktop, or it could be a tall fridge freezer, but it will always require a minimum of 600mm width.



Example of single run kitchen including all minimum elements

3.0 Fitting the elements together

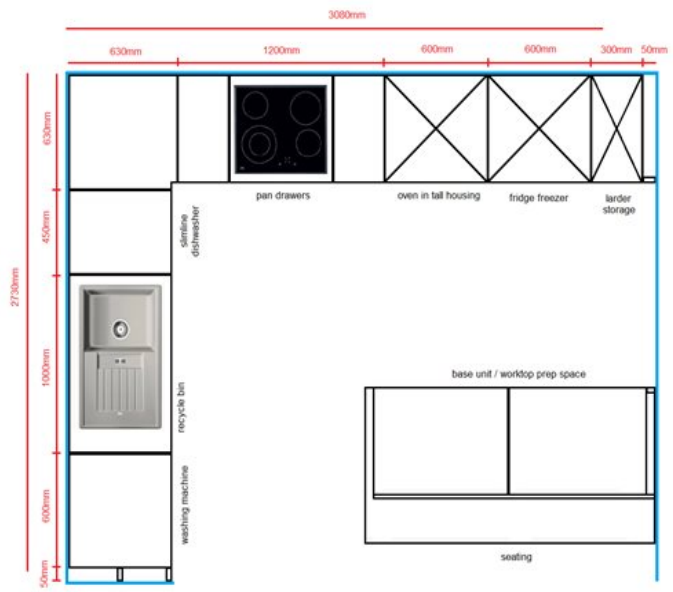
The previous image was a simple example of a functional kitchen along a single run. Units with a single door and a drawer are provided either side of the oven, so that there is utensil and cutlery storage near the hob. A single wall unit is included as a minimum requirement.
The kitchen designer is likely to place the elements differently from shown, to achieve an attractive as well as a functional kitchen, while responding to details such as drainage points and window positions. The key task for the architect is to provide enough space so that the designer can include all the minimum elements.
As shown in the example, it is necessary to consider the practical aspects of fitting kitchen furniture into a space. A kitchen unit that is next to a wall will require a “filler” panel between the side of the unit and the wall. These panels are recommended to allow for build tolerances, to avoid handles clashing with walls, and so that the panel can be scribed to match the exact line of the wall and provide a neat finish. It’s a good idea to allow at least 50mm for each filler panel.
When a kitchen includes a corner, the designer will need to allow extra space so that the handles don’t clash. The exact amount will vary by manufacturer. Corner units, with or without pull out accessories, are available to make the most of the potential extra storage space.



Corner clearances and fillers are included so that the furniture fits into the space

4.0 Consumer expectations

While the elements suggested above are a minimum requirement for functionality, a few simple additions can turn a functional kitchen into a highly desirable kitchen.
When asked about the main problems with their existing kitchens for a recently published survey, 30% of respondents mentioned a lack of storage, while 25% did not have adequate space for food preparation. Addressing these concerns can be as simple as adding one or two extra base storage units with worktop above. Or, if enough space is available, adding a full tall bank of units with storage and appliances, plus an island or a peninsular.
Tall storage units can take the place of base and wall units to some extent, but don't forget that base units provide preparation space, so can't be fully replaced with tall units. Larder units are available from 300mm to 600mm wide, so we've used the smallest option here.
Utensils should be available to hand when cooking, so drawers should be near (or under) the hob. Using pan drawers allows for a shallow drawer at the top for cutlery and utensils, and deeper drawers underneath for pans or heavy items. Pan drawers are generally available from 500mm wide to 1000mm wide. In this example we've used a 600mm wide pan drawer, underneath the hob.
Some appliances have changed from being considered luxuries to being viewed as commonplace – dishwashers are a good example – while others such as wine coolers or coffee machines are still a 'nice to have' and could be included where space is available.
And of course, if space for a washing machine is not allocated outside the kitchen, then an additional space of 600mm for integrated or 620mm for freestanding will be required.
In some designs, panels will be required in addition to the units. Sometimes panels are required to match the outsides of the units to the doors. (This is only relevant where door-matched unit sides are not provided. The availability of matched sides will vary by manufacturer.) In other situations, panels are required to support the worktop, or to cover up the space behind the unit when 650mm worktops are used.



The kitchen space is larger so that it can include a dishwasher, washing machine, and a peninsular with seating area

5.0 What does this mean for architects?

As an architect designing a space for a kitchen, it is worth considering the following pointers so that the end user has a kitchen that is truly functional, even when space is tight:

- When deciding on the location and size of the kitchen, ensure there is at least enough space for the minimum elements outlined above, plus corner clearances, panels, and fillers.
- If the kitchen is U shaped, include extra width across the U, so that the designer can allow flexibility. For example, if the intention was to fit a 1600mm run of units across the U, then adding the minimum corner of 630mm on each side will give a total width of 2860mm. However, designing the room this size does not allow any tolerance in the design. It would be better to round up to 2920mm so that the designer can use flexible corner posts to increase the corners by 30mm at each side.
- Allocate enough space for a washing machine if it is not provided outside the kitchen. It should be in addition to the minimum fundamental elements.
- Space for a dishwasher will make the kitchen more desirable. It should be in addition to the minimum fundamental elements.
- Avoid placing SVPs and boilers in the kitchen. As well as taking up valuable space which could be allocated to the minimum elements or additional storage, they are also difficult to incorporate into a design. Furniture is available to house boilers, but often the boiler is larger than a standard wall unit allows and so the boiler housing will be bulky and unattractive, and pipework will need to be hidden behind additional material.
- Think about how window and door positions will affect the placing of the minimum elements.
- If there is space, an island or peninsular is extremely desirable, but remember that a minimum of 1000mm circulation space is required on all sides.
- Finally, consider working collaboratively with a kitchen designer before finalising the location and size of the kitchen. Many kitchen manufacturers will have a team of in-house designers who can work with you on your project. Moving a wall or a service point by as little as 100mm can make a huge difference to the final design, and these types of changes can be suggested by the kitchen designer during the design phase.

A functional and desirable kitchen can be achieved in a relatively small space with careful planning