

## **Kitchen Planning Guidelines**

The National Kitchen & Bath Association developed the Kitchen Planning Guidelines to provide designers with good planning practices that consider typical needs of users. A committee of experts in kitchen design reviewed lifestyle and design trends and model building code requirements to assure the guidelines promote the health, safety, and welfare of consumers. Existing relevant research and new research on storage provide the basis for the updated guidelines. The guidelines are used for academic and educational programs in kitchen design, evaluation of kitchen plans, and testing the competencies of designers seeking certification.

### **Kitchen Planning Guideline 1 - Door/Entry**

Recommended:

The clear opening of a doorway should be at least 32" wide. This would require a minimum 2'-10" door.

### **Kitchen Planning Guideline 2 - Door Interference**

Recommended:

No entry door should interfere with the safe operation of appliances, nor should appliance doors interfere with one another.

### **Kitchen Planning Guideline 3 - Distance Between Work Centers**

Recommended:

In a kitchen with three work centers\* the sum of the three traveled distances should total no more than 26' with no single leg of the triangle measuring less than 4' nor more than 9'.

When the kitchen plan includes more than three primary appliance/work centers, each additional travel distance to another appliance/work center should measure no less than 4' nor more than 9'.

Each leg is measured from the center-front of the appliance/sink.

No work triangle leg intersects an island/peninsula or other obstacle by more than 12".

\*A major appliance and its surrounding landing/work area form a work center. The distances between the three primary work centers (cooking surface, clean-up/prep primary sink, and refrigeration storage) form a work triangle.

### **Kitchen Planning Guideline 4 - Separating Work Centers**

Recommended:

A full-height, full-depth, tall obstacle\* should not separate two primary work centers.

A properly recessed tall corner unit will not interrupt the workflow and is acceptable.

\*Examples of a full-height obstacle are a tall oven cabinet, tall pantry cabinet, or refrigerator.

### **Kitchen Planning Guideline 5 - Work Triangle Traffic**

Recommended:

No major traffic patterns should cross through the basic work triangle.

### **Kitchen Planning Guideline 6 - Work Aisle**

Recommended:

The width of a work aisle should be at least 42" for one cook and at least 48" for multiple cooks. Measure between the counter frontage, tall cabinets and/or appliances.

### **Kitchen Planning Guideline 7 - Walkway**

Recommended:

The width of a walkway should be at least 36".

### **Kitchen Planning Guideline 8 - Traffic Clearance at Seating**

Recommended:

In a seating area where no traffic passes behind a seated diner allow 32" of clearance from the counter/table edge to any wall or other obstruction behind the seating area.

a. If traffic passes behind the seated diner, allow at least 36" to edge past.

b. If traffic passes behind the seated diner, allow at least 44" to walk past.

### **Kitchen Planning Guideline 9 - Seating Clearance**

Recommended:

Kitchen seating areas should incorporate at least the following clearances:

a. 30" high tables/counters:

Allow a 24" wide x 18" deep counter/table space for each seated diner.

b. 36" high counters:

Allow a 24" wide by 15" deep counter space for each seated diner and at least 15" of clear knee space.

c. 42" high counters:

Allow a 24" wide by 12" deep counter space for each seated diner and 12" of clear knee space.

#### **Kitchen Planning Guideline 10 - Clean-up/Prep Sink Placement**

Recommended:

If a kitchen has only one sink, locate it adjacent to or across from the cooking surface and refrigerator.

#### **Kitchen Planning Guideline 11 - Clean-up/Prep Sink Landing Area**

Recommended:

Include at least a 24" wide landing area\* to one side of the sink and at least an 18" wide landing area on the other side.

If all of the countertop at the sink is not at the same height, then plan a 24" landing area on one side of the sink and 3" of countertop frontage on the other side, both at the same height as the sink.

The 24" of recommended landing area can be met by 3" of countertop frontage from the edge

of the sink to the inside corner of the countertop if more than 21" of countertop frontage is available on the return.

\*Landing area is measured as countertop frontage adjacent to a sink and/or an appliance. The countertop must be at least 16" deep and must be 28" to 45" above the finished floor to qualify.

#### **Kitchen Planning Guideline 12 - Preparation/Work Area**

Recommended:

Include a section of continuous countertop at least 36" wide x 24" deep immediately next to a sink for a primary preparation/work area.

#### **Kitchen Planning Guideline 13 - Dishwasher Placement**

Recommended:

Locate nearest edge of the primary dishwasher within 36" of the nearest edge of a clean-up/prep sink.

Provide at least 21"\* of standing space between the edge of the dishwasher and countertop frontage, appliances and/or cabinets, which are placed at a right angle to the dishwasher.

\*In a diagonal installation, the 21" is measured from the center of the sink to the edge of the dishwasher door in an open position.

#### **Kitchen Planning Guideline 14 - Waste Receptacles**

Recommended:

Include at least two waste receptacles. Locate one near each of the clean-up/prep sink(s) and a second for recycling either in the kitchen or nearby.

#### **Kitchen Planning Guideline 15 - Auxiliary Sink**

Recommended:

At least 3" countertop frontage should be provided on one side of the auxiliary sink, and 18" of countertop frontage on the other side, both at the same height as the sink.

#### **Kitchen Planning Guideline 16 - Refrigerator Landing Area**

Recommended:

Include at least:

- a. 15" of landing area on the handle side of the refrigerator, or
- b. 15" of landing area on either side of a side-by-side refrigerator, or
- c. 15" of landing area which is no more than 48" across from the front of the refrigerator, or
- d. 15" or landing area above or adjacent to any under counter-style refrigeration appliance.

#### **Kitchen Planning Guideline 17 - Cooking Surface Landing Area**

Recommended:

Include a minimum of 12" of landing area on one side of a cooking surface and 15" on the other side.

If the cooking surface is at a different countertop height than the rest of the kitchen then the 12" and 15" landing areas must be at the same height as the cooking surface.

For safety reasons, in an island or peninsula situation, the countertop should also extend a minimum of 9" behind the cooking surface if the counter height is the same as the surface-cooking appliance.

For an enclosed configuration, a reduction of clearances shall be in accordance with the appliance manufacturer' instructions or per local codes. (This may not provide adequate landing area.)

#### **Kitchen Planning Guideline 18 - Cooking Surface Clearance**

Recommended:

Allow 24" of clearance between the cooking surface and a protected noncombustible surface above it.

Code Requirement:

\* At least 30" of clearance is required between the cooking surface and an unprotected/combustible surface above

it.

(IRC M 1901.1)

\* If a microwave hood combination is used above the cooking surface, then the manufacturers' specifications should be followed.

(IRC M 1503.1)

Refer to manufacturers' specifications or local building codes for other considerations.

### **Kitchen Planning Guideline 19 - Cooking Surface Ventilation**

Recommended:

Provide a correctly sized, ducted ventilation system for all cooking surface appliances. The recommended minimum is 150 CFM.

Code Requirement:

\* Manufacturers' specifications must be followed.

(IRC G 2407.1, IRC G 2447.1)

\* The minimum required exhaust rate for a ducted hood is 100 CFM and must be ducted to the outside.

(IRC M 1506.3)

\* Make-up air may need to be provided. Refer to local codes.

(IRC G 2407.4)

### **Kitchen Planning Guideline 20 - Cooking Surface Safety**

Recommended:

- a. Do not locate the cooking surface under an operable window.
- b. Window treatments above the cooking surface should not use flammable materials.
- c. A fire extinguisher should be located near the exit of the kitchen away from cooking equipment.

### **Kitchen Planning Guideline 21 - Microwave Oven Placement**

Recommended:

Locate the microwave oven after considering the user's height and abilities. The ideal location for the bottom of the microwave is 3" below the principle user's shoulder but no more than 54" above the floor.

If the microwave oven is placed below the countertop the oven bottom must be at least 15" off the finished floor.

### **Kitchen Planning Guideline 22 - Microwave Landing Area**

Recommended:

Provide at least a 15" landing area above, below or adjacent to the handle side of a microwave oven.

### **Kitchen Planning Guideline 23 - Oven Landing Area**

Recommended:

Include at least a 15" landing area next to or above the oven.

At least a 15" landing area that is not more than 48" across from the oven is acceptable if the appliance does not open into a walkway.

### **Kitchen Planning Guideline 24 - Combining Landing Areas**

Recommended:

If two landing areas are adjacent to one another, determine a new minimum for the two adjoining spaces by taking the longer of the two landing area requirements and adding 12."

### **Kitchen Planning Guideline 25 - Countertop Space**

Recommended:

A total of 158" of countertop frontage, 24" deep, with at least 15" of clearance above, is needed to accommodate all uses, including landing area, preparation/work area, and storage.

Built-in appliance garages extending to the countertop can be counted towards the total countertop frontage recommendation, but they may interfere with the landing areas.

### **Kitchen Planning Guideline 26 - Countertop Edges**

Recommendation:

Specify clipped or round corners rather than sharp edges on all counters.

### **Kitchen Planning Guideline 27 - Storage**

Recommendations:

The total shelf/drawer frontage\* is:

- a. 1400" for a small kitchen (less than 150 square feet);
- b. 1700" for a medium kitchen (151 to 350 square feet); and
- c. 2000" for a large kitchen (greater than 350 square feet).

	Small	Medium	Large
Wall	300"	360"	360"
Base	520"	615"	660"
Drawer	360"	400"	525"
Pantry	180"	230"	310"
Misc.	40"	95"	145"

The totals for wall base, drawer and pantry shelf/drawer frontage can be adjusted upward or downward as long as the recommended total stays the same.

Do not apply more than the recommended amount of storage in the miscellaneous category to meet the total frontage recommendation.

Storage areas that are more than 84" above the floor must be counted in the miscellaneous category.

\*Shelf and drawer frontage is determined by multiplying the cabinet size by the number and depth of the shelf or drawer in the cabinet, using the following formula:

Cabinet width in inches x number of shelf/drawers x cabinet depth in feet (or fraction thereof) = Shelf/Drawer Frontage

Storage/organizing items can enhance the functional capacity of wall, base, drawer, and pantry storage and should be selected to meet user needs.

### **Kitchen Planning Guideline 28 - Storage at Clean-up/Prep Sink**

Recommended:

Of the total recommended wall, base, drawer, and pantry shelf/drawer frontage, the following should be located within 72" of the centerline of the main clean-up/prep sink:

- a. at least 400" for a small kitchen;
- b. at least 480" for a medium kitchen;
- c. at least 560" for a large kitchen.

### **Kitchen Planning Guideline 29 - Corner Cabinet Storage**

Recommended:

At least one corner cabinet should include a functional storage device.

This guideline does not apply if there are no corner cabinets.

### **Kitchen Planning Guideline 30 - Electrical Receptacles**

Code Requirement:

\* GFCI (Ground-fault circuit-interrupter) protection is required on all receptacles servicing countertop surfaces within the kitchen.

(IRC E 3802.6)

Refer to IRC E 3801.4.1 thru E 3801.4.5 for receptacle placement and locations.

### **Kitchen Planning Guideline 31 - Lighting**

Recommended:

In addition to general lighting required by code, every work surface should be well illuminated by appropriate task lighting.

Code Requirement:

\* At least one wall-switch controlled light must be provided. Switch must be placed at the entrance.

(IRC E 3803.2)

\* Window/skylight area, equal to at least 8% of the total square footage of the kitchen, or a total living space, which includes a kitchen, is required.

(IRC R 303.1, IRC R 303.2)