

# Understanding Kitchen knives

As with cooking pans, kitchen knives reflect designs and cooking techniques that follow tradition in the part of the world where they were developed. As with all professional kitchen equipment, quality is reflected in the price.

The most common way of making a knife blade, bolster and tang is to drop-forge it, which means putting a piece of red-hot stainless steel in the lower half of a mould and stamping down on it with a huge force to form the basis of the knife. Some manufacturers prefer to fuse together three different grades of metal for the three parts of the knife, believing that each part needs a different steel quality.

The blade is then tempered with heat to create extra hardness, polished, fitted with a handle and sharpened. The higher quality the steel, the sharper will be the edge and the longer it will remain without needing re-sharpening. Low grade stainless steel kitchen knives are unable to hold an edge much beyond first using and hand-steeling will fail to bring back the edge. It pays in the long term to invest in quality kitchen knives.

The traditional way to fit a handle is to rivet a solid handle in two halves, but cheaper knives will come with a single-formed solid plastic handle. A plastic handle is not always an indicator or poor quality blade steel any more than riveted handles are a signal of high quality.

Balance is very important in kitchen knife construction. There should be a good counter-balance between handle and blade so that the knife sits level in the hand for quick and comfortable working.

There are basically two styles of kitchen knives; Eastern and Western. Eastern style knives such as Japanese are made from very hard steel, the blades are significantly thinner, producing a lighter weight knife and the bevel angles are more acute. These knives will hold an edge for longer, but will also take longer to sharpen. They are good for cutting where accuracy is important, such as preparing Sushi or doing decorative work.

The Japanese also make knives that incorporate a chisel grind. This is a bevel on one side with the other side flat. These are usually made from what is called sandwiched steels, where a hard steel for edge retention is sandwiched between soft steel or even iron to provide better toughness. They do an excellent job with Eastern style cooking where there is much fine chopping, but their sharpness is also a feature many Western chefs like.

Western knives are made from tough steel, but slightly softer than Japanese knives which makes them easier to maintain a sharp edge on. They tend to be thicker and heavier with a more obtuse bevel angle. These are perfect for chopping and for those jobs where a heavier knife is an advantage.

## There are three types of steel used in kitchen knives

*High carbon steel* - An excellent material, providing toughness and the ability to take a very sharp edge. However, carbon steel is not stain resistant. It can rust and will discolour from use. After much use, high carbon steel kitchen knife blades will actually become black. This discoloration is purely cosmetic and does not affect the performance of the knife in any way.

*High carbon stainless steel* - The most popular steel for kitchen knives. It has a high content of carbon for hardness, but chromium and nickel to keep it looking clean. High carbon stainless will take a sharp edge and maintain it well.

Titanium enhanced knife blades will hold an edge longer than most other steel alloys. The alloy mix allow the blades to be heat treated to a high level of hardness. The blades are more flexible than standard steel blades so work well for boning, and filleting.

Ceramic is not a steel at all, but a very hard ceramic material called zirconium oxide. These blades are so hard that they will maintain a sharp edge for months or years with no maintenance at all. On the negative side, they are more brittle and they require diamond sharpening tools to maintain.

### Knife styles

The range of blade designs is very wide and this is just a selection of the more widely-used blades designs and their use.

*Cook's knife* - The basic kitchen knife for doing a wide range of cutting and chopping jobs. It has a pointed blade and comes in a wide range of blade sizes.

*Turning knife* - A short-bladed knife with a downward-pointed hooked end which makes for easy turning of vegetables in the classic French style.

*Scalloped edge* - A long thin knife with a scalloped edge. The scallops allows air to pass around the blade as it cuts very thin slices making this blade style suitable for cutting cold meats or smoked salmon.

*Serrated edge* - The feature of serrated blades is that they tear as well as cut. Narrow serrated blades are suitable for soft foods such as tomatoes or cucumbers. Wide serrated blades are used for cutting hot meats (carvery) and bread.

*Fish filleting knife* - This needs to be a thin slender and slightly flexible blade to allow for filleting of flatfish such as turbot and working around the skeletal frame of round fish such as cod.

*Hachoirs or Mezzalunas* - These are curved blades, usually double bladed, but can be treble bladed, with a handle at either end. They are the traditional way of finely chopping herbs, vegetables and meat. They can come with a specially curved wood bowl to fit the

cutter or just rocked under pressure on a chopping board. The quality of the steel has to be very good to maintain the edge for chopping herbs such as parsley. However, their use is not so widespread now since food processors have become popular. Some chefs will argue that a hachoir properly cuts herbs and meats while a food processor pulverises them. Sharpening them is not easy due to the closeness of the blades, another reason to buy quality steel.

### **How to find out more about Kitchen Knives**

Talk to the experts.

The Catering Equipment Suppliers Association

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