



VICTORINOX

Interesting facts about stainless steel table and kitchen knives

Spoons, forks and metal goods like jugs, metal covers and sinks - all are made of highly alloyed, non-magnetic 18/8 or 18/10 chrome nickel steels. These steels contain 18 % chrome and 8 % to 10 % nickel. They are highly resistant to corrosion that can be caused by cooking salt from leftover food and regenerating salts. Knife blades made of chrome-nickel steel are potentially also rust- and acid-resistant to a high degree, but would easily bend out of shape and would immediately become blunt.



Knife blades used to be made of tempered carbon steel which was not resistant to rust. Because of this, hotels used special knife-cleaning machines and polishing pastes to give the knife blades a shiny appearance. To avoid this time-consuming task, the surface of the knife blades were chrome-plated.

Hardenable stainless steel has only been available since 1921. The more carbon (0.3 % to 1.0 %) the steel contains, the harder and more edge-retaining it can be tempered at, but the less rust-resistant it becomes. On the other hand, with less carbon, the rust-resistance is better but the edge-retention is worse. With a higher carbon content, lower corrosion resistance is improved by the addition of molybdenum.

Our table and kitchen knives are corrosion resistant if maintained properly. Knife blades can suffer and corrode from improper cleaning. Permanent moisture, high salt content in the air or water and acids from food leftovers can all cause corrosion.

Due to our lab tests at Victorinox, we can guarantee that only first-class steels are used that meet our high quality requirements. Special alloys are used for various steels, which have matching characteristic features that are essential to each respective application. Before raw materials can be used or processed, they have to pass vigorous testing.



A rust-free chromium and molybdenum-alloyed special steel is used for our household and professional knives. Every single delivery of steel to the Victorinox manufacturing facility is analysed and tested to determine which hardening and annealing temperature guarantees the best edge-retaining capacity while preserving a sufficiently high rust-resistance. The hardening process, at temperatures between 1'010°C to 1'060°C (1'850°F to 1'940°F) and the annealing process at temperatures between 160°C to 250°C (320°F to 482°F), makes the blades hard, flexible and edge-retaining.



Victorinox sells about 7 million paring, table and household knives annually world-wide. Complaints relating to insufficient rust- and acid-resistance are insignificant, one in every 10'000 knives sold, at the most.

Steel- suppliers

Europe - Material type according to SN EN ISO 8442-1: martensitic stainless steel

raw material	short name	C	Cr	Mo	V
group	DIN	[%]	[%]	[%]	[%]
1.4034	x46Cr13	0.43-0.50	12.5-14.5		
1.4109	x70CrMo15	0.65-0.75	14.0-16.0	0.40-0.80	
1.4110	x55CrMo14	0.48-0.60	13.0-15.0	0.50-0.80	< 0.15

