



# Facts About Pitting & Tarnishing

## **PITTING CAUSES**

Professional quality knife blades are made of “High Carbon” stainless steel. In certain environments such as high temperature automatic dishwashers, pitting of the blade steel can occur. Pitting also naturally occurs when chlorine, chlorides or hypochlorite's are present.

Pitting occurs when the fine carbon molecule on the surface of the blade reacts to oxidation. This is in no way a quality problem, but rather a natural molecular reaction.

Leading European professional knife manufacturers use a hardenable grade of stainless steel for professional knife blades. To attain hardenability, alloys such as chromium are added to the steel to create a grade of stainless steel that has a superior combination of hardness, toughness, and corrosion resistance. This grade of stainless steel, while resistant to most foods or chemicals, is subject to pitting under certain conditions. Pitting of the knife blade is often caused by extended contact with chloride-containing foods such as salt or salad dressing, simply soaking the blade in water can also be the cause.

Prolonged soaking in water must be avoided especially where several pieces may be in close contact during the soaking period. The “rinse and hold” cycle on an automatic dishwasher is particularly hard on knife blades because the pieces are warm and wet for an extended period of time. Professional knives are best washed and dried as soon as practical after using to avoid pitting that might be caused by an automatic dishwasher.

## **REMOVING PIT MARKS**

Yes. Pit marks can be removed by using an abrasive powder cleanser (such as Comet or Ajax). Place the cleanser on a damp cloth or sponge and rub on the blade in the direction of the grinding marks. Repeat as necessary, rinse and towel dry.

## **HOW TO AVOID PITTING**

Cleaning the knife blade by hand, as soon as possible after use is the best solution. There are no High Carbon stainless steels available that are impervious to pitting and discoloration so knife blades need to be properly cleaned by hand. Simply use warm water and mild detergent on a soft cloth, sponge, or a non-scratch scouring pad and rinse promptly. Then, carefully, towel dry. A dishwasher is not recommended as the bleach and caustic substances in automatic dishwasher detergents can pit the blade.

## **TARNISHING**

Tarnishing is a natural phenomena that can occur to knife blades after cutting acidic foods such as fruits, especially highly acidic foods such as lemons. Tarnishing does not reflect a quality problem and in fact is a very normal occurrence. The alloys that have been added to the stainless steel provide resistance to tarnishing, but can not reduce it all together. Once again, the best solution is to wash the knife blade as soon as they have been used to avoid tarnishing from extended contact with acidic foods.