

# SURFACE FINISHES FOR STAINLESS STEEL

## PVD-COATING / TIN-COATING

In contrast to alternative coatings, for example galvanic processes, pvd-coating / tin-coating **uses no toxic or environmentally harmful substances.**

Additionally, the extremely thin layers of the coating are very natural in their metallic and lively appearance, which distinguishes them decisively from alternatives such as wet painting, powder coating or anodized finishes.

Therefore, the pvd-coating process clearly proves to be an excellent method to coat the substrates. by the vapor deposition, not only are physical and technical advantages created, such as an **increase in hardness or improvement in corrosion resistance**, but also an optically high-quality refinement of these substrates is achieved when coated with the thinner layers.

In the case of stainless steel pvd, for example, the colored surface coatings obtained with the pvd technology do not only protect the substrate, but also create fascinating metallic and optically extremely attractive shades, which range from **champagne, yellow gold and brass to rose gold and bronze to anthracite and black.**

Those fascinating colours, in combination with various basic surfaces, give the stainless steel an exclusive appearance and create brilliant examples of applications in architecture and product design for both indoors and outdoors.

PVD is the process of **Physical Vapor Deposition**. The PVD / TiN-coating of large areas (sheets) is carried out with the help of ARC evaporation, in which the "target material" in the form of a solid is brought to evaporation by means of an arc so that it can later be applied to the sheet or workpiece. By adapting suitable reactive gases, different temperatures and other machine parameters, the chemical combination of metal and non-metal achieves different colors on the surface of the sheets or workpieces.

### Colors

Champagne  
Gold  
Rose  
Bronze  
Black



## NANOINOX® FINISHES

The nanoINOX® coating produced by mirrorINOX offers unique functions and has practically limitless design options, especially on stainless steel surfaces.

Not only is it possible to choose from a myriad of color tones, surface finishes and even create one`s own exclusive customized designs.

Furthermore, properties such as color, hardness, temperature stability, corrosion and chemical resistance, transparency or workability (formability) can be controlled and enhanced by embedding various elements into the layer of the coating.

One of the most requested properties of the nanoINOX® SolGel, along with the tremendously large variety of optical and design options, are the **Easy-To-Clean (ETC), AntiFingerPrint (AFP) functions (Lotus leaf effect).**

It can be used both for indoors and outdoors applications, **protecting the surfaces against pollution and contamination, such as fingerprints, graffiti and many others, saving massively on cleaning and maintenance costs, performing excellently under weathering, keeping project and product clean, hygienic and visually attractive.**

Additional, technical functions of the coating, such as antibacterial or electrically insulating properties are also possible to be built into the layer.

The areas of application for the nanoINOX® coatings are plentiful. For example, a nanoINOX® surface can be used for **catering products, in elevators, yacht interiors or as facade panels.**

In stark contrast to alternative coatings, for example galvanic processes, the nanoINOX® coating does not use or leave behind any toxic or environmentally harmful substances.

The nanoINOX® new technology guarantees a very precise and strictly controlled, color-uniform reproduction when coating stainless steel sheets, regardless of raw material batch-to-batch related variables.

The application of nanostructures to surfaces is generally referred to as nano-coating. It makes the surfaces superhydrophobic, so that any liquids getting in contact with the surface will form droplets and run off (lotus effect) or superhydrophilic, meaning liquids that get onto the surface form a liquid film and run off. Consequently, the nano-coating seals the surfaces and makes them water and pollution repellent. A lotus effect is achieved, facilitating the cleaning procedures, reduces the number of cleaning cycles, saving massively costs and chemicals, which is also good for the environment.

The nanoINOX® coating is based on the SolGel process, which is one to most tried and tested nano-coating.

mirrorINOX applies the nanoINOX® coating, based on the latest SolGel technology, onto the surfaces with the help of a multi-head rotary atomizer. Those are predominantly prepared and cleaned stainless steel sheets finishes.

After the applying, the surfaces will be treated by running through a conveyor furnace, reaching temperatures up to 250°C.

The range of the coatings with a thickness of usually 2 and 5 microns starts off with a transparent layer and can be complemented with colour pigments of a vast variety.

## Colors

CLEAR nanoINOX® (transparent)  
Champagne Classique nanoINOX®  
Gold Rosé nanoINOX®  
Abyss Black nanoINOX®  
Black Matt nanoINOX®  
Black Electrum nanoINOX®  
Blue Electrum nanoINOX®  
Green Electrum nanoINOX®



CLEAR nanoINOX®



Champagne Classique nanoINOX®



Gold Rosé nanoINOX®



Black nanoINOX®



Blue nanoINOX®



Green nanoINOX®

uniqueSURPHACE®



Brass Antique uniqueSURPHACE®



Bronze Antique uniqueSURPHACE®



Copper Antique uniqueSURPHACE®



Black Antique uniqueSURPHACE®

### BEADBLASTED FINISHES

The terms “glass bead blasting”, “bead blasting stainless steel” or “bead blasted stainless steel” commonly refer to the surface treatment of sheets or workpieces where blasting a media such as glass beads, ceramic beads or corundum beads hit the material.

The size and roughness of the blasting media, the pressure and the speed during the blasting process can be altered in order to achieve different results in terms of visual effect, reflectivity and roughness. As such, bead blasting is a very flexible process leading to high quality results.

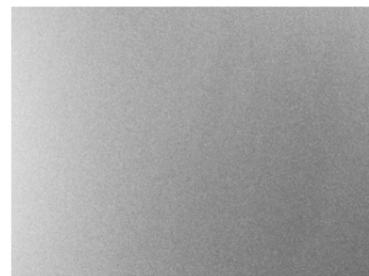
- BEADS 0 - glass beads with a very fine finish
- BEADS 1 - glass beads with a fine finish
- BEADS 3 - glass beads with a medium finish
- BEADS 7 - glass beads with a coarse finish



BEADS 1



BEADS 3



BEADS 7

### VIBRATIONPOLISHED FINISHES

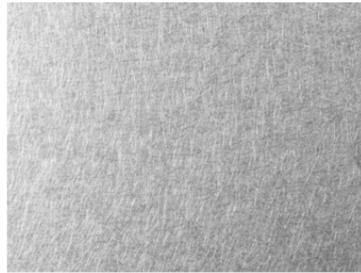
During the process of mechanical polishing, the surface of the material is partly removed and smoothed by various polishing mediums with different parameters applied by a number of polishing machines.

Vibration finish is also known as Rotation Polish, Angel Hair, excenter polish, Wirrwarr Schliff or non-directional polish.

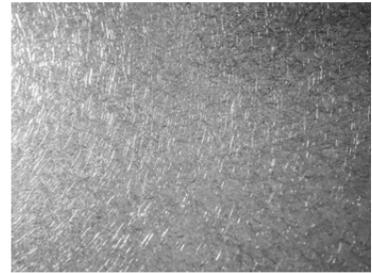
Vibration finish will provide a non-directional, matt and even surface.



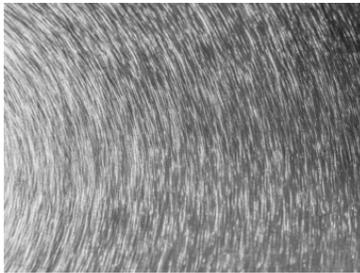
VIBES m5



VIBES f2

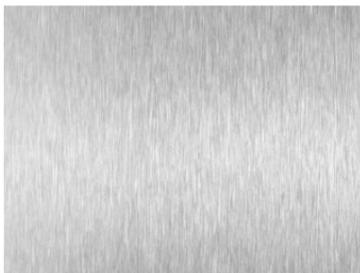


VIBES GBL



VIBES m3

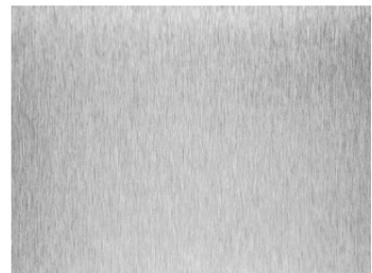
### GRIT-POLISHED FINISHES



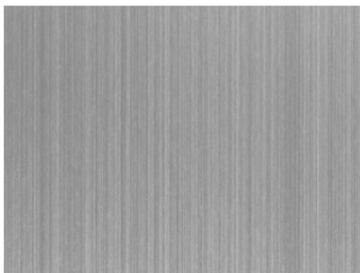
SATIN 1



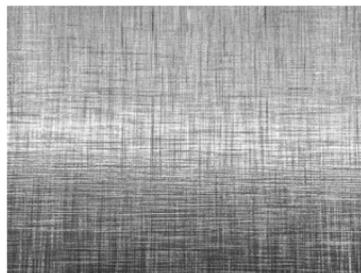
SATIN 5



SATIN 7



HAIRLINE 1



CROSS R11