

Screw surface finishes

All screws are available with different surface finishes and coatings.

Available surface finishes:

- Steel, bright (black)
- Steel, electro zinc-plated
- Steel, black oxidised
- Stainless steel, bright

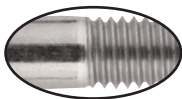
The screw surface finishes are generally there for corrosion protection. In general, a distinction can be made between metallic (galvanic electro zinc-plated) and inorganic (black oxidised) coatings. The screws are available in steel or bright stainless steel.

Steel, bright (black)



Screws with a bright steel surface (black) are untreated screws. These are only provided with a thin film of oil as corrosion protection. They are used where no further surface treatment is desired or required. This is the case by e.g. very high precision components with tight tolerances. The colour of bright steel, also known as black steel, is produced by the forming process at high temperatures. This is a natural surface colour.

Steel electro zinc-plated



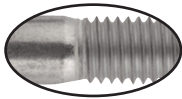
Galvanised or electro zinc-plated screws offer sufficient protection against corrosion or surface damage. Another advantage is the enhanced appearance of the surface. The thickness of the zinc coating is influenced by the dwell time in the zinc bath. The thicker the zinc coating, the better the corrosion protection. Electro zinc-plated screws are ideal for normal applications without strong corrosive influences. From strength grade 10.9, there is a risk of hydrogen embrittlement in electro zinc-plated screws. Hydrogen atoms can diffuse from the zinc bath into the material structure of the screws. This in turn can lead to embrittlement of the screw material.

Steel, black oxidised



Black oxidised screws have a decorative protective coating. Black oxidising, also known as blackening or black oxidation, involves immersing the screw in an acid or alkaline bath to form a thin, even and matt black protective layer. This protective layer reduces the risk of corrosion. Corrosion protection can be significantly increased by applying corrosion protection oils. As black oxidation is not a coating, but a transformation of the surface, the screw dimensions are not affected. In addition, there is no change in strength, as by e.g. electro zinc-plating.

Bright stainless steel



Stainless steel screws are already corrosion-resistant without surface treatment. This is a major advantage over normal steel screws. Stainless steel screws are therefore particularly suitable where there are strong weathering or other corrosive influences.