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# Nickel Silicon Carbide Dispersion Coating

The main advantage of nickel plating is outstanding corrosion resistance. Nickel is very soft, so resistance to mechanical loads (wear, friction etc.) is not the best. Thanks to integration of silicon carbide in nickel plating, tribological characteristics (resistance to many kinds of mechanical loads) can be significantly improved.

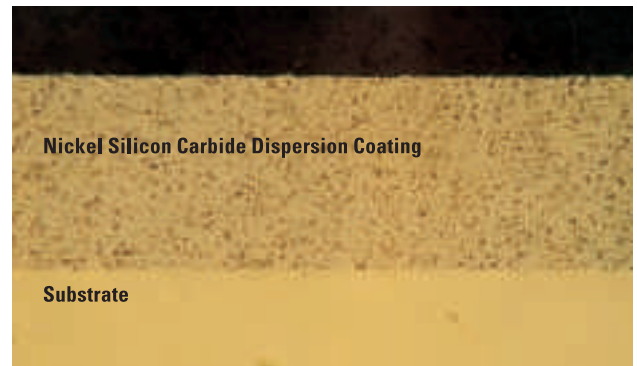
## Materials

As a rule, any material which can be nickel plated can also be plated with nickel silicon carbide, although some may require a corresponding pre-treatment. This includes:

- Steel alloy and carbon steel
- Cast Iron
- Light alloy (e.g. aluminum and aluminum alloy)
- Plastics such as epoxy compounds

## Applications

Printing industry (blanket and plate cylinders)



## Surface Specifications

<b>Achievable layer thickness:</b>	unlimited
<b>Layer structure:</b>	pore and crack free nickel matrix with consistent distribution of silicon carbide particles
<b>Rate of incorporation of silicon carbide:</b>	up to 10% by weight
<b>Layer hardness:</b>	500–600 HV 0,1 (at a rate of incorporation of 4% by weight)
<b>Particle hardness silicon carbide:</b>	Knoop 2100–2900
<b>Particle size:</b>	up to 6 µm
<b>Achievable surface quality:</b>	mirror polished surfaces Ra < 0,01 µm
<b>Residual stress of the layer:</b>	low
<b>Corrosion resistance:</b>	very good, comparable with electro-deposited nickel layers



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