Sulfamate Nickel

High Tech Galvanics

aalberts surface technologies

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What is sulfamate nickel?

Normally sulfamate nickel is used in technical applications, for example in the electronics and mechanical engineering industries. One of the great advantages of sulfamate nickel plating is its low internal tensile stress, which can even be converted into compressive stress.

Sulfamate nickel is especially recommended for a thick, stress-free technical coating that should be ductile, tough and corrosion resistant. The coating is also excellent for machining. For decorative applications, sulfamate nickel is also used as a base coating.

Theoretically, there are no restrictions on the thickness of the coating, but economic aspects are, of course, important parameters in determining the coating thickness.

Treatable materials. All materials, including aluminum, titanium and other exotic materials.

Max. Coating thickness	up to approx. 2 mm
Corrosion resistance	Non-porous coatings of 60-70 µm thickness react in corrosiontest like a nickel material. This means good oxidation resistance and sufficient resistance to a reducing environment.
Tensile strength	415 - 610 MPa
Elongation	5 – 30 %
Internal tensile stress	0 – 55 Mpa
Density	8,9 g/cm³
Electrical resistance	68 x 10-9 Ωm
Melting point	1.445 °C
Hardness	150–300 HV
General standard	ISO 4526 : 2004

Parameter	Chemical nickel (DNC 520)	Sulfamat Nickel
Elongation	0,5 – 1,0 %	5 – 30 %
Hardness	570 – 1.000 HV	150 – 300 HV
Density	7,9 – 8,2 g / cm³	8,9 g/cm³
Layer thickness	Up to approx. 100 µm	No limet
Appearance	Semibright nickel	Matte / semibright