

galvanic zinc-nickel

functional and high corrosion protection



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Galvanically deposited zinc-nickel coatings offer excellent cathodic corrosion protection for the base material. In addition, they are suitable for use at higher temperatures. The zinc-nickel alloy layer has a significantly higher hardness than pure zinc. With a nickel incorporation rate of approx. 12 to 16 % and over 400 HV the zinc-nickel alloy layer has a significantly higher hardness than pure zinc.

By applying a conversion layer, resistances of over 1,000 hours are achieved in the salt spray test according to DIN EN ISO 9227. Galvanic coating with zinc-nickel is impressive due to its good chemical and mechanical properties. With modern, fully automatic rack and barrel facilities, we meet the highest functional and optical requirements in a reproducible manner and work according to all current standards and specifications.

We also fulfil the requirements of DIN 14001 for the conservation of natural resources and the environment.

Post-treatment processes (Cr VI-free):

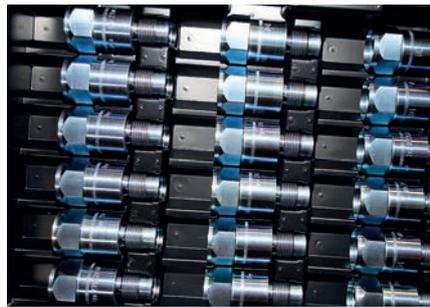
Transparent passivation, thick film passivation, black passivation, sealings, topcoats, lubricants for wear protection and adjustment of friction coefficients.

Process description:

The basis for a high-quality zinc-nickel coating is electrolytic-chemical pre-cleaning through degreasing and pickling. Afterwards, the coating takes place in an electrolyte before the post-treatment(s), including the drying process, complete the process. In order to further increase the corrosion protection, a precisely adapted sealing can be selected - depending on the requirements or area of application.



Zinc-nickel bars.



Zinc-nickel housings.



Zinc-nickel screws.

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Main features	The zinc-nickel process features very high corrosion protection. The processing of steel as well as zinc die-castings is possible. With an internal anode, an extremely good layer distribution can also be achieved. Zinc-nickel coatings are also suitable for processing high-strength parts. We also offer a utility model-protected flangeable zinc-nickel (ductile). Zinc-nickel coatings offer a good adhesion base for subsequent cathodic dip painting or powder coating.
Applications	automotive industry, mechanical and apparatus engineering
Facilities	rackware: goods window 2.00 x 0.67 x 0.29 m bulk goods: modern double barrel machine with 300 kg filling weight and 180 litres volume
Service	We find the optimal coating process for your components on the basis of an individual consultation. From the first sampling to the introduction into series production, we define the relevant work steps together with you. On request, we can also supplement our technical services with a tailor-made service for you, e.g. 100% inspections, packaging, logistics with pick-up and delivery service. We also offer composite production (e.g. duplex layers, screw locking / sealing).

minimum requirements for corrosion resistance according to DIN EN ISO 19598:2017-04

galvanic zinc-nickel	Process	Minimum test duration (h)			
		without coating corrosion	without base material corrosion depending on the Zn alloy layer thickness		
			5 Qm	8 Qm	12 Qm
transparent passivated	barrel	120	480	720	720 ^a
	rack	192	600	720	720 ^a
transparent passivated, sealed	barrel	168	600	720	720 ^a
	rack	360	720	720 ^a	720 ^a
iridescent passivated	barrel	120	480	720	720
	rack	192	600	720	720 ^a
iridescent passivated, sealed	barrel	168	600	720	720 ^a
	rack	360	720	720	720
black passivated, sealed	barrel	168	480	720	720 ^a
	rack	240	600	720	720 ^a
black passivated	barrel	48	480	720	720 ^a
	rack	72	600	720	720 ^a

a) The requirement was reduced to 720 h in order to limit the costs for the tests.