KANISIL® / PLUS

Protection against wear, protection against corrosion.

What is KANISIL®?

KANISIL® is an internationally known brand name for a chemically precipitated nickel dispersion coat. By dispersion coat is meant a uniformly distributed incorporation of minute, non-metallic particles in the KANIGEN® matrix. By the incorporation of about 20 Vol. % of SiC, a surface with extraordinary properties emerges from the electroless nickel base KANIGEN®: KANISIL®.

SiC is the crucial element by which a hardness value of over 1.200 HV 0.05 is attained in KANISIL®, which enables the topmost result in resistance against wear. KANISIL® offers economic solutions for wear problems in addition to top quality corrosion protection in all industrial sectors. With KANISIL® you have a sophisticated system that is always in the process of advanced development spending tremendous time and effort.

KANISIL®PLUS is a combination coat made of KANIGEN®, KANISIL® and/or hard chrome. The chemically applied coats can be hardened according to requirement. The layer structure enables the finishing in the required fit and thus saves the expensive mechanical reworking. This layer offers a high wear and corrosion protection while minimising the adhesion values and improving the slide properties – particularly in start-up problems. Moreover, KANISIL®PLUS has been tested and proven many times as protection against aggressive chemicals in plastic processing machines and plants.

With KANISIL® and KANISIL®PLUS, we offer two of the most tested and proven chemically precipitated nickel-SiC layers in the world!

KANISIL® / KANISIL®PLUS Protection against wear. Protection against corrosion. Additional benefits through reduction of adhesion values and improvement of slide properties.

The advantages

Cost reduction
- Enables the use of low-quality base material
- Simplifies production, particularly in the area of chipping
- Offers excellent wear protection and increases service life
- Enables the recovery of the target state
- A uniformity and accuracy of layer up to ±5 % saves reworking
- High availability in terms of scarce resources

Quality enhancement
- Coating quality reproducible at the same level
- Competitive advantages by the increase in product quality
- High dimension accuracy of the KANISIL® layer till ± 5%
- Product features are positively modified
- A very thin layer undertakes additi-onal functions for the base material
- Extensively independent of materials, protects against wear and corrosion

Excellent long-term properties
The uniform incorporation of SiC particles guarantee 100% function of the layer till its complete removal.

KANISIL®PLUS
Extends the application range of the highly wear-resistant KANISIL® layer by the combination with KANIGEN® and/or hard chrome. The chemically applied layers can be hardened according to requirement.

The properties

Corrosion behaviour
A dispersion layer for specific application areas with wear problems, KANISIL® also acts as an excellent corrosion protection. The obtained test values are comparable with the values of our KANIGEN® method.

Layer thickness
- Constant tolerance till ±5 %
- Maximum limit ∞

Specific weight
- About 7.95 g/cm³

Adhesive strength
- According to base material till 440 N/mm²

Coefficients of wear

Coefficients of wear according to Taber 1,000 g/1,000 U	Removal in g
KANISIL® for comparison:	0,8
KANIGEN® in the deposition state	9 – 10
After heat treatment of about 290 °C	4 – 5
After heat treatment of about 600 °C	1.5 – 2

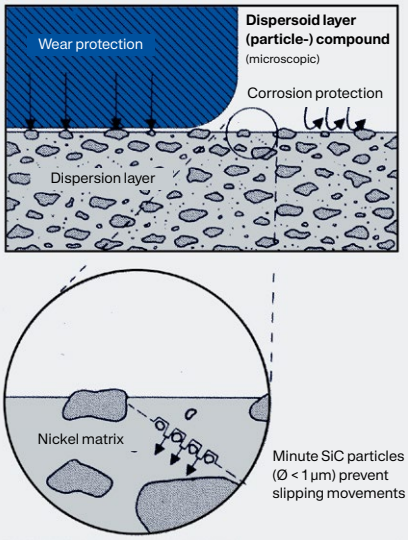
The top results in wear resistance particularly in sliding and frictional load were achieved in practice.

Hardness
- > 1,200 HV 0.05

Operating temperature
- In application up to max. 350°C

Note: The method includes a hea treat-ment of about 290 °C.

Diagram of the multi-level structure and effect of the dispersion layer KANISIL®



Our obtained practical values correspond to the general state of the technology and the specifications of DIN EN ISO 4527. More details can be had from our technology brochure.

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