CZL Tilburg bv
Oppervlaktetechnieken

CZL Tilburg first became active in the field of surface treatments and repairs to high-value technical components more than 35 years ago. Leading worldwide names from different industries entrust the treatment and repair of their costly, process-critical components to CZL Tilburg.

SUNICOAT® OPTICS

SUPERIOR NICKEL COATING FOR DIAMOND TURNING

Advantages SuNiCoat® Optics:

- Flawless layers (no pitting, skip plating and nodules)
- Extended life of diamond tool
- Extended life of coated component
- Easily diamond machined
- Unlimited thickness
- Cleanroom production process
- Both electroless and electrolytic NiP

CZL Tilburg has a broad knowledge of the demands of diamond machining poses on the machinable material. We have an experience of more than 25 years in plating diamond turnable nickel phosphorus (NiP). We have intimate knowledge of both electroless and electrolytic (*SuNiCoat® Optics*) processes for nickel phosphorus deposition.

CZL Tilburg has developed an electrolytic '*SuNiCoat® Optics*' process to overcome the limitations of existing electroless nickel phosphorus processes. Traditional processes cannot coat to thicker than about 200 µm without high risk of pitting, nodules and skip plating. With CZL Tilburg electrolytic diamond turnable *SuNiCoat® Optics* nickel phosphorus, flawless layers up to 2.000 µm are routine.

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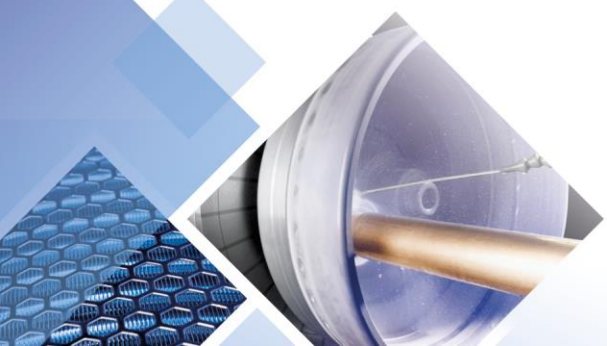
Diamond machining specialists all over the world prefer to use CZL Tilburg *SuNiCoat® Optics* Nickel plating for their precision optics, such as mold inserts for contact lenses, intra-ocular lenses, technical lenses for CD and DVD players and mobile phones, Fresnel lenses and mirrors. It is also used for dies for micro fluidics injection molding and hot embossing.

Technical data SuNiCoat® Optics

Parameter	Value	Remark
Composition	12-14 % P	SEM-EDX measurement
Coefficient of friction	0,2	
Wear resistance		comparable to hard chrome
Thickness constrains	maximum 2.000 µm	
Hardness as plated	49-54 HRC 500-600 HV	
Corrosion Resistance	> 1.000 hours (25 µm) > 5 minutes, no discoloration	ASTM-B-117 / DIN 50021 SS withstands RCA nitric acid test
Melting point	900 °C	
Coefficient of thermal expansion	12 ppm / K	
Thermal conductivity	8,4 W / mK	



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