



SPECIFICATION FOR (NICKEL) HARD- CHROME PLATING 60/40µm

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TP-COA-NICR-60/40µm

Revision

01

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GENERAL INFORMATION (NICKEL) HARD-CHROME

Nickel Hard Chrome offers outstanding hardness and wear resistance, making it highly effective for components subjected to extreme friction and mechanical stress. The combination of nickel and hard chrome layers ensures excellent durability. Its application process allows for a precise and uniform coating, making it an ideal choice for extending the service life of industrial components.

Nickel Hard Chrome is engineered for environments where high wear resistance and surface hardness are crucial. Whether exposed to mechanical wear, high loads, or aggressive operational conditions, it delivers great performance while maintaining cost efficiency.

- Ideal for high-wear industrial environments
- Applicable in industries requiring enhanced surface hardness
- Provides excellent adhesion to various metal substrates
- Highly suitable for component repairs and restoration
- Cost-effective solution for extending component lifespan

Nickel Hard Chrome is a proven surface treatment, offering great protection and extended durability for components exposed to heavy wear and friction. Its strong adhesion and high load-bearing capacity make it a versatile choice for both new and refurbished parts, ensuring optimal performance in demanding industrial applications.





COATING SPECIFICATIONS

Measurement	Description	Standard	Specification
Hardness test - HV - HRC	Determination of coating hardness Hardness test expressed in Vickers Hardness test expressed in Rockwell	ISO 6507-1 ISO 6508-1	900-1100 HV 67 – 70+ HRC
Rockwell indentation	Hardness test that measures resistance to indentation under a specified load	DNV-M2	No cracking around indentation
Bonding strength	Strength of the material bonding	-	Good
Elasticity	The elasticity of the material	-	Good
Ductility	The ductility of the material	-	Good
Wear score	Score of wear resistance compared other layers	NiCr	+++++ (5 of 5)
Operating temperature	Test to evaluate the temperature resistance of the coating	-40°C to 120°C	< 325°C
Saline droplet	Corrosion Resistance Test (Salt Spray Test)	DNV-C1	No corrosion after > 1000hr
Corrosion score	Score of corrosion resistance compared to other layers		++++ (4 of 5)
Destructive porosity	Visual inspection for corrosion	DNV-C2	No visible corrosion
Porosity	Detection of porosity and cracks in the layer	<1%	< 0%
Layer cracks	Visual detection of cracks	-	Small cracks visible improved oil lubrication
Dye penetrant	Detection of cracks, holes and porosity	ISO 23277	No detection of holes and porosity

ACCEPTANCE CRITERIA

Production process quality control (measurements performed on every production rod)

Measurement	Standard	Specification
Roughness		
- Ra	NEN-ISO 4287	Conform drawing
- Rvk	NEN-ISO 4287	Conform drawing
- Rpk	NEN-ISO 4287	Conform drawing
- Rmr*	NEN-ISO 4287	Conform drawing
Hardness test	ISO 6507-1	<i>On Request</i>
Dye Penetrant test	ASTM E165	<i>On Request</i>
Corrosion test (salt blanket)	-	<i>On Request</i>
Layer defects	-	Visual inspection
Cracks and porosity	-	Microscopic inspection
Surface imperfections (pinholes)	-	Conform table 1
Running marks/scratches	-	Max. dept ≤ 9 µm Max. width ≤ 19 µm

Table 1: Acceptance criterion for surface imperfections

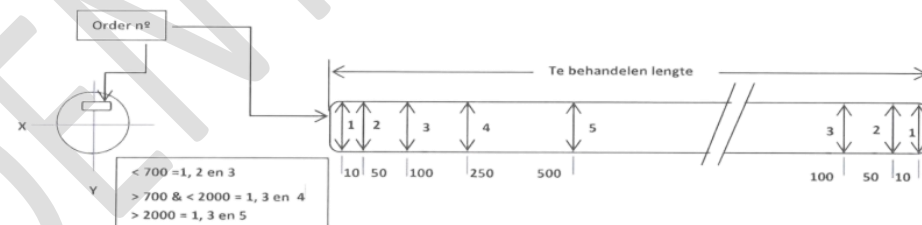
Surface imperfections:	Within 1000 mm rod inspection	
	Ø ≤ 320 mm	Ø ≥ 320
Accepted but not reported: ≤ 0.3 mm	All	All
Accepted and reported: ≥ 0.3 ≤ 1,0 mm	5	5



MEASUREMENT REPORT (Example)

Measurement rapport

Ordernumber Technoplating:	H302500001
Production No.	H602500001
Name Customer:	Customer X
Ordernumber Customer:	123456789
Dimensions:	Ø150 x 3500 / 3500 mm
Date:	1-1-2025



1 2 3 4 5 6 7 8 9 10

On arrival

X-X	149,94	149,94	149,94	149,94	149,92	149,92	149,92	149,94	149,95	149,93
Y-Y	149,94	149,93	149,93	149,94	149,93	149,92	149,93	149,94	149,95	149,93

Pre polish

X-X	149,62	149,63	149,63	149,63	149,63	149,62	149,63	149,62	149,63	149,62
Y-Y	149,63	149,63	149,63	149,62	149,63	149,63	149,63	149,62	149,63	149,62

Requested

Final dimensions

150 f7	X-X	149,95	149,95	149,95	149,95	149,94	149,95	149,95	149,95	149,94	149,94
-0,043 / -0,083	Y-Y	149,94	149,94	149,94	149,95	149,94	149,94	149,95	149,94	149,94	149,94
	Layerthickness Ni/Cr	105	103	108	107	100	105	106	105	110	108

0,1 - 0,25	Roughness Ra (µm)
0,63 - 2,5	Roughness Rt (µm)
0,4 - 1,6	Roughness Rz (µm)
0,25 - 0,85	Roughness Rk (µm)
0 - 0,25	Roughness Rpk (µm)
0,25 - 0,85	Roughness Rvk (µm)
50 - 70	Roughness Mr (%)

Remark: Hardness test: 1100HV | Dye penetrant test: No porosity detected | Corrosion test: No corrosi