



## SPECIFICATION FOR (NICKEL) HARD- CHROME PLATING 100/50µm

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## GENERAL INFORMATION (NICKEL) HARD-CHROME

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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
<b>Hardness test</b> - HV - HRC	<b>Determination of coating hardness</b> Hardness test expressed in Vickers Hardness test expressed in Rockwell	ISO 6507-1 ISO 6508-1	<b>900-1100 HV</b> <b>67 – 70+ HRC</b>
<b>Rockwell indentation</b>	Hardness test that measures resistance to indentation under a specified load	DNV-M2	<b>No cracking around indentation</b>
<b>Bonding strength</b>	Strength of the material bonding	-	<b>Good</b>
<b>Elasticity</b>	The elasticity of the material	-	<b>Good</b>
<b>Ductility</b>	The ductility of the material	-	<b>Good</b>
<b>Wear score</b>	Score of wear resistance compared other layers	NiCr	<b>+++++ (5 of 5)</b>
<b>Operating temperature</b>	Test to evaluate the temperature resistance of the coating	-40°C to 120°C	<b>&lt; 325°C</b>
<b>Saline droplet</b>	Corrosion Resistance Test (Salt Spray Test)	DNV-C1	<b>No corrosion after &gt; 2000hr</b>
<b>Corrosion score</b>	Score of corrosion resistance compared to other layers		<b>++++ (4 of 5)</b>
<b>Destructive porosity</b>	Visual inspection for corrosion	DNV-C2	<b>No visible corrosion</b>
<b>Porosity</b>	Detection of porosity and cracks in the layer	<1%	<b>&lt; 0%</b>
<b>Layer cracks</b>	Visual detection of cracks	-	<b>Small cracks visible improved oil lubrication</b>
<b>Dye penetrant</b>	Detection of cracks, holes and porosity	ISO 23277	<b>No detection of holes and porosity</b>

## ACCEPTANCE CRITERIA

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

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

Table 1: Acceptance criterion for surface imperfections

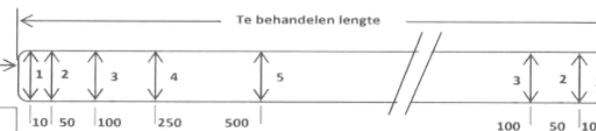
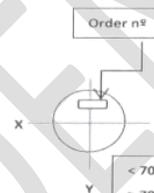
Surface imperfections:	Within 1000 mm rod inspection	
	$\varnothing \leq 320$ mm	$\varnothing \geq 320$
Accepted but not reported: $\leq 0.3$ mm	All	All
Accepted and reported: $\geq 0.3 \leq 1,0$ mm	5	5



## 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:	11-1-2025



Order n°  
 < 700 = 1, 2 en 3  
 > 700 & < 2000 = 1, 3 en 4  
 > 2000 = 1, 3 en 5

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	160	157	157	163	155	160	160	163	155	160

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 corrosio