



Techno Cladding Europe

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**SPECIFICATION FOR EHLA LASER CLADDING
COATING TCE625X**

CONFIDENTIAL

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TCE-EHLA-COA-625X

Revision

01

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GENERAL INFORMATION TCE625X

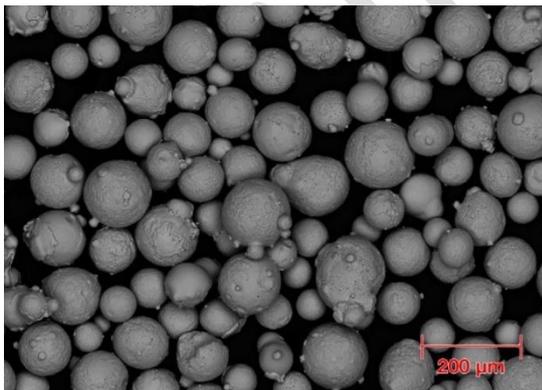
TCE625X offers exceptional protection against wear, corrosion, and impact, even in the most extreme conditions. Engineered to withstand high mechanical stresses, extreme temperatures, and harsh chemicals, this coating is ideal for demanding applications like mining, dredging, and offshore environments.

Its extreme hardness ensures superior resistance to abrasive wear and corrosion, making it perfect for components exposed to continuous friction or harsh materials. It remains effective even under heavy loads, thermal shock, and fluctuating temperatures, providing long-lasting protection.

Whether in dry conditions or submerged in water, TCE625X maintains its durability and performance, ensuring reliable protection over extended periods. This makes it the perfect choice for industries where equipment failure or downtime is not an option.

- High wear resistance and corrosion protection
- Resistant to thermal shock and high temperatures
- Durable in both dry and wet conditions
- Ideal for industries like mining, dredging, and offshore

TCE625X extends the lifespan of components and boosts operational efficiency, offering proven reliability and long-term performance in the toughest industrial applications.





COATING SPECIFICATIONS

Measurement	Description	Standard	Specification
Hardness test - HV	Determination of coating hardness Hardness test expressed in Vickers	ISO 6507-1	3000HV
Rockwell indentation	Hardness test that measures resistance to indentation under a specified load	DNV-M2	No cracking around indentation
Heat affected zone	HAZ	-	< 5% of layer thickness
Impact toughness	Test to assess the layer's resistance to cracking under impact	DNV-M1	No cracking around impact area
Bonding strength	Strength of the material bonding	-	Infinite (metallurgic bonding)
Elasticity	The elasticity of the material	-	Excellent
Ductility	The ductility of the material	-	Excellent
Wear	Test to evaluate resistance to wear	ASTM-G65B	25 Volume loss/mm³
Wear score	Score of wear resistance compared other layers	TCE-625X	++++ (5 of 5)
Operating temperature	Test to evaluate the temperature resistance of the coating	-40°C to 120°C	< 950°C
Saline droplet	Corrosion Resistance Test (Salt Spray Test)	DNV-C1	No corrosion after > 4200hr
Corrosion score	Score of corrosion resistance compared to other layers	TCE-625X	++++ (4 of 5)
Destructive porosity	Visual inspection for corrosion after opening the welded joint	DNV-C2	No visible corrosion
Porosity	Detection of porosity and cracks in the laser-clad layer	<1%	< 0%
Layer cracks	Visual detection of cracks	-	No cracks
Dye penetrant	Detection of cracks, holes and porosity	ISO 23277	No detection



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	On Request
Dye Penetrant test	ASTM E165	On Request
Corrosion test (salt blanket)	-	On Request
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

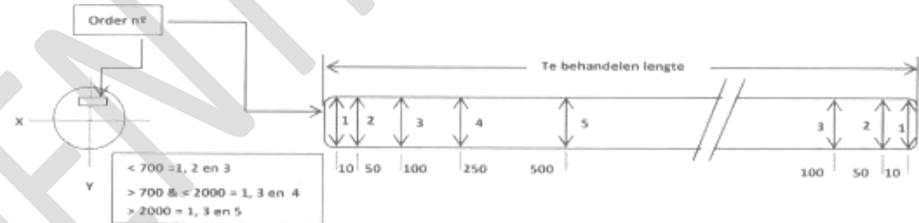
Surface imperfections:	Within 1000 mm rod inspection		
	Ø ≤ 250 mm	Ø ≥ 250 - 400 mm	Ø ≥ 400
Accepted but not reported: ≤ 0.2 mm	All	All	All
Accepted and reported: ≥ 0.2 ≤ 0.5 mm	4	5	6
Reported and repaired ≥ 0.5 – 1,0 mm	0	0	0



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:	19-5-2025



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 TCE 625X	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: 3000HV | Dye penetrant: No porosity detected | Corrosion test: No corrosion