



Product Datasheet

ZNnGard™ Zinc Nickel Nano-Structured coating system is part of an overall strategy to replace any remaining cadmium processes and eliminate environmental and worker safety issues while significantly improving performance and reducing life-cycle costs.

Thickness	10 – 18 μm
Structure	γ phase (12% -16% Ni)
Hardness*	400 – 500 VHN
Grain size*	<100 nm
OCP vs (SHE)	-0.503 V to -0.653 V
Pin on disc (ASTM G99)*	0.14 – 0.34 Coefficient of friction
<i>K</i> factor	0.24 (without lubricant) 0.17 (with lubricant)
Operating temperature	-50 °F to 400 °F (-45 °C to 204 °C)
Salt spray (ASTM B117)	>6000 h
Adhesion test (ASTM B571)	Bend test 180° PASS
Hydrogen embrittlement (ASTM F519)	PASS - 200 h at 75% NFS
Hydrogen Re-embrittlement	PASS
Applications	High and low strength steel
Standards/Specifications	ASTM B841 Class 2 AN ASTM F1941

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