

ZinKlad® 1000 B-HG

Hexavalent chromium-free black coating



Unrivaled aesthetics

ZinKlad 1000 B-HG is a black coating with excellent corrosion protection and high specular gloss. Designed for coating of automotive fasteners, this hexavalent chromium-free finish, has a deposit hardness above 400 HVN.

ZinKlad 1000 B-HG gives a uniform high gloss black finish which exceeds 1000 hours to base metal corrosion when tested in neutral salt spray.

ZinKlad 1000 B-HG has been approved by FCA in the following standards: PS.50031:2015-06 PS-12182:2016:08, for tapping screws and machine threaded fasteners.

ZinKlad 1000 B-HG provides both exceptional corrosion resistance and a consistent coefficient of friction. When it comes to providing outstanding coating aesthetics and corrosion protection that automotive engineers rely on, ZinKlad 1000 B-HG delivers.



FEATURES

- Low coating thicknesses
- High gloss, uniform black finish
- Exceptional corrosion protection
- Predictable coefficient of friction

Corrosion Performance (ASTM B-117)

	First white corrosion	First red corrosion
ZinKlad 1000 B-HG	240 h	1000 h



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ZinKlad 1000 B-HG Performance Data

ZinKlad 1000 B-HG combines a homogenous metallic zinc-nickel (12 – 17% nickel) deposit of 8 microns minimum thickness. This hard-metallic coating is further protected against the formation of white corrosion products by the application of **TriPass ELV 5100** trivalent chromium passivates to impart a black color.

Black Torque 'N' Tension 15 and Torque 'N' Tension 08 provide uniform black appearance, increased corrosion resistance and modify the surface properties to ensure uniform torque and clamping characteristics. Combined these ensure that **ZinKlad 1000 B-HG** consistently meets minimum performance demands for corrosion resistance and torque-tension requirements.

Finish requirements:

Appearance: High gloss black finish

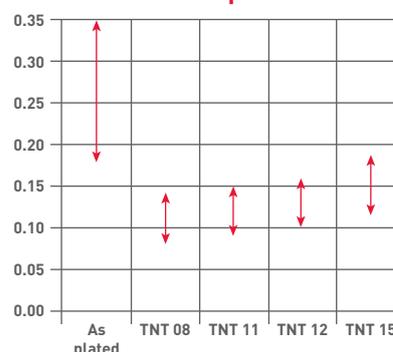
Thickness: Minimum 8 microns

Nickel content: 12-17%

NSS: 240 hours, no change in appearance, 1000 hours, no red rust

Coefficient of Friction: 0.10 – 0.16

MacDermid Enthone friction control on zinc-nickel electroplate



Plating cycle used to create ZinKlad 1000 B-HG coatings

1. Zinc-nickel	Provides the sacrificial protection
Enviroalloy Ni 12-15	Alkaline, particularly recommended for plating fasteners
2. Trivalent passivates	Protects the zinc deposit from white rust
TriPass ELV 5100	Good black appearance with excellent corrosion resistance
3. Torque modifier	Improves corrosion resistance and modifies friction properties
Black Torque 'N' Tension 15	Average CoF 0.13, range 0.10 – 0.16 for fasteners
4. Dry	
5. Torque modifier	Improves corrosion resistance and modifies friction properties
Torque 'N' Tension 08	Average CoF 0.13, range 0.10 – 0.16 for fasteners
6. Dry	



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