ZinKlad® 1000 B-EXP

Hexavalent chromium-free black coating

Unrivaled aesthetics

ZinKlad 1000 B-EXP the high performance black coating for automotive applications. Hexavalent chromium-free, with a deposit hardness above 400 HVN offering extended corrosion protection when compared to other sacrificial coatings.

ZinKlad 1000 B-EXP gives a uniform glossy black coating exceeding 1000 hours to base metal corrosion in neutral salt spray.

ZinKlad 1000 B-EXP has been approved by FCA and GM in the following standards: PS.50031:2015-06 PS-12182:2016:08, for tapping screws and machine threaded fasteners and GMW16730:2012-10 , primarily for bulk processed, small steel parts.

ZinKlad 1000 B-EXP provides 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-EXP delivers.

FEATURES

- **Low coating thicknesses**
- **Glossy, uniform black finish**
- **Exceptional corrosion protection**
- **Predictable coefficient of friction**

Corrosion Performance (ASTM B-117)		
	First white corrosion	First red corrosion
ZinKlad 1000 B-EXP	240 h	1000 h

ZinKlad

MacDermid Enthone
INDUSTRIAL SOLUTIONS

ZinKlad® 1000 B-EXP

Hexavalent chromium-free black coating

ZinKlad 1000 B-EXP Performance Data

ZinKlad 1000 B-EXP combines a homogenous metallic zinc-nickel (12 – 17% nickel) deposit of 10 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.

Torque 'N' Tension 12 provides both increased corrosion resistance and modifies the surface properties to ensure uniform torque and clamping characteristics. Combined these ensure that **ZinKlad 1000 B-EXP** consistently meets minimum performance demands for corrosion resistance and torque-tension requirements.

Finish requirements:

Appearance: Uniform glossy black finish

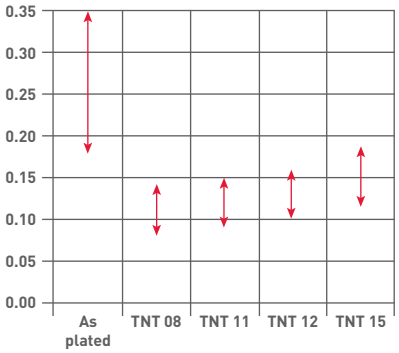
Thickness: Minimum 10 microns

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-EXP coatings	
1. Zinc-nickel	**Provides the sacrificial protection**
Enviralloy 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. Passivate seal	
TriDip	Seals passivate coating and provides lustre
4. Dry	
5. Torque modifier	**Improves corrosion resistance and modifies friction properties**
Torque 'N' Tension 12	Average CoF 0.13, range 0.10 – 0.16 for fasteners
6. Bake	**Adjust gloss level**
250 °F (120 °C), 20 min	

MacDermid Enthone
INDUSTRIAL SOLUTIONS

For more information, please contact us at:
Email: ISenquiries@macdermidenthone.com
macdermidenthone.com/industrial

MEIS/B82-2018