

Engineered Coatings, Inc.
 P.O. Box 4702
 Parker, CO 80134
 Frank Kustas, PhD
 Ph. & Fax: (303) 593-0588
kustasfm@comcast.net

ECI
 Engineered Coatings, Inc.
www.eciwear-corrosioncoatings.com

Product Data Sheet Cr_xN / DLC Bilayer Coating

Cr_xN / DLC Bilayer Coating Description

- Fine Grained Cr_xN Corrosion Barrier Topped With Doped Diamondlike (DLC) Carbon
- Nominal Composition: Cr₂N / Cr or Cr & C-DLC
- Deposition Technique: Enhanced-Plasma Reactive-Deposition From Unbalanced Magnetrons With Cr and C Targets.

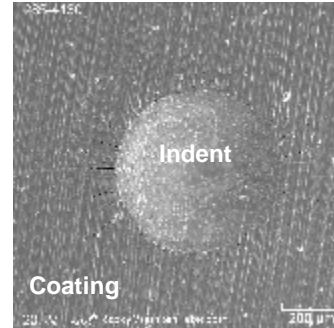
Benefits

- High Hardness (25 GPa) of Cr₂N Corrosion Barrier Layer; Tailored Hardness (9-16 GPa) for Doped-DLC Top Layer
- Excellent Adhesion, Indent Toughness
- Excellent Chloride Salt-Fog Corrosion Resistance
- High Sand-Abrasion Resistance
- Thick Corrosion Barrier
- Low Coefficient of Friction from Top Doped-DLC Layer

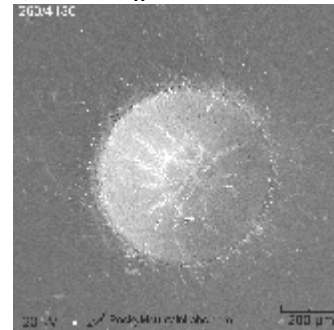
Chloride Salt-Fog Corrosion Resistance



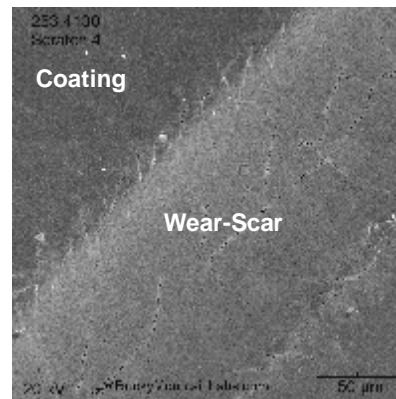
Eliminated Pitting Corrosion For Cr_xN Coating on 4130 Steel



a) 10mm Cr_xN Corrosion Barrier



**b) 11.6 mm Cr_xN / Cr-DLC
 Excellent Adhesion to High-Load (331-Lb) Indentation, No Flaking**



Survival to 10-Lb Diamond Indenter Scratch Test With No Flaking; COF<0.1