



Extreme Coatings™

Carbide Encapsulated Feedscrews

www.SurfaceEngineering.com

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XC1000Ni™ Technical Data Sheet

Extreme Coating's XC1000Ni™ is an extremely wear resistant, dense, and crack-free tungsten carbide coating applied by the HVOF process to the entire surface of virtually any size injection molding or extrusion screw. The coating exhibits excellent low stress abrasion resistance and improved corrosion resistance due to the use of Nickel binder in lieu of Cobalt. The coatings' adhesive wear resistance is excellent adding to its compatibility with tungsten carbide lined or hardened tool steel barrels. In most cases, the coating eliminates root wear problems. And, due to the high concentration of tungsten carbide, the O.D. typically wears at half the rate of any other hard-faced or tool steel screw on the market. This coating is versatile and a popular choice for most applications where increased feed screw life is desirable or necessary when processing resins filled with abrasive additives. The coating is more suited for applications that produced increased levels of corrosive by-products such as hydrochloric acid.

Chemical Composition: Carbon: 5.10-5.8%, Tungsten: 83.0-86.0%, Nickel: 9.0-11.0%,
Total of all others: 1.0% Max
Typical Tungsten Carbide content: 89.0%-91.0%

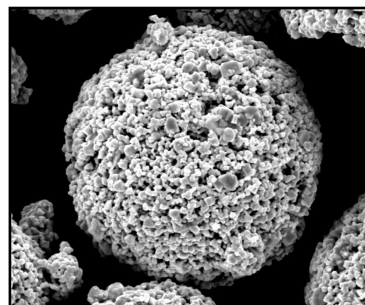
Coating Hardness: Superficial: 91.0_{15N}, Macro: Rc62-66, Micro: 1200 DPH ₃₀₀

Bond Strength: 10,000 PSI plus(Mpa 68.9 x 10³) **Porosity:** <1.0% **Oxides:** <3.0%

Abrasion Resistance: ASTM G65, 2000 Revolutions: 3.0 mm³ Loss
Compared to: CPM9V 9.5 mm³ Loss
Cobalt #12 19. mm³ Loss
NiCrB "56" 15. mm³ Loss

Maximum Service Temperature: 850° F; 450° C

Microstructure: Spray Dried Powder



Coating Cross Section

