



Extreme Coatings™

Carbide Encapsulated Feedscrews

www.SurfaceEngineering.com

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XC4000™ Technical Data Sheet

Extreme Coating's XC4000™ is an extremely wear resistant, dense, and crack-free chromium carbide coating applied by the HVOF process to the entire surface of virtually any size injection molding or extrusion feed screw. The coating exhibits excellent corrosion resistance and withstands high processing temperatures combined with good low stress abrasion resistance. The coatings' adhesive wear resistance is excellent adding to its compatibility with corrosion resistant, tungsten carbide lined or hardened tool steel barrels. In most cases, the coating eliminates root wear problems. And, due to the high concentration of chromium carbide, the O.D. typically wears at one third the rate of any other hardfaced Inconel® or Hastelloy® screw. This coating is versatile and a popular choice for most applications where increased feed screw life is desirable or necessary when processing resins at high temperatures with increased levels of corrosive by-products such as hydrochloric or hydrofluoric acids.

Chemical Composition: Carbon: 9.0-10.0%, Chromium: 66.0-73.0%, Nickel: 18.0-22.0%, Total of all others: 1.0% Max
Typical Chromium Carbide content: 74.0-76.0%

Coating Hardness: Superficial: 87-89_{15N}, Macro: Rc 53-57, Micro: 1100 DPH₃₀₀

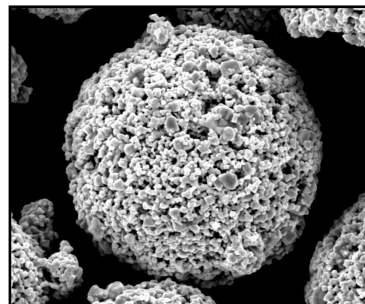
Bond Strength: 10,000 PSI plus(Mpa 68.9 x 10³) **Porosity:** <2.0% **Oxides:** <1.5%

Abrasion Resistance:

ASTM G65, 2000 Revolutions:	3.2 mm ³ Loss
Compared to: CPM9V	9.5 mm ³ Loss
Cobalt #12	19.0 mm ³ Loss
NiCrB "56"	15.0 mm ³ Loss

Maximum Service Temperature: 1500° F; 815° C

Microstructure: Spray Dried Powder



Coating Cross Section

