



Extreme Coatings™

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XC9000™ Technical Data Sheet

Extreme Coating's XC9000™ Millennium Carbide 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. 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 applications where increased feed screw life is desirable or necessary when processing resins filled with sub-micron size abrasive additives.

Chemical Composition: Carbon: 5.15-5.75%, Tungsten: 81.0-84.0%, Cobalt: 11.0-13.0%,
Iron: .50% Max, Total of all others: 1.0% Max
Typical Tungsten Carbide content: 87.0%-89.0%
Nano-Crystalline Tungsten Carbide: 26% of the 87.0%-89.0%

Coating Hardness: Superficial: 92.5_{15N}, Macro: Rc69-70, Micro: 1300 DPH₃₀₀

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

Abrasion Resistance: ASTM G65, 2000 Revolutions: 2.4 mm³ Loss
Compared to: CPM9V 9.5 mm³ Loss
Cobalt #12 19.0 mm³ Loss
NiCrB "56" 15.0 mm³ Loss

Maximum Service Temperature: 850° F; 450° C

Microstructure:

Spray Dried Powder

Coating Cross Section

