Feedscrew Coating Chart

Extreme Coatings™ process utilizes emerging thermal spray technologies to apply extremely wear resistant and/or corrosion resistant CarbideX® protective coatings to virtually any new or rebuilt injection molding or extrusion feed screws. Our process provides a crack free and porosity free coating with hardness values over 60Rc and coating thickness ranging from .005"-.030". This process completely eliminates the necessity for tool steels, chrome plating, flame hardening, or Nitriding; as the entire screw surface is coated, including the root, flight sides and flight lands. In addition to full encapsulation, our carbide coatings can be applied to the flight lands only; for single and twin feed screws. Another unique characteristic of the process is the capability to rebuild flights on worn CPM9V® (1) tool steel feedscrews (2).

The Coatings

CarbideX® C1000: 88% Tungsten Carbide (Wc), 12% Cobalt (Co) matrix
High abrasive wear applications (Fiberglass, mineral and magnetic filled polymers)

CarbideX® C1000Ni : 90% Tungsten Carbide (Wc), 10% Nickel (Ni) matrix
High abrasive wear applications with improved corrosion resistance (hydrochloric acid)

CarbideX® C1000-17 : 83% Tungsten Carbide (Wc), 17% Cobalt (Co) matrix
High abrasive wear applications with improved ductility (recommended for smaller screws)

CarbideX® C9000 : 88% Tungsten Carbide (Wc micron and nanometer particles) 12% Cobalt (Co) matrix High abrasive wear applications with sub-micron particle abrasion (Ti02, Silica)

CarbideX® C4000 : 75% Chrome Carbide (Cr2C3), 25% Nickel Chrome (Nicer) matrix High corrosion, high temperature and high abrasion applications (Fluoropolymers, bromine and PEEK)

Feedscrew Processing Environments

CARBIDEX	High Abrasive Wear	Moderate Corrosion	Excessive Corrosion	Reduce Black Specks	Higher Ductility	Sub-micron Particle Abrasion	Service Temperature Threshold
C1000	√	√		√			800-900°F 425-480°C
C1000Ni	√	√	√	√			800-900°F 425-480°C
C1000-17	√	√		√	√		800-900°F 425-480°C
C9000	√	√		√		√	800-900°F 425-480°C
C4000	√	√	√	√	√		1200-1300°F 650-700°C

(1)"CPM"® is a registered trademark of Crucible Specialty Materials. (2) Provided wear is limited to approximately .015" per side or .030" overall.

CarbideX® is a registered trademark of Surface Engineering Alloy / Extreme Coatings.

Specialists in Wear Resistant Products & Solutions!

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