



Engineering Better Material Solutions

-PRODUCT SPECIFICATION-

Surmet Gold™ Microcoatings

-Nitrides of Ti, Zr, Hf

Surmet Gold™ Microcoatings are proprietary multilayer coatings of Ti, Zr and Hf nitrides, with outermost layer predominantly of titanium nitride. An unusual combination of the low temperature processing, extremely good adhesion and excellent anti-wear and anti-galling properties makes Surmet Gold™ an excellent wear resistant coating.

Property	Surmet Gold™ Microcoatings
Substrate	High speed steels (viz. A-2 and D-2), solid or brazed carbide
Structure	Microcrystalline, cubic
Deposition Temperature, °C	250
Use Temperature, °C	500
Coating Thickness, μm	1-3
Substrate Size	Up to 16"
Substrate Geometry	Any shape including complex ones
Electrical Resistivity, Ω-cm	10 ⁻⁵
Co-efficient of friction	~0.2 in dry condition against bearing steel
Hardness, DPHN	2000
Wear/Abrasion resistance	Excellent metal to metal wear resistance
Corrosion Resistance	<ul style="list-style-type: none"> • Oxidation resistant up to 500°C in air. • Corrosion resistant to most acids and alkalis.
Applications	<ul style="list-style-type: none"> • Wear resistant coating on cutting tools such as end mills, taps, chasers, reamers, punches, etc. • Plastic injection molding hardware
Special Property	<ul style="list-style-type: none"> • Attractively golden in color • Excellent adhesive wear, • Anti-galling and anti-sticking properties