

TECHNICAL BULLETIN

TUNGSTEN CARBIDE COBALT CHROME

CT2143-2

OVERVIEW

CT2143-2 is a Tungsten Carbide Cobalt Chrome coating applied using the HVOF process. The coating is very dense, very hard, very well bonded and suitable for use in the most aggressive wear environments. The existence of Chrome within the matrix greatly enhances the corrosion resistance of this coating over traditional WC-Co(12) type HVOF coatings. CT2143-2 is especially effective in applications where the component is exposed to aggressive impact wear. Use up to 1000° F.

TYPICAL PROPERTIES

Nominal Composition:	86% WC – 10% Co – 4% Cr
Bond Strength:	In excess of 10,000 psi
Coating Porosity:	Less than 1%
Coating Hardness:	Vickers 1200-1400
As-sprayed Surface Roughness:	120-180 Ra
Thickness Limit:	.015" approx.



FOR THE FOLLOWING APPLICATIONS

CT2143-2 is used for severe service conditions of abrasive wear, hard surface wear, low temperature erosion and fretting. This coating is typically the choice for Chrome replacement coatings within the aircraft industry. Typical components coated with this coating are aircraft actuators, aircraft landing gear components, valves, paper rolls, etc.

FINISHING

Finish CT2143-2 by diamond grinding. Flood cool with 2% oil solution. For roughing use 150 grit diamond wheels, work rotation should be 400 SFPM, .080" per pass crossfeed, .0005" per pass infeed. Finish with 400 grit diamond wheels, work rotation should be 400 SFPM, .040" per pass crossfeed, .0005" per pass infeed.

Finishes of 2-4 Ra are possible by grinding. This coating may also be superfinished to a 1 Ra finish.

SPECIFICATIONS

CT-2143-2 meets the following specifications:

Meets internal CTS specifications, and various customer specifications.

CTS-Midwest
5901 Creek Rd.
Cincinnati, OH 45242
(513) 793-0670 | F: (513) 793-4254

CTS-South
11766 NC Highway 210
Rocky Point, NC 28457
(910) 675-2909 | F: (910) 675-0806

CTS-East
80 Fadem Rd.
Springfield, NJ 07083
(973) 379-0003 | F: (973) 379-4066

CTS-Texas
4011 Chance Ln.
Rosharon, TX 77583
(281) 431-1629 | F: (281) 431-2179