

The TriCom Family of Coatings

Replacements for Hard Chrome, Electroless Nickel, and Thermal Spray Coatings Characteristics of As-Plated Tricom Coatings

Characteristic Property As plated	COATING TYPE						
	TriCom Coatings					Conventional Plating	
	TriCom-N Ni-Co-P	TriCom-N/SiC Ni-Co-P-SiC variant	TriCom-NH/SiC Ni-Co-P-SiC	TriCom-H, Type IV Co-P	TriCom-H, Type IV CO-P-SiC	Hard Chrome Cr	EN (highP) Ni-P
Hardness HVN ₁₀₀	700 - 750	750 - 800	800 - 850	650 - 700	700 - 720	900 - 1000	600
Corrosion ASTM B-117 Hrs of Exposure	1000	1000	1000	Discolored after 48 No Red Rust after 1000	Discolored after 48 No Red Rust after 1000	<48	1000
Corrosion ASTM B-368 CASS Hrs of Exposure	330 Terminated testing	200	200	Not Tested	Not Tested	<2	330 Terminated testing
Reciprocating Wear Against hardened steel (ASTMG133) mm ³ /Nm	13 x 10 ⁻⁵	6.0 x 10 ⁻⁵	0.5 x 10 ⁻⁵	3.0 x 10 ⁻⁵	3.2 x 10 ⁻⁵	0.4 x 10 ⁻⁵	44 x 10 ⁻⁵
Taber Abrasion Taber Wear Index	7.02	1.59	1.4	11.54	1.0	1.8	22.5
Fatigue Life Rotating Beam Matrix, 4130@40Rc, @110 Ksi % Debit or X times matrix	No Debit 6X	No Debit 3.5X	Debit 0.6X	No Debit 5X	No Debit 2.3X	No Debit 0.4-0.6X	No Debit 0.3X

The temperature limitation on the above coatings is 250°C long term and 400°C short term.

Higher Temperature TriCom Coating

The TriCom electroplated cobalt chrome carbide (Cr₃C₂) tribological coating is specially formulated for elevated temperature dry running applications. The coating offers excellent wear resistance and low frictional characteristics up to 800°C. TriCom can run against itself, uncoated nickel, iron and cobalt base superalloys, and titanium alloys.



Hardness: 300-400 VHN @ 100 gm Load

Carbide Volume Fraction: 12-25% Volume

As-Plated Surface Finish: Ra ≈ 400 μinch (10 μm)

Typical Coating Thickness: .001 - .015" (25-375 μm)

Call US today!

TriCom coatings are a U.S. Chrome developed plating solution that is commercially available and in growing demand. We are eager to qualify it for your most demanding applications.

U.S. Chrome is a Nadcap accredited facility and an FAA Repair Station specializing in Hard Chrome and Electroless Nickel. Difficult-to-plate applications are eagerly accepted.



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Additional Plating Facilities:
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