



Hycrome (Europe) Ltd.
Complete Surface Treatment Specialists

HYC 20

The credible alternative to Tungsten Carbide

A silicon carbide coating within a dense hardened Electroless Nickel Matrix



Introduction

Hyc 20 coating is a composite process which allows silicone carbide particles to be incorporated within a dense hardened electroless nickel matrix.

Deposition

The coating is autocatalytically reduced onto the parent material, producing an even coverage on simple or complex geometries and requires no post machining to meet manufacturing tolerances. The thickness range generally recommended is between 0,0125 mm and 0,125 mm (0.0005"0.005"). Varying surface finishes can be achieved by grinding or lapping operations.

Wear Resistance

Hyc 20 exhibits exceptional wear properties when compared on test against other coatings with a particle hardness of 2500 to 3000 HV combined with a nickel hardness of 1000 HV produces a baulk hardness of 1300 to 1500 HV.

Corrosion Protection

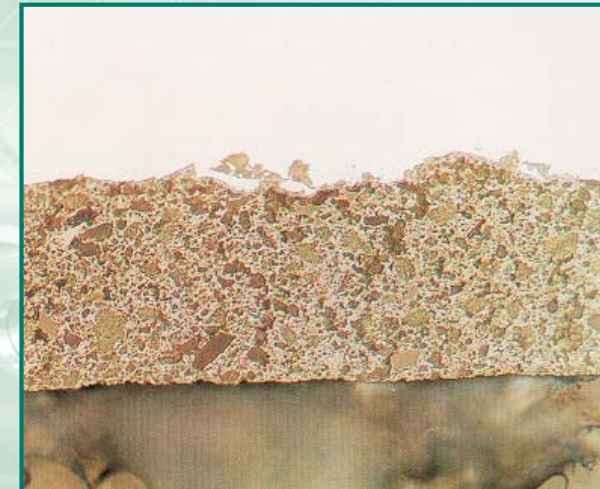
As the basis of the coating is electroless nickel it demonstrates excellent corrosion protection, the hardness properties also aid the coating in providing high levels of resistance to erosion and cavitation.

Typical Applications

Valve Internals, Balls, Seats, and Gates
Compressor Bores
Pump Components, Shafts, Impellers and Casings
Injection Moulds

Reduced Torque

The coating shows low frictional properties at ambient and elevated temperatures, when operating against itself or other hard coatings. It also demonstrates excellent lubricity and load carrying capability.



Hyc 20 Silicone Coating

Base Material

(Magnification x 400)

Plant Facilities

Plating Processes

Hard Chromium
Sulphamate nickel
Electroless nickel
Nickel Strike
Silicone carbide

Precision Grinding

Cylindrical
Spherical
Internal
Surface
Lapping and honing also available

Surface Preparation

Controlled shot peening
Glass bead peening
Vapour blasting
Vacu-blasting
Alkaline cleaning
Acid pickling
Chemical decontamination

Non Destructive Testing

Etch inspection for grinding abuse
Magnetic flaw detection
Penetrant flaw detection
Anodic flaw detection
Conductivity testing
Hardness Testing
Tensile Testing

Surface Treatment

Chromic acid anodise
Alocrom 1200
Passivation
Titanium pickling
Paint Application

Heat Treatment

Stress relieving of steel components
De-embrittlement of steel components
Heat treatment of aluminium

Component Overhaul and Repair Facility

Wide range of parts overhauled including landing gear and engine components

Aluminium Component Manufacture

Detail manufacture including CNC routing, pressbrake forming, and heat treatment

Refurbishment of Valves and Valve Components

Full overhaul facility for a wide range of valves, including testing and certification, experienced procurement service also available for your new valve requirements.

Pressure Testing

Pressure testing facility from vacuum to 30000 PSI

Process and Project Management

In order to offer our clients a complete one stop service for all their treatments, Hycrome offer a management service on a wide range of coatings, using reciprocal trading partners with a long standing record of reliability, quality and delivery. Services include Cadmium, copper, Tin and many other processes.

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