Conforma Clad WC 200 Tungsten Carbide-Nickel Cladding

Category : Ceramic , Carbide , Metal , Metal Matrix Composite , Nonferrous Metal , Nickel Alloy , Other Engineering Material , Ceramic/Metallic Coating

Material Notes:

Conforma Clad is a targeted wear solution applied to vulnerable surfaces of a component. The wear protection is delivered via a proprietary cloth or slurry, ranging from 0.020" to 0.120" thick.If applied by the cloth system: The cloth is heavily loaded with WC particles held together by a binder. The cloth is adhered to the substrate and is overlayered with a brazing cloth of filler material. The component is then placed in a vacuum furnace where the brazing material melts and infiltrates the WC cloth.If applied by the slurry system: The component is also vacuum brazed. It is well suited for complex shapes.The result from either delivery system is a surface that is metallurgically bonded to the substrate, extremely durable, and is highly resistant to erosion, abrasion, and corrosion. Uses include coatings for plastics processing equipment.Information provided by Conforma Clad, a Kennametal Company.Composition Notes: WC includes cobalt-bonded WC. Total carbide loading from other carbide formation is 68%.

Order this product through the following link:
http://www.lookpolymers.com/polymer_Conforma-Clad-WC-200-Tungsten-Carbide-Nickel-Cladding.php

Physical Properties	Metric	English	Comments
Density	12.2 g/cc	0.440 lb/in³	
Porosity	<= 3.0 %	<= 3.0 %	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	64 - 70	64 - 70	Average for the composite. WC particles are about 2000 Vickers DPH_{50g} surrounded by a two phase matrix of 300-800 Vickers DPH_{50g} (30-64 HRC).
Adhesive Bond Strength	>= 483 MPa	>= 70000 psi	

Thermal Properties	Metric	English	Comments
Thermal Conductivity	33.1 W/m-K	230 BTU-in/hr-ft²-°F	

Component Elements Properties	Metric	English	Comments
Chromium, Cr	6.0 %	6.0 %	
Nickel, Ni	30 %	30 %	
Other	2.0 %	2.0 %	
WC	62 %	62 %	

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