

Conforma Clad WC 210 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 overlaid 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 66%.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Conforma-Clad-WC-210-Tungsten-Carbide-Nickel-Cladding.php

Physical Properties	Metric	English	Comments
Density	11.6 g/cc	0.420 lb/in ³	
Porosity	<= 3.0 %	<= 3.0 %	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	60 - 66	60 - 66	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	28.8 W/m-K	200 BTU-in/hr-ft ² -°F	

Component Elements Properties	Metric	English	Comments
Chromium, Cr	7.0 %	7.0 %	
Nickel, Ni	34 %	34 %	
Other	4.0 %	4.0 %	
WC	55 %	55 %	

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