Stellite®

Technical Note
DATE: 4/14/94
SUPERSEDES: 1/31/92
NO: C-005

Stelcar™ JK™120P Powder
86 Tungsten Carbide/10 Cobalt/4 Chromium

DESCRIPTION
JK120P powder, previously called JK120, is a powder that is capable of producing coating properties similar to UCAR LW15 using propylene or propane fuel with the Jet Kote® thermal spray process. Please note JK120H is specified for hydrogen fuel only and JK120P is recommended for **CARBON BASED FUELS** such as propylene.

This particular WC/Co/Cr composition was designed for thick overlay applications or for general use.

This alloy is significantly more corrosion resistant to hydrogen sulfide than coatings containing an unalloyed cobalt matrix, however, JK120P coatings require sealing, if applied to base materials of low corrosion resistance.

APPROXIMATE COMPOSITION, Wt. %	
Carbon	5.4
Chromium	4.0
Cobalt	10.0
Iron	1.0 Maximum
Tungsten	Balance

MESH SIZE
270/Down

COATING CHARACTERISTICS	SET A
Microhardness, DPH [300g]	824-1029
Macrohardness, 15N (Rc)	89-91 (57-62)
Estimated Porosity, %	<3
Est. Bond Strength, PSI (ASTM 633)	10,500+
Estimated coverage, Lb/Ft/.010"	1.6
Est. Surface Finish, Microinch AA	
-As Sprayed	220-280
-Ground/Lapped	<5
Maximum Coating Thickness, Inches.	.035
Maximum Service Temperature,°F	1000
Abrasive Wear Resistance, mm^3 loss 30 lb load, 500 revolutions (ASTM G65)	Unknown

APPLICATIONS
Hardfacing of compressor rods, pump casings, pump impellers, pump plungers, pump sleeves, paper manufacturing suction rolls, mechanical seal faces, feed screws, gate valves, fan blades, as well as various chemical, oil field and petrochemical parts.

Stellite Coatings Deloro Stellite® 1201 Eisenhower Drive, North P.O. Box 807 Goshen, Indiana 46526
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Stellite®

Stelcar™ JK™ 120H Powder
86 Tungsten Carbide/10 Cobalt/4 Chromium

Technical Note
DATE: 4/14/94
SUPERSEDES: NEW
NO: C-045

DESCRIPTION

JK120H powder, is a powder that is capable of producing coating properties superior to UCAR LW15 exclusively using hydrogen fuel with the Jet Kote® thermal spray process. Please note JK120H is specified for **HYDROGEN FUEL ONLY** and JK120P is recommended for carbon based fuels such as propylene.

Significant improvement in reduction of coating porosity and improved mechanical properties has been shown to be highly reproducible with properly maintained systems. JK120H coating porosity is significantly less and more uniformly distributed than previous JK120 coatings.

This alloy is significantly more corrosion resistant to hydrogen sulfide than coatings containing an unalloyed cobalt matrix.

APPROXIMATE COMPOSITION, Wt. %	
Carbon	5.4
Chromium	4.0
Cobalt	10.0
Iron	1.0 Maximum
Tungsten	Balance

MESH SIZE
325/Down

COATING CHARACTERISTICS	SET A
Microhardness, DPH [300g]	1163-1369
Macrohardness, 15N (Rc conversion)	93.1-95.2 (68-74)
Estimated Porosity, %	<1
Est. Bond Strength, PSI (ASTM 633)	10,500+
Estimated coverage, Lb/Ft²/.010"	1.4
Est. Surface Finish, Microinch RMS	
-As Sprayed	100-150
-Ground/Lapped	<1
Maximum Coating Thickness, Inches.	.015
Maximum Service Temperature, °F	1000
Abrasive Wear Resistance, mm³ loss 30 lb load, 500 revolutions (ASTM G65)	Unknown

APPLICATIONS

Hardfacing of compressor rods, pump casings, pump impellers, pump plungers, pump sleeves, paper manufacturing suction rolls, mechanical seal faces, feed screws, gate valves, fan blades, as well as various chemical, oil field and petrochemical parts.

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