1-M

Specifications: AWS A5.21-2001

Classification: ERCCoCr-C

Description:

1-M is the tubular wire version of the highest hardness standard cobalt alloy used with chromium carbides that impart outstanding abrasive wear resistance. The addition of tungsten enhances high temperature hardness and matrix toughness for excellent adhesive and solid particle erosion wear resistance. It bonds well with all weldable steels, including stainless. Typical applications include screw components, cross heads, hydropulper disc segments, soaking pit-tong bits, mixer rotors, bodies and tip sides, pump sleeves and valves & pumps

Typical Deposit Analysis					
C	Cr	Fe	Mn	Mo	Ni
2.6	29.0	5.0 max	2.0 max	1.0 max	3.0 max
Si	W	Co	Other		
2.0 max	12.0	Rem	1.0 max		

Typical Deposit Characteristics	
Abrasion Resistance	Excellent
Impact Resistance	Fair
Corrosion Resistance	Good
Hardness	HRC 48 - 56
Hot Hardness	Very Good

6-M

Specifications: AWS A5.21-2001

Classification: ERCCoCr-A

Description:

6-M is the tubular wire version of a cobalt alloy that produces a medium hardness cobalt-chromium deposit for high temperature applications with good abrasive wear and good impact resistance. It is the most versatile and widely used cobalt alloy. Chromium carbides contained in the deposit provide excellent resistance to many forms of chemical and mechanical degradation, including galling and cavitation erosion. It bonds well with all weldable steels, including stainless.

Typical Deposit Analysis					
C	Cr	Fe	Mn	Mo	Ni
1.2	28.1	5.0 max	2.0 max	1.0 max	3.0 max
Si	W	Co	Other		
2.0 max	5.0	Rem	1.0 max		

Typical Deposit Characteristics	
Abrasion Resistance	Very Good
Impact Resistance	Very Good
Corrosion Resistance	Good
Hardness	HRC 38 - 46
Hot Hardness	up to 1200°F

12-M

Specifications: AWS A5.21-2001

Classification: ERCCoCr-B

Description:

12-M is the tubular fabricated wire version of a cobalt alloy that produces a high hardness cobalt-chromium deposit for high temperature applications with good abrasive wear associated with corrosion. Chromium carbides contained in the deposit provide excellent resistance to many forms of chemical and mechanical degradation, including galling. It bonds well with all weldable steels, including stainless.

Typical Deposit Analysis					
C	Cr	Fe	Mn	Mo	Ni
1.4	28.5	5.0 max	2.0 max	1.0 max	3.0 max
Si	W	Co			
2.0 max	9.0	Rem			

Typical Deposit Characteristics	
Abrasion Resistance	Excellent
Impact Resistance	Good
Corrosion Resistance	Good
Hardness	HRC 44 - 50
Hot Hardness	Excellent

21-M

Specifications: AWS A5.21-2001

Classification: ERCCoCr-E

Description:

21-M wire deposits a low carbon austenitic cobalt type alloy with excellent work hardenability, high temperature, strength, and impact resistance. These deposits are quite stable during thermal cycling, making them a favorite for hot die materials. They have good strength and ductility in temperatures up to 2100º F. Resistance to galling (self-mated) corrosion and cavitation erosion make # 21-M a good choice for valve trim on steam and fluid control valve bodies and seats. It bonds well to all weldable steels, including stainless.

Typical Deposit Analysis

C	Cr	Fe	Mn	Mo	Ni
0.3	27.4	5.0 max	2.0 max	5.4	2.0
Si	W	Co	Other		
2.0 max	0.5 max	Rem	1.0 max		

Typical Deposit Characteristics

Abrasion Resistance	Fair
Impact Resistance	Excellent
Corrosion Resistance	Good
Hardness (2 Layers)	HRC 22 - 26
Hardness: Work Hardened	HRC 40 - 45
Hot Hardness	Excellent