

ARK 399 arc spray coating is an Fe-Cr-B alloy. It has excellent bond strength and it has high resistance against high temperature oxidation erosion wear due to its unique microstructure. Also, good corrosion resistance is among its features.

Main features

- High temperature oxidation erosion wear resistance
- High hardness and high wear resistance
- High bond strength, no primer. A 2 mm thick coating can be prepared
- Excellent corrosion resistance
- Cost-effective

Typical applications

- It is used for the spraying of CFBs and pulverized coal boilers
- Fan blades
- Steel converter hoods and flue ducts
- Oil drilling equipment
- Replacement of hard chrome plating

Chemical composition of deposited metal (%)

C	Cr	Ni	B	Si	Other	Fe
<2.0	<20.0	<1.0	<5.0	<2.0	<1.0	Balance

Mechanical properties

Bond Strength (MPa) Acc. to ASTM C633-01	Micro-hardness (HV 0.1) kg/mm ²
55-57 (Low carbon steel substrate)	916-1296

Coating properties

Density g/cm ³	% Prosoity	% Deposition efficiency
7.46	<5	70-85

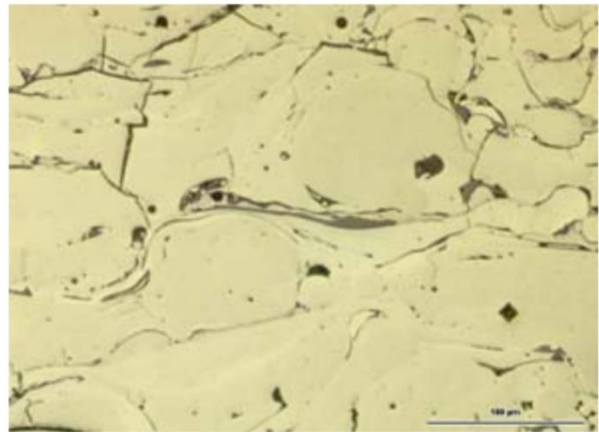
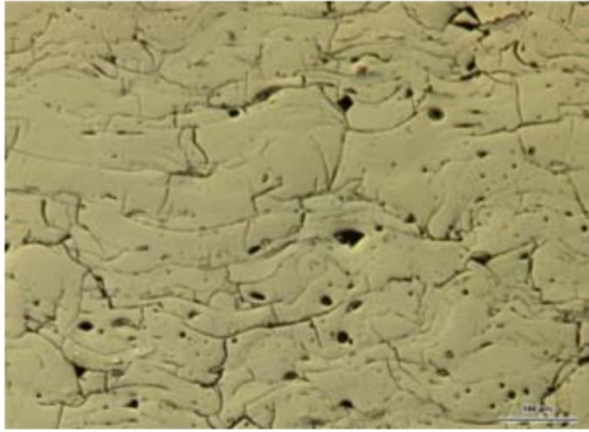
Recommended spraying parameters

Diameter in (mm)	Air pressure MPa	Current (A)	Voltage (V)
¹ / ₁₆ (1.6)	0.5-0.6	180-220	28-32

Diameters and packaging

Diameter: in (mm)	Packaging: lb (kg)
¹ / ₁₆ (1.6)	27.5 (12.5) (Vacuum Pack Spool)

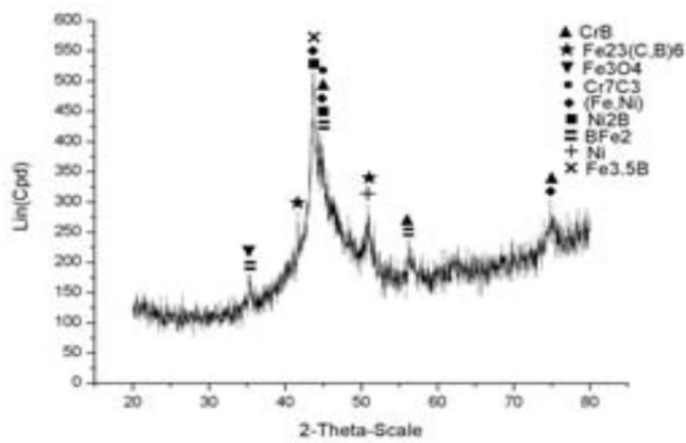
Metallographic photos



ARK 99 spray coating cross-section microstructure

100x

200x



XRD Result