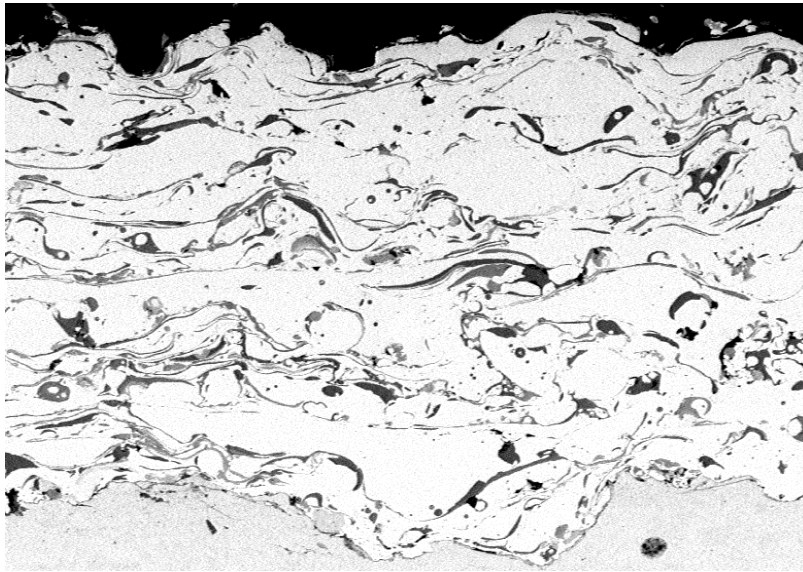


Technical Data

HA 771 ARC SPRAY NICKEL-CHROMIUM SUPERALLOY

Product Code: 22771
Technical Data Sheet

Revision: # 004
 Dated: 01/01/2014



HA 771 Photomicrograph 500x

INTRODUCTION

HA 771 is an austenitic nickel-chromium based superalloy. HA 771 is an oxidation and corrosion resistant coating material well suited for service in extreme environments. When used in higher temperatures HA 771 forms a thick stable passivating oxide layer protecting the surface from attack. HA 771 is commonly used for gas turbines blades, seals, combustors, turbochargers, rotors, submersible pumps, chemical processing and pressure vessels, heat exchanger tubes, boiler tubes, steam generators, and natural gas processing.

HA 771 is designed to operate in all Twin Wire Arc Spray (TWAS) devices, such as HAI's ARCote 9140, 9140U, 9140UW, TAFA 8830/8835, 9000, 9935, and Metco SmartArc arc spray systems.

CHEMICAL COMPOSITION

Typical Values

Element	Ni	Cr	Mo	Nb+Ta	C	Fe
Typical Weight %	BAL	22	9	3.5	0.01	0.50
Element	Al	Ti	Cu	Si	Mn	P
Typical Weight %	0.30	0.19	0.02	0.06	0.01	0.005

Technical Data

HA 771 ARC SPRAY NICKEL-CHROMIUM SUPERALLOY

Product Code: 22771
Technical Data Sheet

Revision: # 004
 Dated: 01/01/2014

PHYSICAL PROPERTIES

Wire Physical Properties

Wire Size(s) diameter	1/16", 0.078", 1/8"	1.6 mm, 2mm, 3.2mm
Spool Size	OD 12"x 4" wide"; Bore ID 2	Ø300x100 mm; Bore Ø50 mm
Spool Weight	25 & 30 lbs. available	11.4/13.6 kg each
Length of Wire per lb. (1/16")	90ft	27.4m
Wire Tensile Strength	24,000 psi	--

Coating Physical Properties

Macro Hardness R _b	90 - 93 HRB	--
Porosity	<2.0%	--
Melting Point	2,400° F	1,315°C
Bond Strength	7,000 psi @ 0.02" thick	48 MPa
Deposit Efficiency	Approx. 80%	Approx. 80%

SPECIFICATIONS

AWS C2.25, AWS/SFA 5.14, ERNICRMO-3

Technical Data

HA 771 ARC SPRAY NICKEL-CHROMIUM SUPERALLOY

Product Code: 22771
Technical Data Sheet

Revision: # 004
 Dated: 01/01/2014

USEFUL SPRAY DATA

Spraying

Spray Rate	11 lbs./hour/100 amps	5 kg./hour/100 amps
Coverage	0.8 oz./ft. ² /0.001"	0.98 kg/m ² /100 microns
Coating Density	--	7.2 gm./cc
Coating Weight	0.038 lbs/ft ² /mil	--

Spray Parameters

Atomizing Air Pressure: Primary Air	50 - 60 PSI	
Atomizing Air Pressure: Secondary Air	40 – 50 PSI	
Arc Load Voltage	29 - 32 Volts	
Ampere	100-200 Amps	
Standoff Distance	3 - 8 inch	
Transverse speed	250 inch/min	
Coating thickness/Pass-mills	5 mils	

APPLICATION

Service Environment

Special care is required to maintain a clean surface prior to arc spraying. Coatings sprayed with HA 771 will bond fairly well without a bond coat.

Overheating

Although the arc spray process is considered a "Cool" process, please take special care not to overheat or burn the surface(s) of the part of component. HA 771 is a nickel chrome based product and dust overspray can burn and smolder.

SPECIAL SAFETY INSTRUCTIONS

Nickel chrome based alloys can be sensitive to air and oxygen and as such special care is required to make sure the material does not burn or smolder in the dust collector or dust collection barrels.

Please consult your local Fire & Safety Official for instructions on how to handle nickel chrome based materials and nickel chrome based dusts.