

Technical Data

HA 779 HAI ARC SPRAY NICKEL ALUMINUM BOND WIRE

Product Code: 22779
 Technical Data Sheet

Revision: # 001
 Dated: 2/26/13

1. INTRODUCTION

HA 779 is an nickel aluminum self-bonding wire designed specifically for the arc spray process. HA 779 has excellent bond strength and is resistant to high temperature abrasive and oxidative environments. HA 779 has very good resistance to impact and bend loading. HA 779 is widely used a bond coat through the thermal spray industry. HA 779 is designed to operate in all Arc Spray devices, such as HAI's ARCote 9140, 9140U, 9140UW, TAFA 8830/8835, 9000, 9935, and Sulzer Metco SmartArc arc spray systems.

2. CHEMICAL COMPOSITION

Element	Ni	Al	TAO*
Max Weight %	BAL.	21.00	1.00
Min Weight %	BAL.	19.00	--

*Designates Total All Other impurities

3. 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 lb. each	11.4 kg each
Length of Wire per lb. (1/16")	84ft	26m

Coating Physical Properties

Micro Hardness R _b	60-75	--
Porosity	<2%	--
Melting Point	2642° F	1450°C
Bond Strength	9100 psi @ 0.02" thick	62.7 MPa @ 0.5 mm thick
Deposit Efficiency	Approx. 70%	Approx. 70%

4. SPECIFICATIONS

RR OMAT #3/90A

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5. USEFUL SPRAY DATA

Spray Rate	10 lbs./hour/100 amps	4.5 kg./hour/100 amps
Coverage	0.9 oz./ft. ² /0.001"	1.10 kg/m ² /100 microns
Coating Density	7.4 gm./cc	--
Coating Weight	0.036 lbs/ft ² /mil	--

6. SPRAY PARAMETERS

	Metallic Substrates	
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 - 6 inch	
Transverse speed	250 inch/min	
Coating thickness/Pass-mills	5 mils	

7. APPLICATION

7.1. Service Environment

Special care is required to maintain a clean surface prior to arc spraying.

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 779 is a nickel aluminum based product and dust overspray can burn and smolder.

SPECIAL SAFETY INSTRUCTIONS

Nickel aluminum based alloys are highly 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 aluminum and nickel aluminum based dusts.