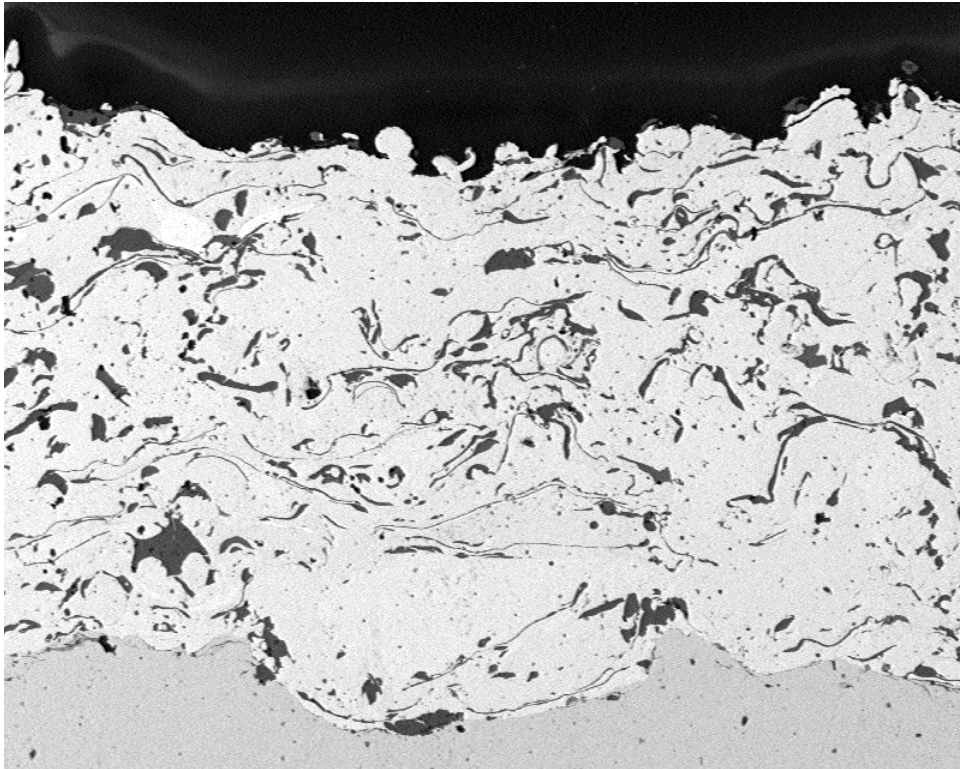


# Technical Data

## HAI ARC SPRAY NICKEL ALUMINUM MOLYBDENUM WIRE HA 774

Product Code: 22774  
 Technical Data Sheet

Revision: # 003  
 Dated: 10/4/12



**HA 774 Photomicrograph x 500**

### 1. INTRODUCTION

HA 774 is nickel aluminum molybdenum self-fluxing wire specifically designed for the arc spray process. HA 774 coatings have excellent wear resistance and are corrosion resistant.

HA 774 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

**Table 1:**

Element	Ni	Al	Mo	TAO*
<b>Max Weight %</b>	BAL	5.0	5.5	2.0
<b>Min Weight %</b>	70.00	--	--	--

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\*Designates Total All Other impurities

### 3. PHYSICAL PROPERTIES

#### 3.1. 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")	113ft	34m

#### 3.2. Coating Physical Properties

Micro Hardness R <sub>b</sub>	75-85 (HRB)	--
Porosity	<2%	--
Melting Point	1250° F	677°C
Bond Strength	7500 psi @ 0.02" thick	51.7 MPa @ 0.5 mm thick
Deposit Efficiency	Approx. 80%	Approx. 80%

### 4. SPECIFICATIONS

MSRR9507/35, GE B50TF166, GARRETT FP5045

### 5. USEFUL SPRAY DATA

Spray Rate	8.5 lbs./hour/100 amps	4.5 kg./hour/100 amps
Coverage	0.8 oz./ft. <sup>2</sup> /0.001"	0.98 kg/m <sup>2</sup> /100 microns
Coating Density	7.21 gm./cc	--
Coating Weight	0.055 lbs/ft <sup>2</sup> /mil	--

### 6. Spray Parameters

	Metallic Substrates	
Atomizing Air Pressure: Primary Air	50 - 60 PSI	
Atomizing Air Pressure: Secondary Air	40 - 50 PSI	

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Arc Load Voltage	30-32 Volts	
Ampere	100 - 200 Amps	
Standoff Distance	3 - 6 inch	
Transverse speed	250 inch/min	
Coating thickness/Pass-mills	5 mills	

### 7. APPLICATION

#### 7.1. Service Environment

Special care is required to maintain a clean surface prior to arc spraying. Coatings sprayed with HA 595 will bond fairly well without a bond coat. .

#### 7.2. 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 774 is a nickel aluminum molybdenum based product and dust overspray can burn and smolder.

#### SPECIAL SAFETY INSTRUCTIONS

Nickel aluminum molybdenum 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 molybdenum nickel aluminum and molybdenum nickel aluminum based dusts.