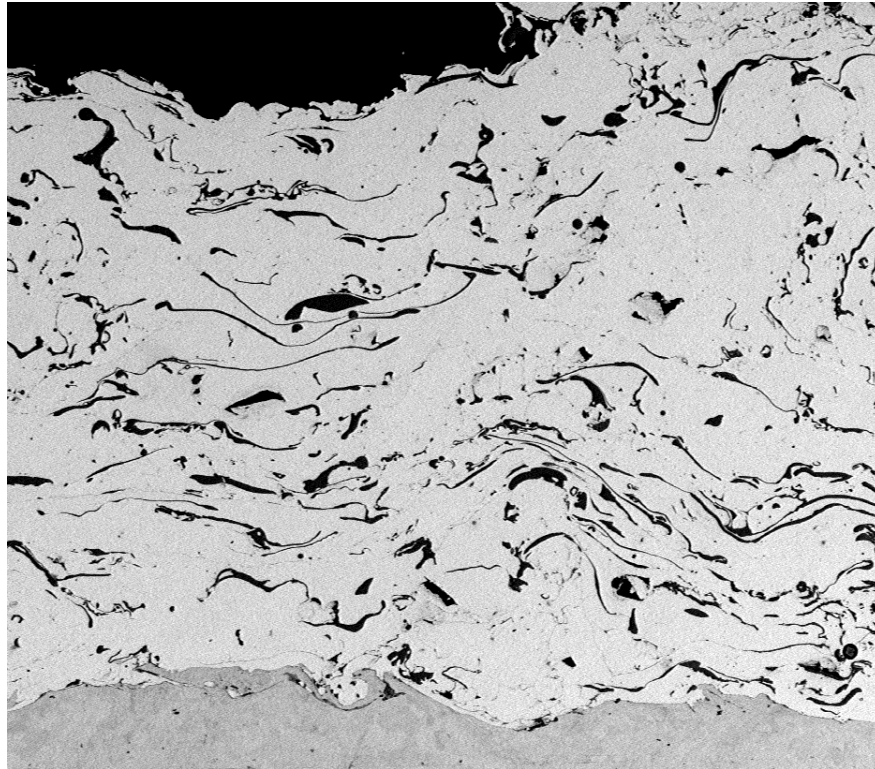


Technical Data

HAI ARC SPRAY ALUMINUM BRONZE WIRE HA 110

Product Code: 21110
 Technical Data Sheet

Revision: # 003
 Dated: 10/4/12



HA 110 Photomicrograph x 500

1. INTRODUCTION

HA 110 is aluminum bronze wire designed specifically for the arc spray process. HA 110 is a self-bonding and will adhere to wide range of metallic substrates. HA 110 has good bond strength, resistance to thermal and mechanical shock, and is corrosion resistant. It commonly used as a bond coat, for part restoration, and for a decorative coating.

HA 110 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	Cu	Si	Fe	Zn	Al	Pb	Mg	TAO*
Max Weight %	BAL	0.00	0.00	0.00	6.00	0.00	0.00	0.00
Min Weight %	BAL	0.10	1.50	0.20	11.00	0.02	0.50	0.50

*Designates Total All Other impurities

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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")	100ft	30.5m

3.2. Coating Physical Properties

Micro Hardness R _c	55-67	--
Porosity	<1%	--
Melting Point	1800° F	982°C
Bond Strength	6740 psi @ 0.02" thick	46.5 MPa @ 0.5 mm thick
Deposit Efficiency	75 - 80%	--

4. SPECIFICATIONS

MIL-W-6712C

5. USEFUL SPRAY DATA

Spray Rate	9 lbs./hour/100 amps	4.1 kg./hour/100 amps
Coverage	0.9 oz./ft. ² /0.001"	1.10 kg/m ² /100 microns
Coating Density	6.3 gm./cc	--
Coating Weight	0.033 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	28-31 Volts	
Ampere	100 - 300 Amps	

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Standoff Distance	4 - 8 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. Coatings sprayed with HA 110 will bond very 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 110 is an aluminum bronze based product and dust overspray can burn and smolder.

SPECIAL SAFETY INSTRUCTIONS

Aluminum bronze 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 aluminum bronze and aluminum bronze based dusts.