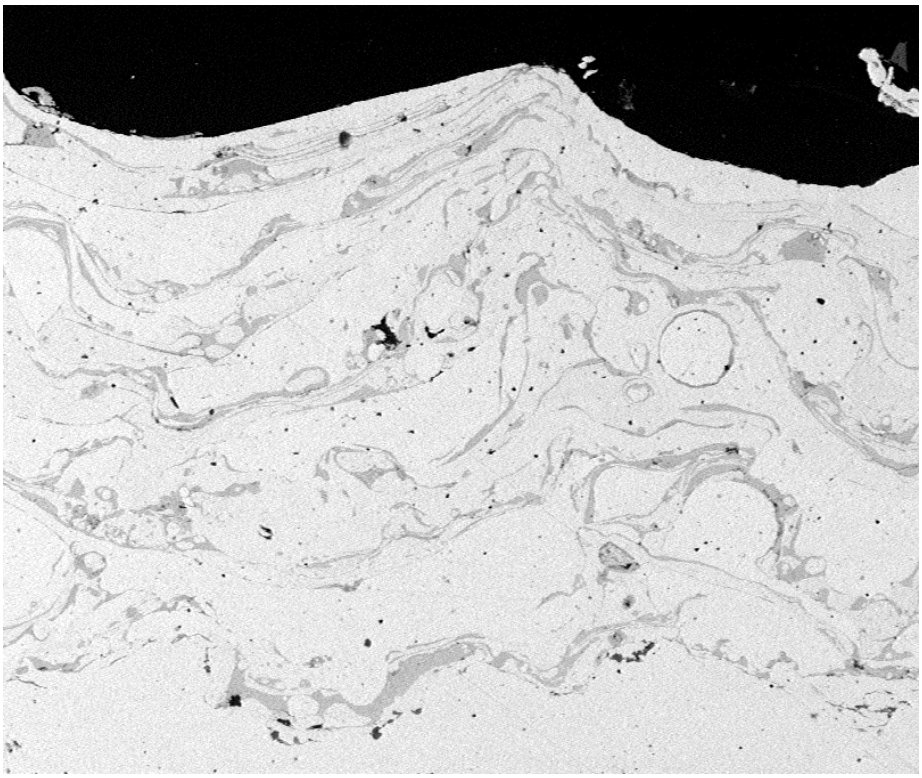
Technical Data

HAI ARC SPRAY CHROME STEEL WIRE HA 560

Product Code: 21560 Revision: # 001
Technical Data Sheet Dated: 10/9/12



HA 560 Photomicrograph 500 x

1. INTRODUCTION

HA 560 is a chrome steel alloy, designed specifically for the Arc spray process. HA 560 offers with excellent wear and corrosion resistance. HA 560 is the wire of choice for high temperature and highly corrosive environments including sulfuric, hydrochloric, and acetic acid. HA 560 can be used for steel part restoration.

HA 560 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	Fe	Cr	Ni	C	Cu	Mn	Mo
Max Weight %	BAL.	12.00	-	0.30	-	0.30	-
Min Weight %	BAL.	14.00	0.40	0.40	0.40	0.60	0.20

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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, 30 lb. each	11.4 kg each
Length of Wire per lb. (1/16")	96ft	29m

3.2. Coating Physical Properties

Micro Hardness R_c	40 - 45	--
Porosity	<2%	--
Melting Point	2600° F	1427°C
Bond Strength	4730-6500 psi @ 0.02" thick	33 – 45 MPa @ 0.5 mm thick
Deposit Efficiency	Approx. 75%	--

4. SPECIFICATIONS

MIL-W-6712C, RR OMAT #3/45D

5. USEFUL SPRAY DATA

Spray Rate	10 lbs./hour/100 amps	4.5 kg./hour/100 amps
Coverage	0.8 oz./ft.^{2}/0.001"	0.98 kg/m^2/100 microns
Coating Density	6.74 gm./cc	--
Coating Weight	0.035 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 – 20 Volts	
Ampere	100-300 Amps	

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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. Coatings sprayed with HA 595 will bond fairly well without a bond coat. However, in some instances a Ni Al 95/5 (HA 775) layer maybe required for self-bonding to the surface of the part.

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 775 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.