

# Technical Data

## HA 588 STAINLESS STEEL 316L WIRE

Product Code: 21588  
 Technical Data Sheet

Revision: # 001  
 Dated: 8/16/13

### 1. INTRODUCTION

HA 588 is a 316L stainless steel alloy, designed specifically for the Arc spray process. HA 588 offers excellent wear and corrosion resistance. HA 588 has excellent machinability and is predominately used for part restoration.

HA 588 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	Mo	Si	N	C
<b>Max Weight %</b>	BAL.	18.50	14.00	3.00	0.75	0.10	0.10
<b>Min Weight %</b>	--	16.00	10.00	2.00	--	--	--
Element	Mn	S	P				
<b>Max Weight %</b>	2.00	0.03	0.05				
<b>Min Weight %</b>	--	--	--				

### 3. PHYSICAL PROPERTIES

#### 3.1. Wire Physical Properties

Wire Size(s) diameter	1/16", 1/8"	1.6 mm, 3.2mm
Spool Size	OD 12"x 4" wide"; Bore ID 2"	Ø300x100 mm; Bore Ø50 mm
Spool Weight	25 lb., 30 lb. spl/ 50 lb coil	-
Length of Wire per lb. (1/16")	96ft	28m

#### 3.2. Coating Physical Properties

Micro Hardness R <sub>b</sub>	93 – 97	--
Porosity	<2%	--
Melting Point	2,600° F	1,427°C
Bond Strength	6,735 psi @ 0.02" thick	46.5 MPa @ 0.5 mm thick
Deposit Efficiency	Approx. 80%	--

### 4. SPECIFICATIONS

Standard Grade 316L stainless steel

# Technical Data

---

## HA 588 STAINLESS STEEL 316L WIRE

Product Code: 21588  
Technical Data Sheet

Revision: # 001  
Dated: 8/16/13

---

### 5. USEFUL SPRAY DATA

Spray Rate	9.5 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	6.93 gm./cc	--
Coating Weight	0.036 lbs/ft <sup>2</sup> /mil	--

### 6. Spray Parameters

Atomizing Air Pressure: Primary Air	50 - 60 PSI
Atomizing Air Pressure: Secondary Air	40 - 50 PSI
Arc Load Voltage	29 – 30 Volts
Ampere	100-300 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. Coatings sprayed with HA 588 will bond fairly well without a bond coat. However, in some instances a HA 775 95/5 NiAl 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 588 is a 300 series stainless steel product and dust overspray can burn and smolder.

### SPECIAL SAFETY INSTRUCTIONS

Stainless steel 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 stainless steel based dusts.