AI-1876

Description and Applications

AI-1876 is a wire made for arc spraying which is often considered to be the most versatile corrosion resistant alloy available and is often used where reactionary conditions are likely to occur or in multi-purpose plants. The alloy exhibits corrosion resistance to localised corrosion and to both oxidising and reducing media.

Applications: For reaction vessels, tanks, piping, fittings etc in Chemical and Petrochemical plants, pollution control equipment, scrubbers, paper pulp processing, specifically the strong oxidizing media (ferric chloride, cupric chloride), chlorine, hot contaminated media (organic and inorganic), formic and acetic acids, sea-water/brine heat exchangers, flue gas desulphurization, fertilizer processing, applications requiring resistance to chloride pitting and stress corrosion cracking, resistance to oxidizing atmospheres up to 1030°C.

Typical Analysis

C	Mn	Si	Cr	Ni	Fe	W	Co	V	Mo
0.03Max	1.70	0.10	13.50	Bal	5.50	4.50	2.50Max	0.30	16.00

Spraying Properties

Spray Rate	5kg/hr/100 amps
Coverage (Wire Consumption)	0.98kg/m^2/100microns

Properties

	As sprayed
Wire Diameter	1.6mm
Deposit Efficiency	70%
Melting Point	1,315°C
Bond Strength	48 MPa (7000 psi)
Coating Tensile Strength	165.5 MPa (24,000 psi)
Coating Texture	Variable *
Macro-hardness	92 Rb
Coating Density	7.2 gm/cm^3 **
Coating Weight	0.038 lbs/ft^2/mil
Shrink	0.001cm/cm

* Depends on air pressure, standoff, nozzle cap and target size.

**Depends on atomizing air pressure.

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Parameters

	Volts	Amps	Air	Distance
Bond Pass	**Use AI 1800 Bond Arc for bond wire**			
Build Up	26-30	100-250	414-621kPa (60-90psi)	150-175mm

NOTE: Be sure not to overheat substrate as this reduces coating quality. If necessary, stop to allow cooling or use air jet cooling if greater speed is required.

Finishing

AI-1876 is usually finished by machining or grinding with machining giving a fair finish and grinding giving a good finish.

Disclaimer

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