

AI-1822

Description and Applications

AI-1822 is made exclusively for Arc Spraying. Characteristics of the coating are its excellent wearing quality and fair resistance to corrosion. It is an excellent all-purpose alloy for basic machine element work. **AI-1822** Chrome Steel wire can be sprayed with any Wire Spray Gun.

AI-1822 Chrome Steel wire meets Department of Defence Specification MIL-W-6712B, Table I, Stainless Steel, Chrome.

Applications: This is by far the most widely used reclamation spray wire because of its wear resistance and low shrink. Recommended when a medium-hard coating requiring some corrosion resistance is desired. The high chrome content provides fair high temperature oxidation resistance and provides a fair amount of corrosion protection.

In addition, the chrome steel serves as an electrical resistance coating. Successful shop applications have included resurfaced roll surfaces, journal sections, cylinder liners, pistons, crankshaft bearings, hydraulic rams, and numerous other machine components.

Typical Analysis

C	Mn	Si	Cr	Fe	S	P
0.40	0.50	0.40	13.50	Bal	0.03	0.03

Mechanical Properties

	As Welded
Wire Size	1.6 mm
Deposit Efficiency	78%
Melting Point	1,427°C (approx..)
Bond Strength	65.9 MPa (9540 psi)
Coating Tensile Strength	289.5MPa (42,000 psi)
Coating Texture (as sprayed)	Variable (see next page)
Finish Texture (ground)	6-15 microinches
Hardness	40-43 HRc
Coating Density	7.24 gm/cm ³
Shrink	0.0018 cm/cm

Spray Parameters

Spray	Volts	Amps	Air	Distance (mm)
Bond Pass	Use AI-1800 Bond Arc for bond coat			
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.



ALLOYS INTERNATIONAL PTY LTD

25 Raymond Road Laverton North Victoria 3026

Telephone: +61 3 8368 2222

ABN 53 112 712 286

sales@alloysint.com.au | www.alloysint.com.au

SPRAYING

Spray Rate	4.5kg/hr/100amps
Coverage (wire consumption)	0.98kg/m ² /100microns

It is not recommended that **AI-1822** be sprayed over 250 amps, since inclusions and excessive dust generation, softer coating and more highly stained coatings result.

FINISHING

The coating is usually best finished by grinding or finishing. The user may experiment with carbide tools, which gives only a medium finish. The preferred method for i.e. work is to carbide turn leaving a 0.020" deposit for honing to finish size. If deposit is initially ground, leave .005 inches for honing. Grind with silicon or alumina wheel with particle size of 30-50.

HAZARDS

All chromium alloys produce hazardous fumes. While spraying, all personnel should be made aware of the need for proper respiratory protection. Observe normal spraying practices and proper air flow patterns. For general spray practices, see AWS Publications AWS C2.1-73, "Recommended Safe Practices for Thermal Spraying" and AWS TSSA-85, "Thermal Spraying, Practice, Theory and Application". Thermal spraying is a completely safe process when performed in accordance with proper safety measures. Become familiar with local safety regulations before starting spray operations. **DO NOT** operate your spraying equipment or use the spray material supplied before you have thoroughly read the Instruction Manual.

Disclaimer

All figures in this datasheet should be considered indicative only. No guarantee is made as to their accuracy. All figures subject to change without notice. Batch analysis is available for all products sold. Should you require any further information, please contact us at sales@alloysint.com.au

