

## AI-1870

### Description and Applications

**AI-1870** is a high chrome hardfacing wire made exclusively for arc spraying. This material produces a hard, abrasive and corrosion resistant coating. This wire has the unique property of increasing hardness after prolonged use. A service environment of up to 927°C (1700°F) is possible. Conventional grinding and lapping techniques provide high chrome like finishes.

**AI-1870** is used primarily as a hard corrosion resistant interface. When applied 0.25mm (0.010") thick, the material exhibits impressive elasticity for a coating this hard. Typical applications use coating thicknesses up to 1.5mm (0.060")

After application, the coating can be ground using aluminium oxide and subsequently polished to under a 10 RMS surface finish. This coupled with good bond strength, high deposit efficiency, low coefficient of friction, high deposition rates and ease of application, allows **AI-1870** to compete with processes that require plating or plasma technologies.

This material also offers the added advantage of work hardening in service.

**Applications include:** glue blender casings, screws and screw casings, fans and fan casings, pump impellers and casings, chemical and slurry tanks, agitators, mixers.

### Typical Analysis

C	Mn	Si	Cr	Fe	B
0.08	2.00	1.80	27.00	Bal	3.50

### Mechanical Properties

	As Welded
Wire Size	1.6mm (1/16")
Deposit Efficiency	70%
Melting Point	1204°C (2,200°F) approx.
Bond Strength	39.8 MPa (5,775 psi) @ 0.5mm thick
Macro hardness	Approx. HRc 53 (86 15n)
Coating Density	6.7 gm/cm <sup>3</sup>
Finish - Ground	Excellent



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**Spray Parameters**

	VOLTS	AMPS	AIR	DISTANCE
<b>BOND PASS</b>	<i>USE A BOND PASS OF AI 1800 BOND ARC WIRE</i>			
<b>BUILD UP</b>	29-31	150-350	414-621kPa (60-90psi)	150-200mm

**Surface Preparation**

De-grease area to be sprayed and Grit Blast to a class 2.5 white metal finish using a G24 chilled iron grit. Do not handle the surface after it has been prepared.

**Disclaimer**

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