

## AI-1725

### Specifications

**AWS/ASME** A5.14 : ERNiCrMo-3

**MIL-RN625** & EN 625

**DIN** 1736, 2.4831

### Description and Applications

**AI-1725** is a nickel-chromium alloy that is used for its high strength and outstanding corrosion resistance and is designed to weld to itself or to other materials. One of the features of this alloy is that the welded deposits require no further post weld heat treatments to maintain their high strength and ductility.

**AI-1725** is used in various industries such as the marine and aerospace industry and, also in chemical processing where it is an excellent choice for its resistance to pitting and crevice corrosion.

It has excellent corrosion resistance to a wide variety of severe corrosive environments. The nickel and chrome combination provide resistance to oxidising chemicals, the high molybdenum supplies resistance to pitting and crevice corrosion. The niobium stabilizes the alloy during welding, thus, preventing intergranular cracking.

**Applications include:** propeller blades, submarine motors, springs and seals for submerged controls, instrument components, engine exhaust systems, and aircraft components.

### Typical Weldmetal Analysis

C	Mn	Si	Cr	Ni	Fe	P	S	Mo	Nb
0.018	0.19	0.21	21.70	Bal	2.30	0.009	0.007	9.10	3.40

### Mechanical Properties of Weldmetal

Property	Value As Welded
Micro Structure	Fully Austenitic
Tensile Strength	> 750 MPa
Elongation A5	>30%
Impact Energy, Charpy V	20°C 150J, -190°C 70J
Hardness	220 HV
<b>Shielding Gas</b>	<b>98% Ar + 2% O<sub>2</sub> or 100% Ar</b>

### Forms Available

Stock Code	Form	Diameter	Pack Type	Pack Size
AI-0325-25	Electrode (SMAW)	2.5mm	Box	5kg
AI-0325-32	Electrode (SMAW)	3.2mm	Box	5kg
AI-0325-40	Electrode (SMAW)	4.0mm	Box	5kg
AI-0325T-16	GTAW (TIG) Rod	1.6mm	Tube	5kg
AI-0325T-24	GTAW (TIG) Rod	2.4mm	Tube	5kg



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AI-1625-24	Submerged Arc (SAW) Wire	2.4mm	Spool	22.7kg
AI-1625ST-30	ESW Strip	30mm	Coil	30kg
AI-1625ST-60	ESW Strip	60mm	Coil	30kg
AI-1625ST-90	ESW Strip	90mm	Coil	30kg
AI-1725-09	GMAW (MIG) Wire	0.9mm	D300 Spool	13.6kg
AI-1725-12	GMAW (MIG) Wire	1.2mm	D300 Spool	13.6/15kg
AI-1725-16	GMAW (MIG) Wire	1.6mm	D300 Spool	13.6/15kg
AI-1825-16	Twin Wire Arc Spray	1.6mm	B300 Spool	15kg
AI-20625	Laser/PTAW Powder	-150+53µm	Bottle	5kg
AI-26625	HVOF Powder	-45+15µm	Bottle	5kg
AI-26625SP-AF	HVAF Powder	-45+16µm	Bottle	5kg

### Welding Positions

(1G, 1F) Downhand/flat position, (2F) Horizontal position, (2G) Horizontal vertical position

### 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](mailto:sales@alloysint.com.au)

