

AI-1707

Specifications

AS/NZS 2717.3 ES307Si

AWS/ASME SFA A5.9 ES307Si

ISO 14343 A G 18 8 Mn

Description and Applications

AI-1707 for joining: Work hardenable steels, armour plate, austenitic stainless manganese steels, heat resisting steels for temperatures up to 850°C and dissimilar steels.

AI-1707 for surfacing: Hot working tools, stainless valve steels, carbon steel items that must possess abrasion resistance in cold working.

Applications: Repair of cavitation damage in water turbines, railway and tramway rails, press rams, etc

Typical Weldmetal Analysis

C	Mn	Si	Cr	Ni	Fe	P	Co	S	Mo	Cu
0.08	7.00	0.40	18.00	8.00	Bal	0.015	0.50	0.015	0.50	0.10

Mechanical Properties of Weldmetal

	As Welded
Tensile Strength	680MPa
Yield Strength (0.2%)	420MPa
Elongation	41% (5d)
Charpy V	140J (20°C)
Microstructure	Fully Austenitic
Hardness	200HBN 500HBN (Work Hardened)
Reduction of Area	61%
Shielding Gas	Argon 98% + 2% Oxygen or Argon 100%

Welding Instructions

Reverse polarity is used to give good penetration for all types of welded joints. When decreased dilution and penetration are required straight polarity is recommended.

Welding Parameters

Diameter (mm)	Current type	Amps
1.2	DC(+)	150-280
1.6	DC(+)	180-300

Also available in Open Arc Flux Cored Wire **AI-1507** and Coated Electrodes **AI-0207**



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Physical Properties

Thermal Expansion per °C, from 20°C to 400°C = 0.000018

Density, g/cm³ = 7.8

Temperature (°C)	20	100	300	500
Thermal Conductivity (W/m°C)	15	16	18	20

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

