

AI-1742

Specifications

AWS/ASME A5.29: ER 110 S-G

Description and Applications

AI-1742 is a copper coated, low alloy steel wire suitable for the all positional Gas Metal Arc Welding of high strength steels. AI-1742 produces a low alloy (nominally, 1.4%Ni, 0.4%Cr, 0.30%Mo, 0.10%V) steel weld deposit of the 690 MPa tensile class.

Applications: Ideal for welding of high tensile steels particularly the notch tough, quench and tempered types such as Bisalloy 80, HY 100, USST1 and Welten 80. Resultant weld deposits have excellent toughness in the "as welded" condition.

Typical Weldmetal Analysis

C	Mn	Si	S	P	Fe	Ni	Cr	V	Mo	H
0.08	1.40	0.60	Trace	Trace	Bal	1.4	0.40	0.10	0.25	*

*Hydrogen content: Typically, 2ml per 100g weld metal (Max 5)

Mechanical Properties of Weldmetal

	As Welded
0.2% Proof Stress	760MPa
UTS	820MPa
Elongation 4D	17-21%
Charpy v Impact -50°C	45joules
Shielding Gas	Ar + 15% CO₂ or CO₂

Welding Instructions

The use of Argon based shielding gas (Ar + 15% CO₂ Min) will result in higher Mn and Si weld metal recovery, leading to higher tensile properties. This gas will also improve arc transfer and lower spatter levels. However, the operator is cautioned against moving into a "spray" type transfer, a globular type transfer being the preferred mode for the best mechanical and joint properties.



Welding Parameters

Diameter (mm)	Current type	Amps
1.2	DC(+)	150-220
1.6	DC(+)	180-300

15kg Spools

Welding Positions

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

Disclaimer

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