

TL-581

AWS A5.1 E7018-1
EN ISO 2560-A E 46 4 B 1 2 H10
JIS Z 3211 E4918-1

Characteristics and Applications:

TL-581 is an iron powder type of low hydrogen electrode for all-position welding of 490N/mm² grade high tensile steel. It performed with higher deposition rate, good X-ray soundness, good mechanical properties and smooth bead appearance. With excellent notch toughness at the temperature of -45°C, it is suitable for low alloy steels, medium carbon steels, heavy steel plates, cast steels and especially for welding of Aluminum Killed steel of LPG.

Notes on usage:

1. Dry the electrodes at 300-350°C for 60 minutes and then keep at 100-150°C before using.
2. Use back-step method to prevent arc starting from blowholes and hold for 3-5 seconds at every end-up.
3. Maintain short arc length. Moving range should be controlled within 3 times of the wire's dia when you are welding with weave method.
4. Clean up the contaminations on the base metal.

Typical chemical composition of weld metal (wt%):

	C	Mn	Si	P	S	Ni	Cr	Mo	V
AWS	≤0.15	≤1.60	≤0.75	≤0.035	≤0.035	≤0.30	≤0.20	≤0.30	≤0.08
EN ISO	≤0.15	≤1.60	≤0.75	≤0.035	≤0.035	≤0.30	≤0.20	≤0.30	≤0.08
Typical value	0.08	1.30	0.50	0.02	0.008	0.009	0.02	0.002	0.014

Typical mechanical properties of weld metal:

	Yield strength MPa(ksi)	Tensile strength MPa(ksi)	Elongation %	Charpy V-Notch J (ft-lbf) -45°C (-50°F)
AWS	≥400(58)	≥490(70)	≥22	≥27(20)
EN ISO	≥400(58)	≥490(70)	≥20	≥27(20)
Typical value	500(73)	580(84)	30	100(77)

Welding position:



Sizes and recommended current range (AC or DC<+>) :

Diameter (mm)	2.6	3.2	4.0		5.0
Length (mm)	350	350	350	450	450
Amps	F	55-85	130-180		170-240
	V&OH	50-80	110-160		150-180

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