

# TL-581

AWS A5.1 E7018-1  
EN ISO 2560-A-E 42 4 B 3 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/mm<sup>2</sup> 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
0.065	1.35	0.56	0.020	0.08

## 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)
500(73)	580(84)	30	120(89)

## 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	80-110	90-130	140-180		170-240
	V&OH	70-100	80-120	120-160		150-180

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