

# TL-581

JIS Z 3212 D5016  
AWS A5.1 E7018-1  
EN499 E 42 4 B 3 2

## 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 beautiful bead appearance. With excellent notch toughness at the temperature of -40°C to -50°C, it is very 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 and hold for 3-5 seconds at every end-up to prevent arc starting from blowholes.
3. Maintaining short arc length as possible is highly recommended. While welding with weave method, moving range should be controlled within 3 times of the wire's dia.
4. Clean up the contaminations on the base metal.

## Typical chemical composition of weld metal (wt%)

C	Mn	Si	P	S
0.08	1.30	0.5	0.02	0.008

## Typical mechanical properties of weld metal

YS (MPa)	TS (MPa)	EL %	CVN -45°C J
500	580	30	98

## Welding position



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

Diameter (mm)		2.6	3.2	4.0	5.0
Length (mm)		350	350	450	450
Amps	F	55-85	90-130	130-180	170-240
	V&OH	50-80	90-120	110-160	150-180

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