

# TL-50

JIS Z 3212 D5016  
AWS A5.1 E7016  
EN 499 E 42 3 B 1 2

## Characteristics and Applications:

TL-50 is a low hydrogen type electrode for the welding of 490N/mm<sup>2</sup> high tensile steel. The welding can be done with stable arc, less spatters, good slag covering, release, and good X-ray soundness. It is suitable for low alloy steels, medium carbon steels, heavy steel plates, cast steels and steels of poor weldability. Proper base metals such as: structural steel, steel tubes for Heat transfer, plate for pressure vessel, low-alloy steel tube, mechanical structural carbon-steel plate, API-5L.A25.X52.X56.X60.X65, etc.

Due to good X-ray and mechanical properties, TL-50 is used for skill testing and competition by choice.

## Notes on Usage:

1. Clean up the contaminations on the base metal to avoid porosity and crack.
2. Dry the electrodes at 300-350°C for 60 minutes, and keep at 100-150°C before use.
3. Use back-step method and hold for 3-5 seconds at every end-up to prevent arc starting from blowholes.
4. 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.
5. Select proper current range so as not to blunt impact value in result of over heat-input.

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

C	Mn	Si	P	S
0.08	1.0	0.50	0.012	0.006

## Typical mechanical properties of weld metal

YS (MPa)	TS (MPa)	EL %	CVN , J	
			0°C	-30°C
490	560	31	225	163

## 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	180-240
	V&OH	50-80	90-120	110-160	160-200

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