

## Characteristics and Applications:

TL-508 is a low hydrogen type electrode for the welding of 490N/mm<sup>2</sup> grade high tensile steel. The welding can be done with high deposition rate, good X-ray soundness and mechanical properties. It is especially suitable for nuclear power stations, petroleum chemical plants, and heavy steel plates. Proper base metals such as: structural steel, steel casting, thin plate, steel strip, carbon steel tube, etc..

### Notes on usage:

1. Bake the electrodes at 300-350°C for 60 minutes before using. Take out a batch of half day consumption and keep in the environment at 100~150°C during welding process.
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. Do not exceed the range of proper currents. Over heat input might decrease the impact toughness.

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

	C	Mn	Si	P	S	Ni	Cr	Mo	V	Nb	Cu
AWS	≤0.15	≤1.60	≤0.75	≤0.035	≤0.035	≤0.30	≤0.20	≤0.30	≤0.08	-	-
EN ISO	≤0.15	≤2.0	-	-	-	≤0.3	≤0.2	≤0.2	≤0.05	≤0.05	≤0.3
Typical value	0.07	1.30	0.60	0.020	0.005	0.012	0.021	0.005	0.013	0.004	0.01

### Typical mechanical properties of weld metal:

	Yield strength MPa(ksi)	Tensile strength MPa(ksi)	Elongation %	Charpy V-Notch J (ft-1bf) -30°C (-20°F)
AWS	≥400(58)	≥490(70)	≥22	≥27(20)
EN ISO	≥420(61)	500-640(73-93)	≥20	≥47(35)
Typical value	502(73)	584(85)	30	100(74)

### 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	90-130	130-180		170-240
	V&OH	50-80	80-120	110-160		150-180

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