

# TL-98B3

AWS A5.5 E9018-B3  
EN ISO 3580-A-E CrMo B 3 2  
JIS Z 3223 E6218-2C1M

## Characteristics and Applications:

TL-98B3 is an iron powder low hydrogen type electrode for low alloy heat resistance steel. The weld metal contains 2.25%Cr-1%Mo that makes the electrodes more suitable for the welding of piping steels (STPA24, A335-P22), boilers (STBA24, A199T22, A213T22, A200T22), heat exchanger pipes (A182-F22, A336-F22) which the service temperature is at 550°C. Good creep rupture strength also can be obtained at high temperature.

## Notes on usage:

1. Clean up the contaminations on the base metal and welding seam so as not to derogate the weld metal quality from particles.
2. Dry the electrodes at 350-400°C for 60 minutes before use.
3. Use back-step method to prevent arc starting from blowholes and hold for 3-5 seconds at every end-up.
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. Do not exceed the range of recommended current. Over heat input might decrease the impact value.
6. Pre-heat the workpiece at 200~350°C and PWHT at 680~730°C.

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

	C	Mn	Si	P	S	Cr	Mo
AWS	0.05-0.12	≤0.90	≤0.80	≤0.03	≤0.03	2.00-2.50	0.90-1.20
EN ISO	0.05-0.12	≤0.90	≤1.00	≤0.030	≤0.030	2.00-2.50	0.90-1.20
Typical value	0.07	0.7	0.45	0.020	0.01	2.25	1.00

## Typical mechanical properties of weld metal:

	Yield strength MPa(ksi)	Tensile strength MPa(ksi)	Elongation %	PWHT
AWS	≥530(77)	≥620(90)	≥17	690°Cx1hr
EN ISO	≥530(77)	≥620(90)	≥15	690°Cx1hr
Typical value	580(84)	710(103)	23	690°Cx1hr

## Welding position:



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

Diameter (mm)		3.2	4.0		5.0
Length (mm)		350	350	450	450
Amps	F	90-130	140-190		190-240
	V&OH	80-110	130-160		-

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