

TL-78A1

JIS Z 3223 DT1216
AWS A5.5 E7018-A1
EN1599 E Mo B 3 2

Characteristics and Applications:

TL-78A1 is an iron powder low hydrogen type electrode for 490N/mm² high tensile steel. It provides high welding efficiency due to the pick-up of iron powder. The weld metal contains 0.5% Mo, therefore it is suitable for chemical plants, petroleum refinery plants, 0.5%Mo heat-resistant steel and other casting steels.

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 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. When the heat input is excessive, the impact value tends to be reduced. Therefore, select proper heat input depending on the required impact value.
6. Pre-heat the workpiece at 100~200°C and PWHT at 620~680°C.

Typical chemical composition of weld metal (wt%)

C	Mn	Si	P	S	Mo
0.08	0.75	0.50	0.015	0.01	0.50

Typical mechanical properties of weld metal

YS N/mm ²	TS N/mm ²	EL %	PWHT
500	575	30	620°Cx1hr

Welding position



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

Diameter (mm)		3.2	4.0	5.0
Length (mm)		350	450	450
Amps	F	90-130	140-190	190-240
	V&OH	80-120	120-160	-

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