

# TN-18

AWS A5.5 E8018-G  
EN ISO 2560-A-E 46 5 1Ni B 1 2  
JIS Z 3211 E5518-G

## Characteristics and Applications:

TN-18 is an electrode for the welding of 550N/mm<sup>2</sup> grade low-temperature service steel. It provides good notch toughness at -45°C due to its containing of 0.8%Ni. It is suitable for the welding of Aluminum Killed Steel used at LPG tanks. Proper base metals are also including high-carbon steel, low Manganese alloy steel, cast iron, steel pipe for low temperature service, pressure vessel, etc..

## Notes on usage:

1. Dry the electrodes at 350-400°C for 60 minutes before using.
2. Do not exceed the range of recommended current. Over heat input might decrease the impact value.
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. Thick plate should be preheated at 50~100°C.

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

	C	Mn	Si	P	S	Ni
AWS	-	$\geq 1.00$	-	$\leq 0.03$	$\leq 0.03$	$\geq 0.50$
EN ISO	-	$\leq 1.4$	-	-	-	0.6-1.20
Typical value	0.06	1.30	0.50	0.02	0.007	0.85

## Typical mechanical properties of weld metal:

	Yield strength MPa(ksi)	Tensile strength MPa(ksi)	Elongation %	Charpy V-Notch J (ft-lbf) -46°C (-51°F)	PWHT
AWS	≥460(67)	≥550(80)	≥19	-	620°C x1hr
EN ISO	≥460(67)	530-680(77-99)	≥20	≥47(35)	-
Typical value	550(80)	650(94)	30	60(44)	620°C x1hr

## 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	100-140	140-180
	V&OH	80-110	130-160

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