

# TAC-16

AWS A5.5 E7018-W1  
JIS Z 3214 E4918-NCC2 A

## Characteristics and Applications:

TAC-16 is for the welding of 490N/mm<sup>2</sup> grade high tensile weathering steel. The welding can be done in all positions with good atmospheric corrosion resistance, good X-ray soundness, and good crack resistance. The weld metal contains Cu and Ni. It is suitable for 490N/mm<sup>2</sup> high tensile steel (ASTM A588, COR-TEN A, B), and also for SPA-H, SMA 490 steel.

## 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. While applying in plate with high restraint (such as the plate is thicker than 25mm), pre-heating at 80~100°C is recommended.
5. Be sure to clean up the contaminations on the base metal and welding seam so as not to derogate the weld metal quality from particles.
6. Use back-step method to prevent arc starting from blowholes and hold for 3-5 seconds at every end-up.

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

	C	Mn	Si	P	S	Cu	Ni	Cr
AWS	≤0.12	0.40-0.70	0.40-0.70	≤0.025	≤0.025	0.3-0.60	0.20-0.40	0.15-0.30
Typical value	0.06	0.60	0.50	0.018	0.010	0.5	0.35	0.25

## Typical mechanical properties of weld metal:

	Yield strength MPa(ksi)	Tensile strength MPa(ksi)	Elongation %	Charpy V-Notch J (ft-lbf) -20°C (0°F)
AWS	≥415(60)	≥490(70)	≥22	≥27(20)
Typical value	515(75)	610(88)	30	140(103)

## 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	180-230
	V&OH	90-110	130-160	-

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