

# TS-410

AWS A5.4 E410-16  
EN ISO 3581-A-E 13 R 1 2  
JIS Z 3221 ES410-16

## Characteristics and Applications:

TS-410 is suitable for welding the AISI 410 and AISI 420 series of stainless steels. Owing to their hardenability and it easy to crack in weld bead or HAZ, pre-heat and PWHT are both highly recommended. The product provides good oxidization and corrosion resistance . It is suitable for petroleum refining plants and chemical plants. It is also applicable for corrosion and wear resistance of carbon steel.

## Notes on usage:

1. Clean up the contaminations on the base metal, groove and pass to pass with stainless steel brush.
2. Maintain short arc length. Moving range should be controlled within 2.5 times of the wire's dia when you are welding with weave method.
3. Dry the electrodes at 250~300°C for 60 minutes before using. Take out consumables for half day consumption and keep in the environment at 100~150°C during welding process.
4. Use lower current to prevent from cracking and minimize base metal dilution.
5. Pre-heat at 200-250°C, and post-weld heat treatment at 700-800°C.

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

	C	Mn	Si	P	S	Cr	Ni
AWS	≤0.12	≤1.0	≤0.90	≤0.04	≤0.03	11.0-13.5	≤0.7
EN ISO	≤0.12	≤1.5	≤1.0	≤0.03	≤0.025	11.0-14.0	≤0.60
Typical value	0.02	0.30	0.60	0.025	0.010	13.0	0.30

## Typical mechanical properties of weld metal:

	Yield strength MPa(ksi)	Tensile strength MPa(ksi)	Elongation %	PWHT
AWS	-	≥520(75)	≥20	750°Cx1hr
EN ISO	≥250	≥450	≥15	855°Cx2hr
Typical value	400(58)	520(75)	23	750°Cx1hr

## Welding position:



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

Diameter (mm)	2.6	3.2	4.0	4.8	
Length (mm)	300	350	350	350	
Amps	F	60-90	80-130	130-170	180-210
	V&OH	50-70	70-110	100-130	-

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