

# TS-312

AWS A5.4 E312-16  
EN ISO 3581-B ES312-16  
JIS Z 3221 ES312-16

## Characteristics and Applications:

The weld metal of TS-312 is a stainless steel containing more ferrite content than TS-309/309L. The product provides good crack resistance. It is excellent for the welding of dissimilar metals, cladding steel and steels with high harden ability. Due to higher contains of ferrite, TS-312 is low sensitive to cracking and especially suitable for welding dissimilar metals, hardening alloy steel and metals with poor weldability or easy to cause porosity. However, High temperature should be avoided for not to cause cracks resulted from embrittlement effect of second phase.

## 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 crack and minimize base metal dilution.

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

	C	Mn	Si	P	S	Cr	Ni	Mo	Cu
AWS	≤0.15	0.5-2.5	≤1.00	≤0.04	≤0.03	28.0-32.0	8.0-10.5	≤0.75	≤0.75
EN ISO	≤0.15	0.5-2.5	≤1.00	≤0.04	≤0.03	28.0-32.0	8.0-10.5	≤0.75	≤0.75
Typical value	0.10	1.2	0.85	0.030	0.010	28.5	10.0	0.03	0.02

## Typical mechanical properties of weld metal:

	Tensile strength MPa(ksi)	Elongation %
AWS	≥660(96)	≥22
EN ISO	≥660(96)	≥15
Typical value	790(115)	24

## 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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