

TS-316/316L

AWS A5.4 E316/316L-16
EN ISO 3581-B ES316-16/
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JIS Z 3221 ES316L-16

Characteristics and Applications:

The weld metal of TS-316 contains proper quantity of ferrite in austenitic structure. The corrosion resistance against sulfuric acid, phosphorous acid is excellent. So it is suitable for chemical plants, AISI 316, 316L and cladding stainless steel. Base metal for TS-316/316L: stainless thin plate, hoop, pipe, seamless pipe, thermal pipe, pressure vessel plate, steel bar, forge.

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.

Typical chemical composition of weld metal (wt%):

	C	Mn	Si	P	S	Cr	Ni	Mo	Cu
AWS	≤0.04	0.5-2.5	≤1.00	≤0.04	≤0.03	17.0-20.0	11.0-14.0	2.0-3.0	≤0.75
EN ISO	≤0.04	0.5-2.5	≤1.00	≤0.04	≤0.03	17.0-20.0	11.0-14.0	2.0-3.0	≤0.75
Typical value	0.025	0.85	0.65	0.035	0.013	18.00	12.0	2.20	0.09

Typical mechanical properties of weld metal:

	Tensile strength MPa(ksi)	Elongation %
AWS	≥490(70)	≥30
EN ISO	≥490(70)	≥25
Typical value	560(81)	43

Welding position:



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

Diameter (mm)	2.0	2.6	3.2	4.0	4.8	
Length (mm)	250	300	350	350	350	
Amps	F	40-60	60-90	90-130	130-170	160-210
	V&OH	30-50	50-70	70-110	100-130	-

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