

TS-316LB

Basic type

AWS A5.4 E316L-15
EN ISO 3581-B ES316L-15
JIS Z3221 ES316L-15

Characteristics and Applications:

The weld metal of TS-316LB contains proper quantity of ferrite in austenitic structure. The welding can be done in all positions with good X-ray soundness and good mechanical properties. The product provides good notch toughness at the temperature as low as -196°C . The corrosion resistance against sulfuric acid, phosphorous acid is excellent. The electrode is designed for welding of LNG tank.

Notes on usage:

1. Dry the electrodes at $300-350^{\circ}\text{C}$ for 60 minutes and keep at $100-150^{\circ}\text{C}$ before using.
2. Use lower currents and keep the arc as short as possible.
3. Clean up the slag with stainless steel brush to prevent contamination.
4. Use small heat input to reduce dilution, prevent cracking and improve impact value.

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	0.04	1.00	0.55	0.03	0.013	17.8	12.0	2.2	0.18

Typical mechanical properties of weld metal:

	Yield strength MPa(ksi)	Tensile strength MPa(ksi)	Elongation %	Charpy V-Notch J (ft-lbf) -196°C (-320°F)
AWS	-	$\geq 490(70)$	≥ 30	-
EN ISO	-	$\geq 490(70)$	≥ 25	-
Typical value	450(65)	570(83)	38	40(30)

Welding position:



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

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

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