

Rev. 00

S - 316LT.16

SHIELDED METAL ARC WELDING CONSUMABLE FOR WELDING OF 18% Cr-12% Ni-2% Mo STAINLESS STEEL FOR CRYOGENIC APPLICATIONS

HYUNDAI WELDING CO., LTD.

		S -316LT.16					
Specification	AWS A5.4	E316L-16					
· · · · · · · · · · · · · · · · · · ·	JIS Z3221	ES316L-16					
	EN 1600	E 19 12 3 L R					
Applications	Welding of Extra- (316L Type steel).	low carbon of 18%Cr-12%Ni-2%Mo stainless Steels.					
Characteristics on Usage	natural gas(LNG)	l distribution of various gases including liquefied requires materials that have good mechanical Ilarly toughness, at low temperatures.					
	2. S-316LT.16 is a lime-titania type electrode for cryogenic applications, low carbon 316L austenitic steel(18%Cr-12%Ni-2%Mo) with good usability.						
		ent because its burn-off rate and deposition rate comparatively high amperage can be used.					
✤ Note on Usage	 it is mostly effective to proceed with welding. Keeping the arc as short as possible in flat position. Remove dirts such as oil and dust from the groove. Dry the electrode at 350°C(662°F) for 60 minutes before use. 						
Type of Current	AC or DC+						
Packing	Packet	2.5kg(5.5lbs)					
	Carton	2.5kg(5.5lbs) X 4 : 10kg(22lbs)					

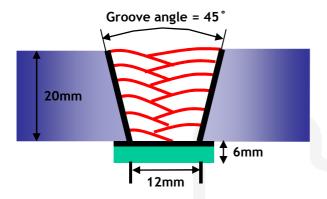
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Method by AWS Spec.

Mechanical Properties & Chemical Composition of All Weld Metal

Welding Conditions



Diameter(mm)	:	4.0mm
Amp./ Volt.	:	140/25
Travel speed(Cm/min)	:	13~18
Pre-Heat(℃)	:	R.T.
Interpass Temp.(℃)	:	150±15
Position	:	Flat
Polarity	:	AC or DC+

[Joint Preparation & Layer Details]

Chemical Analysis of All weld metal(wt%)

Concurrente	Chemical Composition (%)								
Consumable	С	Si	Mn	Р	S	Ni	Cr	Мо	Cu
S-316LT.16	0.035	0.55	1.59	0.021	0.016	13.51	18.45	2.52	0.24
AWS A5.4 E316L-XX	≤0.04	≤1.0	0.5~ 2.5	≤0.04	≤0.03	11.0~ 14.0	17.0~ 20.0	2.0~ 3.0	≤ 0.75

* Mechanical Properties of All weld metal

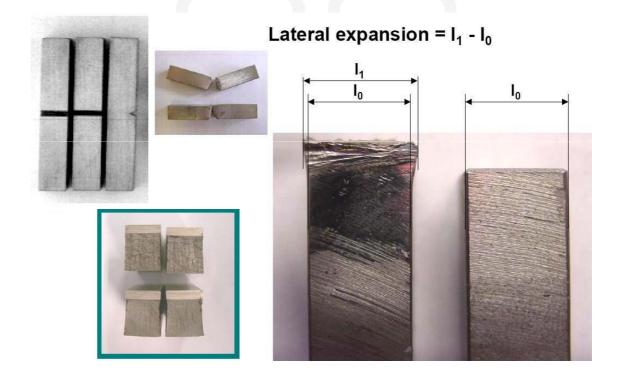
Consumable	Tensile Test				
S-316LT.16	TS(MPa)	EI(%)	CVN Impact Test (Joule)		
	546	40.6	40		
AWS A5.4 E316L-XX	≥490	≥ 30	LR≥27		

This information is provided solely for the purpose of confirming product conformance with applicable standards. The serviceability of a product or structure utilizing this type of information is and must be the sole responsibility of the builder/user. Many variables beyond the control of HYUNDAI WELDING CO., LTD. affect the results obtained in applying this type of information. These variables include, but are not limited to, welding procedure, shielding gas, plate chemistry and temperature, weldment design, fabrication methods and service requirements.

Mechanical Properties & Chemical Composition of All Weld Metal

Lateral expansion

Consumable	Lateral expansion (mm)						
Consumable	X1	X2	X3	X4	X5	Avg.	
S-316LT.16	0.44	0.85	0.59	0.58	0.55	0.60	
ASME B31-3	≥0.38						



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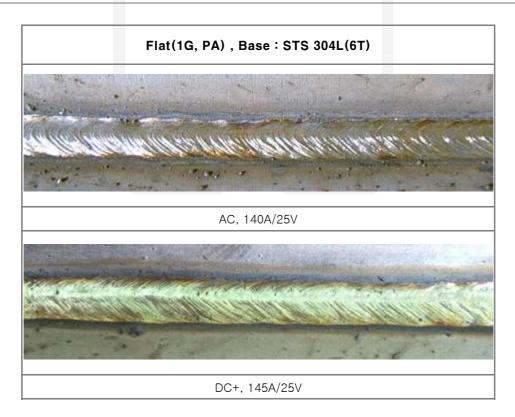
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Mechanical Properties & Chemical Composition of All Weld Metal

δ – Ferrite No.

Concumento		Diagram	FERITSCOPE MP-30 *	
Consumable	Schaeffler	Delong	WRC(1992)	(FISCHER)
S-316LT.16	1.3	1.9	1.3	0.5~1.0

* Bead Appearance



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