



HYUNDAI
W E L D I N G

Rev. 00

S - 316L.16N

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

HYUNDAI WELDING CO., LTD.



S -316L.16N

❖ Specification

AWS A5.4	E316L-16
JIS Z3221	ES316L-16
EN 1600	E 19 12 3 L R

❖ Applications

S-316L.16N is designed for welding of 18%Cr-12%Ni-2%Mo stainless Steels. (Petrochemical processing, textile industries etc.)

❖ Characteristics on Usage

S-316L.16N is a lime- titania type electrode provided with a good Usability and weldability. It has an excellent resistibility to inter-Crystalline corrosion in the as-welded condition.

❖ Note on Usage

1. Dry the electrodes at 350°C(662°F) for 60 minutes before use.
2. Remove dirt such as oil and dust from the groove.
3. Weaving width should be within two and a half times of electrode's diameter.

❖ Type of Current

AC or DC+

❖ Packing

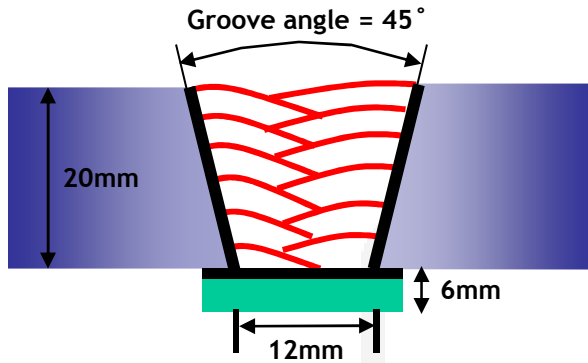
Packet	2.5kg(5.5lbs)
Carton	2.5kg(5.5lbs) X 4 : 10kg(22lbs)



Mechanical Properties & Chemical Composition of All Weld Metal

❖ Welding Conditions

Method by AWS Spec.



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

[Joint Preparation & Layer Details]

❖ Mechanical Properties of All weld metal

Consumable	Tensile Test		CVN Impact Test (Joule)	
	TS(MPa)	EI(%)	-20℃	-60℃
S-316L.16N	587	44.2	54	46
AWS A5.4 E316L-XX	≥ 490	≥ 30	Not Specified	

❖ Chemical Analysis of All weld metal(wt%)

Consumable	Chemical Composition (%)								
	C	Si	Mn	P	S	Ni	Cr	Mo	Cu
S-316L.16N	0.027	0.74	0.99	0.027	0.014	11.57	19.07	2.53	0.11
AWS A5.4 E316-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

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.

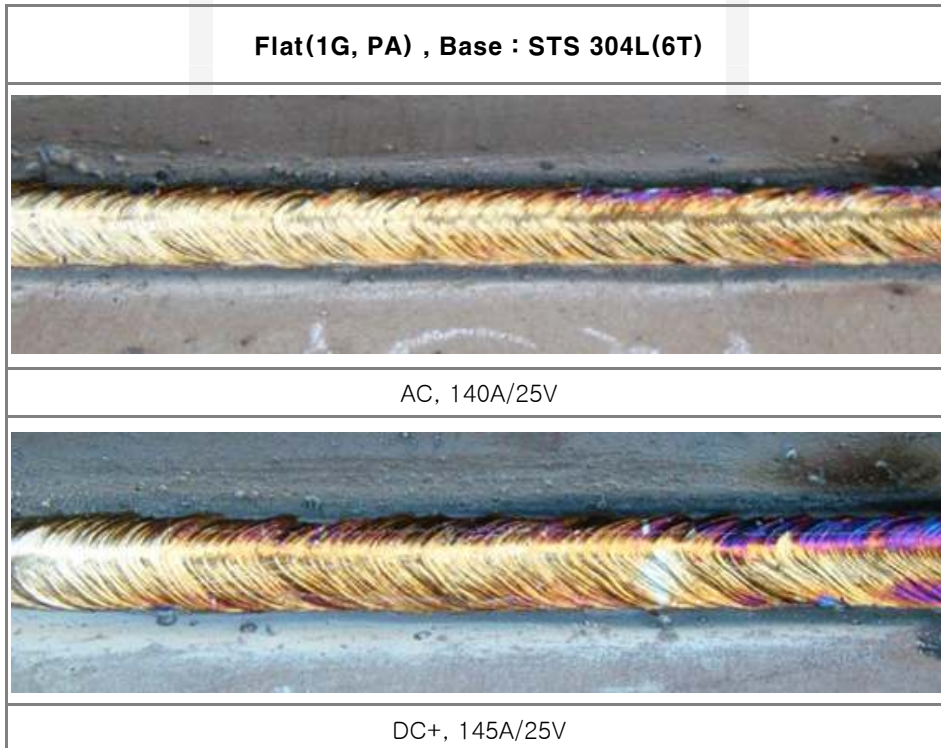


**Mechanical Properties
& Chemical Composition of All Weld Metal**

❖ **δ – Ferrite No.**

Consumable	Diagram			FERITSCOPE MP-30 * (FISCHER)
	Schaeffler	Delong	WRC(1992)	
S-316L.16N	10.0	12.1	8.6	5~6

❖ **Bead Appearance**



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.



Approvals

❖ AUTHORIZED APPROVAL DETAILS

Consumable	KR	ABS	LR
S-316L.16N	RD316L 2.4~5.0	AWS A5.4 E316L-16 2.4~5.0	316L 2.4~5.0
	BV	DNV	NK
	UP(E316L-16, -20°C) 2.0~5.0	316L 2.4~5.0	KD316L 2.0~5.0
	CWB	TUV	CE
	CSA W48-06 E316L-16 2.0~5.0	EN 1600 E 19 12 3 L R 2.0~5.0	EN 1600 E 19 12 3 L R 2.0~5.0
	DB	CCS	
	E19 12 3 L R (1.4430) DIN EN 1600 2.0~5.0	316L 2.0~5.0	

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.