HYUNDAI WELDING

Rev. 01

S-316.16N

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

2021.05

HYUNDAI WELDING CO., LTD.

S-316.16N

❖ Specification

AWS A5.4	E316-16
JIS Z3221	ES316-16
EN ISO 3581-A	E 19 12 3 R

❖ Applications

S-316.16N is designed for welding of 18%Cr-12%Ni-2%Mo stainless Steels. (Petrochemical processing, textile industries etc.)

❖ Characteristics on Usage

S-316.16N 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℃(662°F) for 60 minutes before use.
2. Remove dirts 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+

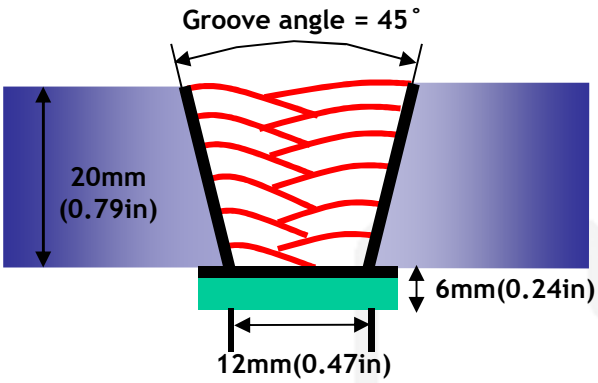
❖ Packing

Packet	2.5kg(5.5lbs) / 5Kg(11lbs)
Carton	2.5kg(5.5lbs) X 4 : 10kg(22lbs) 5Kg(11lbs) x 4 : 20Kg(44lbs)

Mechanical Properties & Chemical Composition of All Weld Metal

❖ Welding Conditions

Method by AWS Spec.



[Joint Preparation & Layer Details]

Diameter(mm)	:	4.0mm(5/32)
Amp./ Volt.	:	140/25
Travel speed(Cm/min)	:	13~18
Pre-Heat(℃)	:	R.T .
Interpass Temp.℃(°F)	:	150±15(302±59)
Position	:	Flat
Polarity	:	AC or DC+

❖ Mechanical Properties of All weld metal

Consumable	Tensile Test		CVN Impact Test Joule(ft·lbs)		
S-316.16N	TS MPa (lbs/in²)	El(%)	-20℃(-4°F)	-60℃(-76°F)	-196℃(-320°F)
	572(83,000)	40.8	50(37)	42(31)	27(20)
AWS A5.4 E316	≥490(71,000)	≥ 30	Not Specified		

❖ Chemical Analysis of All weld metal(wt%)

Consumable	Chemical Composition (%)								
	C	Si	Mn	P	S	Ni	Cr	Mo	Cu
S-316.16N	0.03	0.77	0.9	0.03	0.019	12.3	18.7	2.5	0.024
AWS A5.4 E316	≤0.08	≤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	WRC(1992)	FERITSCOPE MP-30 * (FISCHER)
S-316.16N	6.0	5~7

❖ Bead Appearance

H-Fillet , Base : STS 304L(6T)

AC, 140A/25V

DC+, 140A/25V

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Approvals

❖ AUTHORIZED APPROVAL DETAILS

Consumable	KR	ABS	BV	DNV
S-316.16N	RD316 2.4~5.0	AWS A5.4 E316-16 2.4~5.0	UP(E316-16, -20℃) 2.0~5.0	NV 316 2.4~5.0

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