S-316.16N

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

2024.12

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.

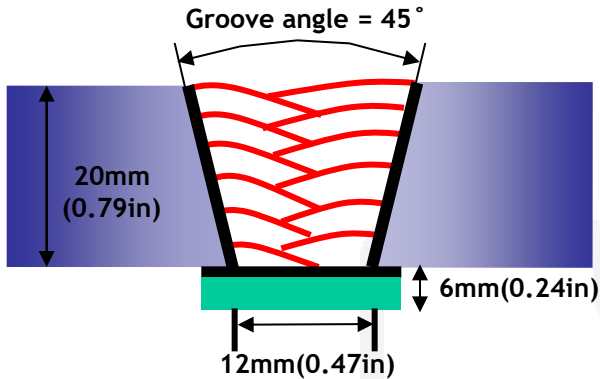❖ **Type of Current**

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.

Groove angle = 45˚

20mm (0.79in)

6mm(0.24in)

12mm(0.47in)

[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.℃(℉)	: 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)	
	TS MPa (lbs/in^2)	El(%)	−20℃(−4℉)	−60℃(−76℉)
S−316.16N	572(83,000)	40.8	50(37)	42(31)
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

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