HYUNDAI WELDING

Rev. 01

S – 312.16

SHIELDED METAL ARC WELDING CONSUMABLE
FOR WELDING OF DISSIMILAR METALS

HYUNDAI WELDING CO., LTD.

S-312.16

❖ Specification

AWS A5.4	E312-16
JIS Z3221	ES312-16
EN ISO 3581-A	E 29 9 R

❖ Applications

S-310.16 is designed for welding dissimilar joints, especially if one of the base metals is a stainless high in nickel content

❖ Characteristics on Usage

1. Can be used for joining hard to weld materials and dissimilar metals
2. utilized for welding stainless steels to mild steels
3. Buffer layer for build-up

❖ 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+

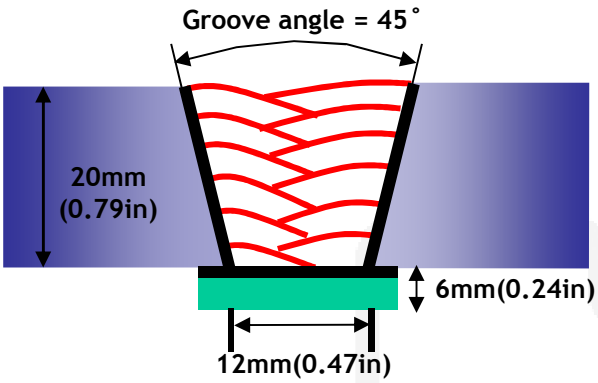
❖ Packing

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

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	
S-312.16	TS MPa(ksi)	El(%)
	803(116)	25.0
AWS A5.4 E312-XX	≥660(96)	≥ 22.0

❖ Chemical Analysis of All weld metal(wt%)

Consumable	Chemical Composition (%)								
	C	Si	Mn	P	S	Ni	Cr	Mo	Cu
S-312.16	0.11	0.49	1.41	0.021	0.013	9.50	29.5	0.05	0.03
AWS A5.4 E312-XX	≤0.15	≤1.0	1.0~ 2.5	≤0.03	≤0.03	8.0~ 10.5	28.0~ 32.0	≤ 0.75	≤ 0.75

Bead Appearance

❖ Bead Appearance

Welding Position 2F, Base : STS 304L(6T)

AC, 140A/25V

DC+, 145A/26V