

S – 312.16

SHIELDED METAL ARC WELDING CONSUMABLE
FOR WELDING OF DISSIMILAR METALS

2020.12

HYUNDAI WELDING CO., LTD.



❖ Specification

AWS A5.4 E312-16

JIS Z 3221 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°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

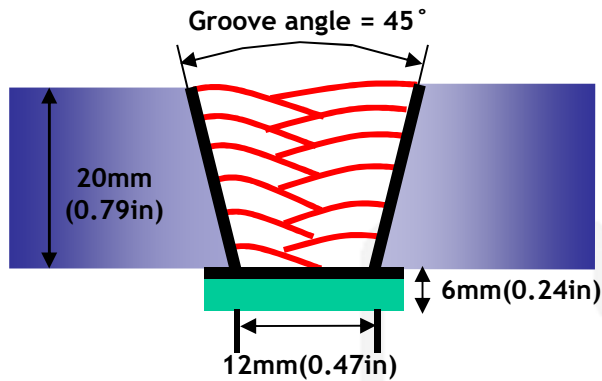
Packet	2.5kg(5.5lbs)
Carton	2.5kg(5.5lbs) X 4 : 10kg(22lbs)



Mechanical Properties & Chemical Composition of All Weld Metal

❖ **Welding Conditions**

Method by AWS Spec.



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

[Joint Preparation & Layer Details]

❖ **Mechanical Properties of All weld metal**

Consumable	Tensile Test	
	TS MPa (lbs/in ²)	EI(%)
S-312.16	803(117,000)	25.0
AWS A5.4 E312-XX	≥660(96,000)	≥ 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	9.5	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

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.



Bead Appearance

❖ Bead Appearance

Welding Position 2F, Base : STS 304L(6T)	
	
AC, 140A/25V	
	
DC+, 145A/26V	

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