

S-6013.V

COVERED ARC WELDING ELECTRODE
FOR WELDING LIGHT STRUCTURAL STEELS



❖ Specification

AWS A5.1	E6013
JIS Z3211	E4313
EN ISO 2560-A	E38 0 RC 1 1

❖ Applications

S-6013.V can be used for welding of general purpose mild steels and pressure vessel steels having a corresponding tensile strength.

❖ Characteristics on Usage

S-6013.V is a Rutile-Cellulose type electrodes, remarkably improved in workability. This electrode is suitable for welding of small thin pipe. It is also suitable for vertical-down welding. S-6013.V is very easy to strike and restrike, making it ideal for short welds, root runs and tacking.

❖ Note on Usage

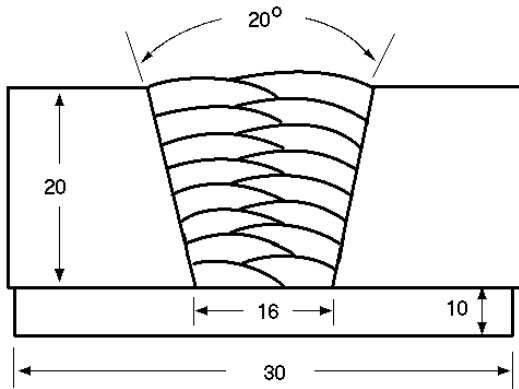
1. When excessive moisture absorption occurs for any reason dry the electrodes at 70~100°C (158~212°F) for 30~60minutes before use. Excessive moisture absorption causes increase of fumes, spatters and may result in some porosity, lower usability.
2. Keep the arc as short as possible, and avoid large width weaving.
3. In case of vertical downward welding, manipulate the electrode, keeping its tip in contact with base metal as shown in the sketch



Mechanical Properties & Chemical Compositions of All Weld Metal

❖ **Welding Conditions**

Method by AWS Spec.



- Diameter, mm(in) : 4.0 X 400(5/32 X 16)
- Amp./ Volt. : 170 / 22~24
- Interpass Temp. °C(°F) : 80~130 (176~266)
- Polarity : AC

[Joint Preparation & Layer Details]

❖ **Mechanical Property of All Weld Metal**

consumable	Tensile test			CVN Impact Value J (ft.lbs)
	YS MPa (ksi)	TS MPa (ksi)	EL (%)	0°C (32°F)
S-6013.V	460(67)	488(80)	27.5	65(48)
AWS Spec.	≥ 330(48)	≥ 430(62)	≥ 17	N.S

❖ **Chemical Composition of All Weld Metal(wt%)**

Consumable	Chemical Composition (%)				
	C	Si	Mn	P	S
S-6013.V	0.09	0.32	0.48	0.017	0.012
AWS Spec.	≤0.20	≤1.00	≤1.20	-	-

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.



Weldability & Welding Efficiency Test

❖ **Weldability**

Item \ Division	Flat position	Vertical position
Arc stability	Excellent	Excellent
Melting rate	Good	Excellent
Resistance of spatter occurrence	Good	Good
Bead appearance	Good	Excellent
Slag fluidity & Removability	Excellent	Excellent
The others	Good	Good

❖ **Deposition Efficiency Test**

Consumable	Deposition efficiency(%)	
	For electrode	For core wire
S-6013.V	≒ 67	≒ 95

❖ **Other properties**

Consumable	Penetration	Thickness limit(mm)
S-6013.V	Low penetration	≤ 10

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Size Available and recommended Current & Approval

❖ Sizes Available and Recommended Current

Diameter mm(in)		2.6 (3/32)	3.2 (1/8)	4.0 (5/32)	5.0 (3/16)	6.0 (15/64)
Length mm(in)		350 (14)	350 (14)	400 (16) 450 (18)	400 (16) 450 (18)	450 (18)
Recommended current range (AC or DC+ Amp.)	Flat position	55 ~95	80 ~130	120 ~180	160 ~230	220 ~300
	Vertical & Overhead position	45 ~90	60 ~120	100 ~160	120 ~200	-

❖ Authorized Approval Details

Classification	Dia. mm(in)	Welding position	Grade				
			KR	ABS	LR	NK	TUV
AWS							
E6013	2.6(3/32) ~ 5.0(3/16)	All V-down	2	2	2	KMW2	EN ISO 2560-A E38 0 RC 11

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