

# **S-6011.D**

COVERED ARC WELDING ELECTRODE  
FOR WELDING BUILDINGS AND PIPES

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***HYUNDAI WELDING CO., LTD.***



## ❖ **Specification**

<i>AWS A5.1</i>	<i>E6011</i>
<i>JIS Z3211</i>	<i>E4311</i>
<i>EN ISO 2560-A</i>	<i>E38 0 C 1 5</i>

## ❖ **Applications**

Welding of thin steel sheets and pipes.

## ❖ **Characteristics on Usage**

S-6011.D is a high cellulose type electrode applicable for welding with alternating current or direct current. As the welding in poor groove fit up and vertical downward welding can be performed easily, it is suitable for all position welding of pipes. Its penetration is relatively deep and the volume of its slag is small, so that manipulation of the electrode is easy.

## ❖ **Note on Usage**

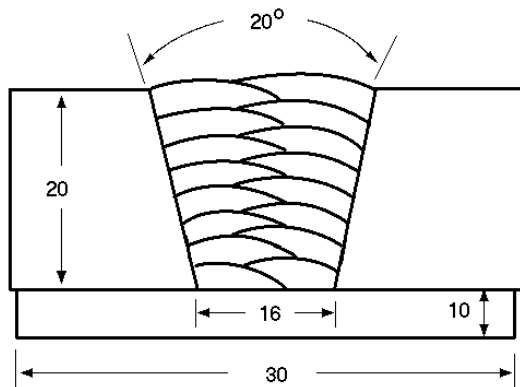
1. Pay attention not to exceed the recommended currents.
2. As this electrode is prone to absorb moisture, store it with care.



## Mechanical Properties & Chemical Compositions of All Weld Metal

### ❖ Welding Conditions

Method by AWS Spec.



[ Joint Preparation & Layer Details ]

Diameter(mm)	: 4.0mm X 350
Amp./ Volt.	: 140 / 22~ 23
Interpass Temp.(°C)	: 80~ 130
Polarity	: AC

### ❖ Mechanical Property of All Weld Metal

consumable	Tensile test			CVN Impact Test (Joule)
	YS (MPa)	TS (MPa)	EL (%)	- 30°C
S-6011.D	468	558	29.7	51
AWS Spec.	≥ 330	≥ 430	≥ 22	≥ 27 at - 30°C

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

Consumable	Chemical Composition				
	C	Si	Mn	P	S
S-6011.D	0.09	0.50	1.20	0.012	0.009
AWS Spec.	≤0.20	≤1.00	≤1.20	N.S	N.S

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  
& Crater Crack Test**

❖ **Weldability**

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

❖ **Crater Crack Test**

Test plate	Plate thickness (mm)	Fillet design (mm)	Welding conditions		
			Amp.(A)	Volt.(V)	Result
ASTM A36	9	<p>unit: mm</p>	140	22~ 23	No crater crack

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## Size Available and recommended Current & Approval

### ❖ Sizes Available and Recommended Currents

Diameter (mm)		2.6	3.2	4.0	5.0
Length (mm)		300	350	350	350
Recommended current range ( AC or DC+ Amp.)	Flat position	50 ~ 75	70 ~ 110	110 ~ 155	155 ~ 200
	Vertical & Overhead position	35 ~ 70	55 ~ 105	90 ~ 140	120 ~ 180

### ❖ Authorized Approval Details

Classification	Dia. (mm)	Welding position	Grade						
			KR	ABS	LR	BV	DNV	GL	NK
E6011	2.6~ 5.0	All	RMW2	2	2	2	2	2	KMW2

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