HYUNDAI WELDING

Rev. 01

S-6011.D

COVERED ARC WELDING ELECTRODE
FOR WELDING BUILDINGS AND PIPES

HYUNDAI WELDING CO., LTD.

S-6011.D

❖ Specification

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

❖ 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

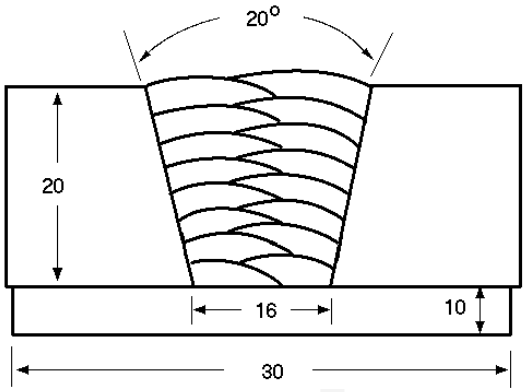
1. Pay attention not to exceed the recommended currents.

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(in) : 4.0 X 350(5/32 X 12)

Amp./ Volt. : 140 / 22~23

Interpass Temp.℃(°F) : 80~130 (176~266)

Polarity : DC+

❖ Mechanical Property of All Weld Metal

consumable	Tensile test			CVN Impact Value J (ft.lbs)
	YS MPa (ksi)	TS MPa (ksi)	EL (%)	-30℃ (-22°F)
S-6011.D	468(68)	558(81)	29.7	51(38)
AWS Spec.	≥ 330(48)	≥ 430(62)	≥ 22	≥ 27(20)

❖ Chemical Composition of All Weld Metal(wt%)

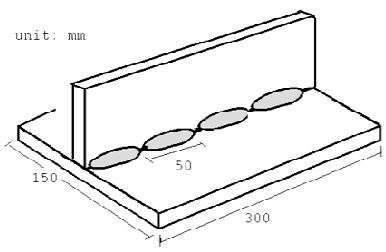
Consumable	Chemical Composition (%)				
	C	Si	Mn	P	S
S-6011.D	0.09	0.50	1.20	0.012	0.009
AWS Spec.	≤0.20	≤1.00	≤1.20	N.S	N.S

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(0.35)		140	22~23	No crater crack

Size Available and recommended Current & Approval

❖ Sizes Available and Recommended Currents

Diameter, mm(in)		2.6 (3/32)	3.2 (1/8)	4.0 (5/32)	5.0 (3/16)
Length, mm(in)		300 (12)	350 (14)	350 (14)	350 (14)
Recommended current range (AC or DC+ Amp.)	Flat position	50 ~75	70 ~110	110 ~155	155 ~200
	Vertical & Overhead position	40 ~70	55 ~105	90 ~140	120 ~180

❖ Authorized Approval Details

Classification	Dia. mm(in)	Welding position	Grade					
AWS			KR	ABS	LR	BV	DNV GL	NK
E6011	2.6(3/32) ~ 5.0(3/16)	All	RMW2	2	2	2	2	KMW2