HYUNDAI WELDING

Rev. 03

S-7048.V

COVERED ARC WELDING ELECTRODE
FOR VERTICAL DOWNWARD OF 490MPa CLASS
HIGH TENSILE STEEL

2021.05

HYUNDAI WELDING CO., LTD.

S-7048.V

❖ Specification

AWS A5.1	E7048
JIS Z 3211	E4948
EN ISO 2560-A	E42 3 B 3 5

❖ Applications

Excellent usability in Vertical downward welding
Low hydrogen type for tack welding

❖ Characteristics on Usage

S-7048-V is specifically designed exclusively for vertical downward welding. It is suitable for tack welding and intermittent welding.
Slag is self peeling. Crack resistibility of weld metal is good.

❖ Note on Usage

1. Dry the electrodes at 300~350℃ (572~662°F) for 30~60 minutes before use.

2. Keep the arc as short as possible, and avoid large width weaving.

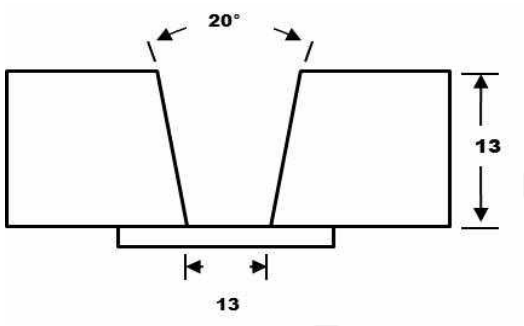
3. Adopt back step method or strike the arc on a small steel plate prepared for this particular purpose to prevent blowholes at the arc starting.

4. Use the wind screen against strong wind.

Mechanical Properties & Chemical Compositions of All Weld Metal

❖ Welding Conditions

Method by AWS Spec.



[Joint Preparation & Layer Details]

Diameter	:	3.2 X 350mm(1/8 X 14in)
Amp./ Volt.	:	120~130 / 22~25
Interpass Temp.	:	131~145℃(268~393°F)
Polarity	:	AC or DC +

❖ Mechanical Property of All Weld Metal

Consumable	Tensile test			CVN Impact Test Joule (ft·lbs)	
	YS MPa (lbs/in²)	TS MPa (lbs/in²)	EL (%)	-30℃(-22°F)	-40℃(-40°F)
S-7048.V	438(63,500)	551(79,900)	34.0	125(92)	90(66)
AWS Spec.	≥ 400(58,000)	≥ 490(71,000)	≥ 22	≥ 27(20)	-

❖ Chemical Composition of All Weld Metal(wt%)

Consumable	Chemical Composition (%)				
	C	Si	Mn	P	S
S-7048.V	0.08	0.45	1.00	0.008	0.003
AWS Spec.	≤0.15	≤0.75	≤1.60	≤0.035	≤0.035

Diffusible Hydrogen Content

❖ Welding Conditions

consumable	:	S-7048.V	Welding Position	:	1G
Diameter mm(in)	:	3.2 x 350(1/8 x 14)	Amp.(A) / Volts(V)	:	120~130Amp.
Re-drying conditions	:	350℃ X 1hr (662°F X 1hr)	Current Type & Polarity	:	DC+

❖ Hydrogen Analysis Using Gas Chromatography Method

Hydrogen Evolution Time	:	72 hrs	Analysis Temp.	:	25 ℃(77°F)
Evolution Temp.	:	25 ℃(77°F)	Exposure Condition	:	80%RH-30℃(86°F)
Test method	:	AWS A4.3			

❖ Result (㎖/100g Weld Metal)

X1	X2	X3	X4
4.15	4.54	4.24	5.09

Average Hydrogen Content 4.5 ㎖/100g Weld Metal

Weldability & Size Available and recommended Current

❖ Weldability

Item \ Division	Flat position	Vertical Down position
Arc Striking	Excellent	Excellent
Arc stability	Good	Good
Melting rate	Excellent	Excellent
Deposition rate	Excellent	Excellent
Resistance of spatter occurrence	Excellent	Excellent
Bead appearance	Good	Good
Tack welding	Excellent	Excellent

❖Sizes Available and Reconnended Current

Diameter, mm(in)		3.2 (1/8)	4.0 (5/32)	5.0 (3/16)
Length, mm(in)		350(14)	400(16)	400(16)
Recommended current range (AC or DC+ Amp.)	All position (1F, 2G, 2F, 2G, 3G uphill, 4G), 3G downhill	100 ~160	140 ~210	220 ~270

❖ Authorized Approval Details

Classification	Dia. mm(in)	Welding position	Grade					
AWS			KR	ABS	LR	BV	DNV GL	NK
E7048	3.2(1/8) ~ 5.0(3/16)	All	3H10, 3YH10	3H10, 3Y	3, 3YH15	3, 3YHH	3YH10	KMW5 3HH