

# **S-7028.F**

COVERED ARC WELDING ELECTRODE  
FOR HIGH EFFICIENT WELDING



## ❖ Specification

AWS A5.1	E7028
JIS 3211	E4928
EN ISO 2560-A	E42 2 B 7 4

## ❖ Applications

Flat and horizontal fillet welding of 490Mpa class high tensile steel for structures, large size steel castings and strength members of ship hulls

## ❖ Characteristics on Usage

S-7028.F is an iron powder low hydrogen type electrode for exclusive use in flat and horizontal fillet welding. Its deposition rate is extremely high, and its slag detachability is also good.

## ❖ Note on Usage

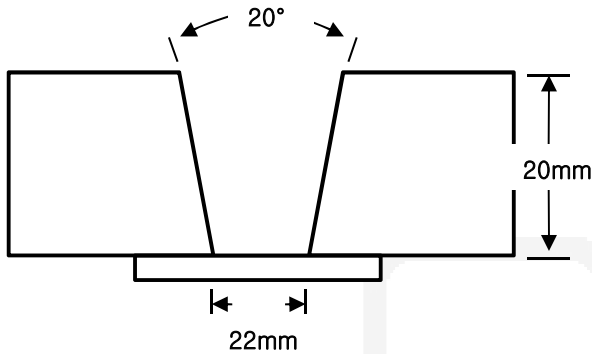
1. Dry the electrodes at 300~350°C (572~662°F) for 30~60 minutes before use.
2. Pay attention not to exceed the range of proper currents.



## Mechanical Properties & Chemical Compositions of All Weld Metal

### ❖ Welding Conditions

Method by AWS Spec.



Diameter, mm(in) : 6.0 X 700(15/64 X 28)

Amp./ Volt. : 290 / 28~30

Interpass Temp. °C(°F) : 100~200 (212~392)

Polarity : DC+

[ 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 (%)	-20°C (-4°F)
S-7028.F	478(69)	546(79)	32.0	63(47)
AWS A5.1	≥ 400(58)	≥ 490(71)	≥ 22	≥ 20 (15)

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

Consumable	Chemical Composition (%)				
	C	Si	Mn	P	S
S-7028.F	0.07	0.29	1.08	0.027	0.015
AWS Spec	≤ 0.15	≤ 0.90	≤ 1.60	≤ 0.035	≤ 0.035

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.

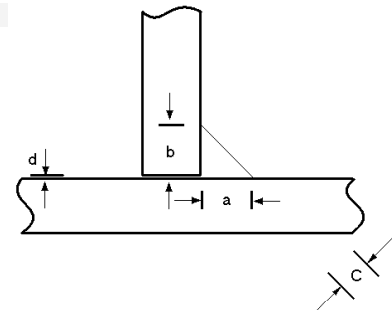


## Welding Efficiency

### ❖ Currents, Speed Ratio, And Leg Length

Electrode Size (mm × mm)	Amp.	Optimum speed ratio	Leg Length (mm) (b/a)	Throat Thickness (c) (mm)
6.0 × 700	290	1:1.30 ~ 1.50 (1:1.40)	6.3/6.7 ~ 6.2/7.2 (6.4/7.0)	4.6 ~ 5.0 (4.8)

- Notes) 1. Optimum Speed Ratio : ( ) is Suitable  
 2. Leg Length and Throat Thickness : ( ) is Average.  
 3. Leg Length (mm) = b/a  
 Throat Thickness (mm) = C  
 Gap = d (≤1.0mm)



### ❖ Test Conditions of Deposition Efficiency

Consumable	Base Metal		Welding conditions		
	Specification	Dimension, mm(in)	Amp. (A)	Welding speed (mm/min)	Position
S-7028.F 6.0 X 700mm (15/64 X 28in)	ASTM A36	300 X 150 X12 (12 X 5.9 X 0.5)	290 (DC+)	200~210	Flat

### ❖ Results of Deposition Efficiency Test

Consumable	Deposition efficiency(%)	
	For electrode	For core wire
S-7028.F 6.0 X 700mm (15/64 X 28in)	64 ~ 78	135 ~ 145

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## Weldability & Size Available and recommended Current & Approval

### ❖ Weldability

Division Items		Checked	Remarks
Arc	Start arc	Excellent	•Welding conditions H-Fillet
	Stability	Good	
	Concentricity	Excellent	
Slag	Fluidity	Excellent	
	Detachability	Excellent	
Bead appearance		Excellent	
Melting rate		Excellent	
Heat resistance		Good	
The others		Good	

### ❖ Sizes Available and Recommended Current

Diameter mm(in)		4.0 (5/32)	4.5 (11/64)	5.0 (3/16)	5.5 (7/32)	6.0 (15/64)	6.4 (1/4)	7.0 (9/32)
Length mm(in)		550 (22)	550 (22) 700 (28)	700 (28)	700 (28)	700 (28)	700 (28)	700 (28)
Recommended current range ( AC or DC+ Amp.)	Flat & H-Fillet position	150 ~220	170 ~220	190 ~250	220 ~270	250 ~320	270 ~340	300 ~360

### ❖ Authorized Approval Details

Classification	Max Dia. mm(in)	Welding position	Grade					
			KR	ABS	LR	BV	DNV GL	NK
AWS								
E7028	7.0(9/32)	F, H-Fil	3Y	3, 3Y	3, 3Y, 3YG	3, 3Y	3, 3Y	KMW3 KMW53

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