HYUNDAI WELDING

Rev. 01

S-6027.LF

COVERED ARC WELDING ELECTRODE
FOR HIGH EFFICIENT FILLET WELDING

HYUNDAI WELDING CO., LTD.

S-6027.LF

❖ Specification

AWS A5.1	E6027
JIS 3211	E4327
EN ISO 2560-A	E38 0 R 1 4

❖ Applications

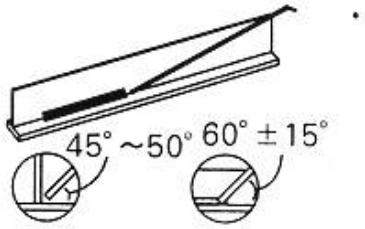
Flat and horizontal fillet welding of internal structures, inside hulls, buildings, machine construction

❖ Characteristics on Usage

S-6027.LF is an iron powder, iron oxide type electrode for single-pass horizontal and flat fillet welding.
Its fume generation is reduced by 30 ~ 50% over conventional electrode.
In manual welding, stable and beautiful bead can be obtained as contact welding is available.
Furthemore, highly effective welding can be performed in Gravity and Acto-Contect Welding.
Its slag removability is good. Resistibility against undercut and blow hole is also good.
S-6027.LF demonstrates good performance in mechanical properties and usability..

❖ Note on Usage

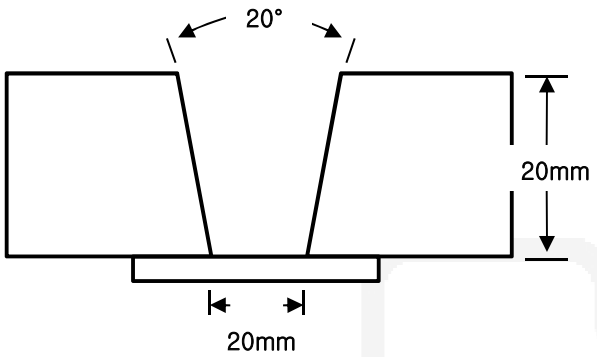
1. Dry the electrodes at 70-100℃ (158~212°F) for 30-60 minutes before use.
2. Keep the standard holding angles of the electrode in horizontal fillet welding as shown in the sketch



Mechanical Properties & Chemical Compositions of All Weld Metal

❖ Welding Conditions

Method by AWS Spec.



[Joint Preparation & Layer Details]

Diameter, mm(in) : 5.0 X 700(3/16 X 28)

Amp./ Volt. : 210 / 25~27

: 80~130 (176~266)

: AC or 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-6027.LF	448(65)	499(73)	32.0	61(45)
AWS A5.1	≥ 330(48)	≥ 430(62)	≥ 22	≥ 20 (15)

❖ Chemical Composition of All Weld Metal(wt%)

Consumable	Chemical Composition (%)				
	C	Si	Mn	P	S
S-6027.LF	0.07	0.32	0.76	0.023	0.013
AWS Spec	≤ 0.20	≤ 1.00	≤ 1.20	-	-

Weldability & Generated Fumes

❖ Weldability

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

❖ The Amounts of Generated Fumes

Size : 5.0ϕ
Amp. : 220 ~ 230

a time division / Electrode		1	2	3	4	5	6	7	8	9	10	Avg.
S-6027.LF	Ft	285	340	248	250	265	245	243	306	262	283	272.7 (mg/min)
	Fw	4.1	5.0	3.5	3.8	3.7	3.4	3.4	4.3	3.7	3.9	3.9 (mg/g)
Conventional Electrode	Ft	483	490	476	504	512	521	486	494	542	506	501.4 (mg/min)
	Fw	7.2	7.3	7.0	7.4	7.6	7.7	7.0	7.1	7.8	7.3	7.3 (mg/g)

Weldability & Welding Efficiency

❖ Weldability

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

❖ Welding Efficiency

Dia. (mm ϕ)	Length (mm)	Welding Current (Amp.)	Melting Rate (mm/min)	Deposition Rate (g/min)	Deposition Efficiency (%)	
					A	B
4.5	700	160	196	39	69	155
		180	222	45	69	154
		200	243	48	68	154
5.0	700	200	178	45	69	146
		230	212	48	69	146
		250	248	54	68	143
5.5	700	230	200	54	71	145
		250	195	55	70	150
		270	233	60	72	145
6.0	700	260	188	55	71	132
		280	232	65	71	127
		300	246	71	72	130

Speed Ratio (1:1.3)

A : Weight of the weld metal / weight of the electrode.

B : Weight of the weld metal / weight of the core rod.

Size Available and recommended Current & Approval

❖Sizes Available and Reconnended 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.)	Fillet position	140 ~180	170 ~210	180 ~230	210 ~250	240 ~290	260 ~310	280 ~330
	Gravity welding	150 ~180	160 ~200	180 ~240	210 ~260	230 ~290	250 ~310	280 ~330

❖ Authorized Approval Details

Classification	Max Dia. mm(in)	Welding position	Grade					
AWS			KR	ABS	LR	BV	DNV GL	NK
E6027	7.0(9/32)	F, H-Fil	3	4	3, 3G	3	3	KMW3