HYUNDAI WELDING

Rev. 00

S-717 X L-12 ECO

SUBMERGED ARC WELDING CONSUMABLES FOR WELDING OF CARBON STEEL

HYUNDAI WELDING CO., LTD.

❖ Specification

Flux	JIS Z3352	EN ISO 14174	KS B ISO 14174
S-717	S A AB 1	S A AB 1	S A AB 1

Wire	AWS A5.17/A5.23
L-12 ECO	A5.17 F6A0-EL12

❖ Applications

Single and multi-layer welding of various kinds of structure
such as ship beam, buildings, storage tank and low pressure vessels.

❖ Characteristics on Usage

Inactive type flux is not affected by welding parameter.

❖ Note on Usage

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

2. For the first layer in groove, keep the current and speed low in the case of multi-layer welding.

Welding consumable for test

❖ Flux

Consumable	Chemical Composition, wt%			
	SiO2+TiO2	Al2O3+MnO	CaO+MgO	CaF2
S-717	10	30	35	10

Consumable	Particle Size (Mesh)	Type of Flux	B.I	$H2O_{1000℃}$/ CO2(%)
S-717	10 × 48	Agglomerated	1.6	0.05/0.80

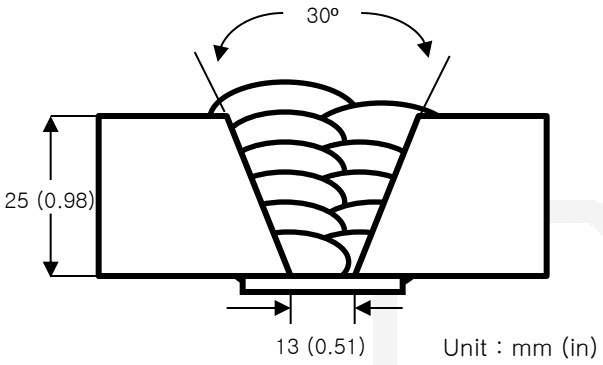
❖ Electrode

Consumables	Dia.	Chemical Composition, wt%				
	mm (in)	C	Si	Mn	P	S
L-12 ECO	2.4(3/32)	0.06	0.01	0.43	0.015	0.010
AWS A5.17 EL12		0.04-0.14	≤0.10	0.25-0.60	≤0.030	≤0.030

Mechanical Properties & Chemical Composition of All Weld Metal

❖ Welding Conditions

Method by AWS Spec.



[Joint Preparation & Layer Details]

Base metal	:	SS400
Particle size	:	10 x 48
Flux type	:	Agglomerated
Wire size mm (in)	:	2.4 (3/32)
Amp./ Volt./cpm	:	380~450 / 28~30 / 33~39
Stick-Out mm (in)	:	25 (1)
Pre-Heat ℃(°F)	:	R.T .
Interpass Temp. ℃ (°F)	:	<150 (302)
Polarity	:	DC+

❖ Mechanical Properties of All weld metal

Consumables	Tensile Test			CVN Impact Test J (ft·lbs)	
	YS MPa(ksi)	TS MPa(ksi)	EL (%)	-18℃	-29℃
S-717 X L-12 ECO	416	493	34.6	129	109
AWS A5.17 F6A0-EL12	≥330	410~550	≥ 22	≥27J at –18℃	

❖ Chemical Analysis of All weld metal(wt%)

Consumables	C	Si	Mn	P	S
S-717 X L-12 ECO	0.069	0.15	0.85	0.015	0.010