

ES FLUX 181

SAW

ESWECO
The Art of Welding

Type Acid

EN 760: SA AR 1 97 AC

Description

ES FLUX 181 is an acid agglomerated Si- and Mn-alloying flux for submerged arc welding, most suitable for applications where the dilution of base metal is high, e.g. in fillet welding and butt welding of thin and medium thick plates with a small number of passes. The excellent welding properties associated with the acid slag system of ES FLUX 181 permit high travel speeds in butt welding, i.e. the spiral welding of thin-walled pipes and fillet welding, where good bead shape, excellent slag removal and top-class surface finish are essential.

Density

approx. 1.25 kg/dm³

Basicity index

0.6

Flux consumption, kg flux/kg wire

Voltage	DC+	AC
26	0.6	0.5
30	0.8	0.65
34	1.05	0.9
38	1.35	1.25

Classifications

Wire	EN 756	SFA/AWS A5.17
ES EL12	S 42 A AR S1	F7AZ-EL12/F7PZ-EL12
ES EM12	S 46 0 AR S2	F7A0-EM12/F7PZ-EM12
ES EM12K	S 50 A AR S2Si	F7AZ-EM12K/F7PZ-EM12K

Typical all weld metal composition, %

Wire	C	Si	Mn	Cr	Ni	Mo
ES EL12	0.06	0.8	1.2	-	-	-
ES EM12	0.07	0.8	1.45	-	-	-
ES EM12K	0.07	0.9	1.5	-	-	-

Typical mech. Properties all weld metal

Wire	Yield Stress MPa	Tensile strength MPa	Charpy V	
			°C	J
ES EL12	450	540	+20	50
			0	30
ES EM12	510	610	+20	80
			0	60
ES EM12K	530	610	-20	40
			+20	60