

FL 860 ESHC

CATEGORY ESAW Electroslag

TYPE High basic agglomerated flux for welding Nickel based strips with the electro slag process.

APPLICATIONS Designed for ES strip cladding in offshore, apparatus, vessel, boilers and chemical industry.

PROPERTIES Ceweld® FL 860 ESHC can be used with a large variety of alloys. Due to an excellent arc stability this flux is suitable for long stick out welding and standard ES cladding in case high demands on arc stability is required. Dilution of the weld metal with this flux is the lowest available on the market today combined with a flat transition line offering more process stability in terms of chemical analysis in the overall weight of the strip. FL 860 ESHC can be used in a large variety of travel speed ranging from 14 till 27 cm per minute due to a higher slag temperature during welding.

Basicity index: ~4,2 (acc. to Boniszewski)
Grain size: 18 - 60 mesh

CLASSIFICATION EN ISO 14174: (E) SA FB 2
DIN BF B 7 6544 DC+ 40 B-2

SUITABLE FOR Electro slag cladding with nickel based strip, Inconel 600, 625, 825, alloy 82 and 625, W.Nr: 2.4806, 2.4831, 2.4633, 2.4649, Nicrofer 6025HT, Alloy 602 CA.

WELDING POSITIONS:



ALL WELD DEPOSIT ANALYSIS ON S355 (0,17C)

Alloy 625 strip	Ampere (A)	Travel speed (cm/min)	Fe	Mn	Cr	Ni	Mo	Nb	Delution
First layer (LS)	700	14	4.22	0.56	20.46	63.15	8.13	3.12	4.2%
First layer	600	14	4.92	0.59	20.56	62.37	8.07	3.11	4.9%
First layer	680	14	5.74	0.4	20.71	62.06	7.95	3.05	5.5%
First layer	600	14	7.7	0.59	19.97	60.57	7.87	2.89	7.7%
First layer	1150	18	8.27	0.65	19.48	59.69	8.00	3.17	8.3%
Second layer	1100	18	2.45	0.47	20.81	64.21	8.52	3.15	2.5%
First layer	1100	20	9.61	0.65	19.12	58.73	8.06	3.06	9.6%
Second layer	1100	20	2.71	0.41	20.45	64.24	8.55	3.23	2.7%
First layer	1150	22	9.55	0.69	19.44	58.77	7.92	3.03	9.5%
Second layer	1100	22	3.13	0.47	20.78	63.69	8.43	3.11	3.1%
First layer	1200	24	14.55	0.56	18.13	55.33	7.37	2.73	13.8%
Second layer	1150	24	4.24	0.49	20.09	62.14	8.49	3.16	4.2%
First layer	1400	30	13.33	0.7	18.95	55.81	7.78	3.20	13.3%
Second layer	1400	30	4.37	0.34	20.02	63.19	8.47	3.22	4.3%

The above data is depending on plate thickness, interpass / preheat temperature, stick out and flux height. Measurement in second layer was done 2 mm below the top surface. LS* was welded with 30 x 0,5 mm strip with extended stick out to realize Fe content below 5% in the first layer. Welding directions for 60 mm strip Normal welding parameters for a 60 x 0,5 mm strip are: current 1150 A, voltage 22-24 V and travel -speed 180-220 mm/min. The stick -out is typically about 35 mm. However FL 860 ESHC can be used up to 1400 Ampere with 60 mm strip. FL 860 ESHC offers an excellent low hydrogen content due to the chemical composition and the use of pre-melted raw materials. Flux consumption is extremely low due to less flux height needed during welding compared to common fluxes, (for 60 mm strip 15-25 mm only) Thin base metal will result in a higher dilution especially at low travel speed (below 18 cm/min) . When surfacing curved objects, care must be taken to prevent the melt pool and flux from running.

REDRYING TEMPERATURE If necessary for 2 hrs at 300-350°C ± 50°C (normally not needed)

PACKING 30 kg Metallic gasket sealed buckets