

## FL 851

CATEGORY	SAW Submerged arc
TYPE	Agglomerated semi-basic low hydrogen SAW flux
APPLICATIONS	Boiler works, spiral pipes, ship building, structural steel works, tanks and pressure vessels, piston cladding, offshore applications etc..
PROPERTIES	<p>Agglomerated semi-basic flux suitable for carbon alloy steel welding in single and multi-pass technique and in single or multi-wire applications. The weld deposit produced in combination with corresponding sub-arc wires meets outstanding mechanical properties and in particular high toughness at low temperature. Excellent slag removal in fillet and groove (semi-narrow gap) welds even in hot conditions. (Pre heat 250°C) This flux is specially developed to achieve very low content of diffusible hydrogen (&lt; 4ml/100 g weld deposit)</p> <p>Basicity: 1,7 (according to boniszewski)            Current: DC or AC, in single or multi-wires up to 1000 Ampere per wire            Grain size: 2.0-0.28mm (10-60 meshes).</p>

CLASSIFICATION	EN ISO 14174: SA AB 1 67 AC H4 DIN 760: SA AB 167 AC H4
SUITABLE FOR	High-temperature resistant 15 NiCuMoNb5 1.6368 SEW 028 Fine grain structural steels 20 MnMoNi4-5 1.6311 DIN E 17201 11 NiMoV 53 1.6341 SEW 028 17 MnMoV 6-4 1.5403 Fine grain structural steels StE 355 1.0562 EN 10028-3 StE 550 1.8924 EN 10137-2 steels to API-standard X 42, X80 API-STANDARD

APPROVALS CE approved

WELDING POSITIONS:



### FLUX COMPOSITION

Al <sub>2</sub> O <sub>3</sub> +MnO	TiO <sub>2</sub> +SiO <sub>2</sub>	CaO+MgO	CaF <sub>2</sub>
30	20	30	15

### MECHANICAL PROPERTIES WITH FL 851

With Wire Type	R <sub>p0,2</sub> (N/mm <sup>2</sup> )	R <sub>m</sub> (N/mm <sup>2</sup> )	A <sub>5</sub> (%)	Impact Energy (J) ISO-V			
				-20°C	-40°C	-51°C	-62°C
S2	>420	>510	>24	>120	>60		
S2Si	>450	>520	>24	>160	>100	>60	
S3Si	>470	>560	>23	>150	>80	>47	
S3Si (PWHT)	>420	>520	>24	>140	>70	>47	
S2Mo	>500	>590	>22	>90	>40		
S2Mo (PWHT)	>470	>560	>22	>70	>30		
S2Ni1	>440	>530	>25	>180		>110	>70
S2Ni1 (PWHT)	>400	>490	>26	>200		>120	>50
S3NiMo1	>590	>690	>22	>90		>60	
S3NiMo1 (PWHT)	>570	>670	>22	>100		>50	
SA CrMo1 (PWHT)	>400	>520	>22	>47			
SA Corten	>470	>560	>22	>50	>27		

PWHT time and temperature as required for the base metal and thickness.

### STANDARDS FOR WIRE AND FLUX COMBINED

Classification acc. EN and AWS:		
Wire type	EN 756 (rsg)en 1597-1, type 3	AWS A 5.17 / A 5.23

S2(Si)	EN 756 - S 38 4 FB S2	EN 756 - S-3T 3 FB S2	F7 A6-EM 12 (K)
S3(Si)	EN 756 - S 42 4 FB S3	EN 756 - S 4T 3 FB S3	F8 A6-EH 12 K
S2Mo	EN 756 - S 46 3 FB S2Mo	EN 756 - S 4T 3 F8 S2Mo	F8 P4-EA2-A2
S2Ni1	EN 756 - S 42 6 FB S2Ni1	EN 756 - S 4T 3 FB S2Ni1	F7P8-ENi1-Ni1
S3NiMo1	EN 756 - S 50 3 FB S3Ni1Mo	EN 756 - S 5T 3 FB S3Ni1Mo	F9P4-EF3-F3

**REDRYING TEMPERATURE** At 300-350°C for 2 hours to obtain diffusible hydrogen 4 ml/100 g. Max.

**PACKING** 15, 20, 25-30 Kg steel buckets / bags