UV 400

SAW flux, aluminate-basic type

Classification

EN ISO 14174

SA AB 1 67 AC H5

Characteristics and typical fields of application

UV 400 is an agglomerated flux of aluminate basic type designed for joining and surfacing applications with general-purpose structural steels, fine grained structural steels, boiler and pipe steels. The flux is characterized by its low silicon and moderate manganese pickup. It can be used on DC and AC. Its good welding characteristics and the technological properties of the weld metal produced with different wires permit universal use.

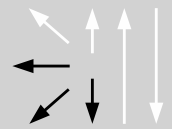
Base materials

Structural steels, fine grained structural steels, boiler steels, pipe steels

Composition of sub-arc welding flux (wt. %)

	SiO_2+TiO_2	CaO+MgO	Al_2O_3+MnO	CaF_2
wt.-%	20	30	26	16

Operating data



Polarity
DC / AC

Basicity acc. to Boniszewski: 2.3 Mol. % 1.7 weight %
Grain size acc. to EN ISO 14174: 3 – 20 (0.3 – 2.0 mm)
Flux consumption: 1.0 kg flux per kg wire
Redrying: 300 – 350 °C, 2 hrs min.

Typical Composition of all-weld Metal with different Wires

SAW wires	C	Si	Mn	Mo	Weld metal classification acc. to: EN ISO 14171 AWS A5.17 – SFA 5.17 • AWS A5.23 – SFA-5.23
Union S 1 Weld metal	0.10 0.06	0.10 0.35	0.50 0.90		S 35 3 AB S1 • F7A4-EL12
Union S 2 Weld metal	0.10 0.06	0.10 0.35	1.00 1.35		S 38 4 AB S2 • F7A4-EM12
Union S 2 Mo Weld metal	0.10 0.06	0.10 0.35	1.00 1.35	0.50 0.45	S 46 4 AB S2Mo F8A4-EA2-A2
Union S 2 Si Weld metal	0.10 0.06	0.30 0.45	1.00 1.45		S 42 4 AB S2Si • F7A4-EM12K
Union S 3 Weld metal	0.12 0.07	0.10 0.35	1.50 1.60		S 42 4 AB S3 • F7A4-EH10K

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Mechanical properties of the weld metal, as welded:								
Wire electrodes used	Condition	Yield strength MPa	Tensile strength MPa	Elongation (L_0=5d_0) %	Impact values* ISO-V CVN J			
					+20 °C	0 °C	-20 °C	-40 °C
Union S 1	AW SR	355 330	460 420	22 25	100 110	100 120	47 80	28 28
Union S 2	AW SR N	400 355 290	480 480 460	22 25 22	120 140 80	100 120 60	60 100 47	47 47 –
Union S 2 Mo	AW SR	470 470	550 550	22 22	100 100	90 100	47 60	47 47
Union S 2 Si	AW SR	440 420	540 510	25 25	120 160	110 130	100 120	47 50
Union S 3	AW SR	420 380	500 500	22 25	120 140	120 120	60 100	47 47

* Average values from 3 tests
AW = as welded
SR = stress relieved: 580 °C (1076 °F) / 5 h / air
N = normalized: 920 °C (1688 °F) / 1 h / air

Approvals	TÜV	DB	ABS	BV	GL	LR	DNV
Union S 2	06170	51.132.03	X	X	X	X	X
Union S 2 Mo	06233	51.132.03	X	X	X	X	X