

Classifications

EN ISO 14171-A	AWS A5.17 / SFA-5.17
S 46 6 FB S3Si H5	F7A8-EH12K / F7P8-EH12K

Characteristics and typical fields of application

Union S 3 Si - UV 419 TT-W is a wire flux combination for submerged arc welding of unalloyed steel grades up to a minimum specified yield strength of 460 MPa. Especially recommended to be used for multi-pass butt welding. Very good impact toughness and strength in as welded condition and after PWHT. Suitable for single wire, twin-arc and tandem welding configurations. Very good slag detachability also for narrow gap welding preparations.

UV 419 TT-W is an agglomerated fluoride basic flux for submerged arc welding of unalloyed and low alloyed steel grades. It has a high basicity with neutral metallurgical behaviour and a low level of diffusible hydrogen : H5 verified acc. ISO 3690 with DCEP. More detailed information is available in the separate datasheet of the flux.

Base materials

General purpose structural steels and fine grained structural steels up to 460 MPa min. yield strength.

S235J2G3 – S355J2G3, GE200 – GE260, S255N – S380N, S255NL – S460NL, P275NL1 – P460NL1, P235GH – P355GH, L210 – L415NB
 ASTM A36 Gr. all; A 106 Gr. all, A214; A 242; A266 Gr. 1, 2, 4; A285; A299; A328; A366; A515 Gr. all; A516 Gr. all; A570 Gr. 30 – 45; A572 Gr. 42, 50; A606 Gr. all; A656 Gr. 50, 60; A668 Gr. A, B; A907 Gr. 30, 33, 36, 40; A841; A851 Gr. 1, 2; A935 Gr.45; A936 Gr. 50; API 5L X42 – X60

Typical analysis

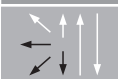
wt.-%	C	Si	Mn
wire	0.10	0.30	1.65
all-weld metal	0.08	0.35	1.65

Mechanical properties of all-weld metal - typical values (min. values)

Condition	Yield strength R _e	Tensile strength R _m	Elongation A (L ₀ =5d ₀)	Impact energy ISO-V KV J	
	MPa	MPa	%	-60 °C	-40 °C
u, DC+	475 (≥460)	550 (530-650)	27 (≥25)	130 (≥47)	170 (≥70)
a1, DC+	450 (≥420)	530 (520-630)	28 (≥25)	160 (≥80)	175 (≥80)
a2, DC+	450 (≥420)	540 (520-630)	28 (≥25)	100 (≥80)	170 (≥80)
a3, DC+	420 (≥400)	530 (>500)	29 (≥25)	110 (≥80)	170 (≥80)

u untreated, as welded ; a1 = 15 hours 580 °C ; a2 = 1 hour 620 °C ; a3 = 12 hours 620 °C

Operating data

	Polarity	DC + / AC	Dimension mm	
				2.0
				2.5
				3.0
				4.0
				4.8

Preheating and Interpass temperature: 180 – 220°C.

Heat Input < 2,0 kJ/mm.

Approvals

TÜV (12935)