Union S 2 Si - UV 309 P

SAW wire/flux combination, mild steel

Classifications

Type	EN ISO 14171-A	AWS A5.17 / SFA-5.17	AWS A5.23 / SFA-5.23
Multi-run	S 38 2 AB S2Si H4	F7A2-EM12K-H4	-
2-run	S 3T 0 AB S2Si H4	-	F6TA0G-EM12K-H4

Characteristics and typical fields of application

Union S 2 Si - UV 309 P is a wire-flux combination for submerged-arc welding of unalloyed and low-alloyed steel grades. This wire-flux combination is recommended for two-run welding technique with multi-wire welding processes, with very good welding performance and low failure rate, and is applied in case of low requirements to strength and toughness properties. Also suitable for single wire (DC+), tandem (DC+ and AC).
UV 309 P is an aluminate-basic flux. For information regarding this welding flux see our detailed data sheet.

Base materials

Fine grained structural and line pipe steel grades up to API X 60 and EN 10208-2: L415 MB

Typical analysis

wt.-%	C	Si	Mn
wire	0.10	0.30	1.10
all-weld metal	0.08	0.55	1.20

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	%	-30°C	-20°C
u, DC+	430 (≥ 400)	515 (480-600)	29 (≥ 22)	54 (≥ 27)	80 (≥ 47)

u untreated, as welded, single wire

Operating data

Polarity	DC / AC

Dimension mm
3.0
3.2
4.0

The mechanical properties of weld metal by two-run technique are strongly influenced by:
- the high dilution rate (60 up to 70%)
- chemical composition of the base metal
- relative long cooling time t 8/5 of the weld cycle, depending on
  - o welding parameters (heat input)
  - o wall thickness (2 - resp. 3 dimensional cooling)
  - o preheat / interpass temperature

Approvals

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All information provided is based upon careful investigation and intensive research.
However, we do not assume any liability for correctness and information is subject to change without notice.