diamondspark S 56 HP - UV 400

Seamless basic flux cored SAW wire/flux combination, mild steel

Classifications

EN ISO 14171-A		AWS A5.17 / SFA-5.17	AWS A5.23 / SFA-5.23
S 46 6 AB TZ3 H5	S 4T 5 AB TZ3 H5	F7A8-ECG / F7P8-ECG	F7TA6G-ECG
Mehrlagen	Lage-Gegenlage	Mehrlagen	Lage-Gegenlage

Characteristics and typical fields of application

diamondspark S 56 HP - UV 400 is a wire-flux combination for submerged arc welding of unalloyed structural steels and fine-grained structural steels up to MSYS = 460 MPa. diamondspark S 56 HP is a coppered seamless basic flux cored wire with a good resistance to deformation (wire feed rollers) and is very easy to straighten to ensure the best current transfer with a low contact tip consumption. The wire is not sensitive to moisture pick up.
The weld metal demonstrates good toughness properties at low temperatures, which gives the fabricator the possibility to weld with high heat-input at high welding speed resulting in very high productivity: e.g: single wire 3,2 mm, 800 Amps (~17 kg/hour) with a good bead appearance, nice fusion and good slag detachability.
Also suitable for 2-run technology where the combination shows an improved welding behavior (nicer bead appearance and higher welding speed) with good charpy toughness.
UV 400 is an agglomerated, aluminate-basic flux. Its characteristic is a low Silicon and a middle Manganese pickup. It can be used on AC and DC. The good weld ability and the good mechanical properties offer a universal application. For information regarding UV 400 flux see our detailed data sheet.

Base materials

S235JR-S355JR, S235J0-S355J0, S235J2-S355J2, S275N-S460N, S275M-S460M, S275NL-S460NL, S275ML-S460ML, P235GH-P460GH, P275NL1-P460NL1, P275NL2-P460NL2, P215NL, P265NL, P355N, P285NH-P355NH, P195TR1-P265TR1, P195TR2-P265TR2, P195GH-P265GH, L245NB-L445NB, L245MB-L445MB, GE200-GE240
Ship building steels: A, B, D, E, A 32-E 36
ASTM A 106 Gr. A, B, C; A 181 Gr. 60, 70; A 283 Gr. A, C; A 285 Gr. A, B, C; A 350 Gr. LF1, LF2; A 414 Gr. A, B, C, D, E, F, G; A 501 Gr. B; A 513 Gr. 1018; A 516 Gr. 55, 60, 65, 70; A 573 Gr. 58, 65, 70; A 588 Gr. A; A 633 Gr. A, C, D; A 662 Gr. A, B, C; A 707 Gr. L1, L3; A 711 Gr. 1013; A 841 Gr. A, B, C; API 5 L Gr. B, X42, X52, X56, X60, X65

Typical analysis

wt.-%	C	Si	Mn
all-weld metal	0.06	0.3	1.6

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

Condition	Yield strength $R_{p0.2}$	Tensile strength R_m	Elongation A (L_0=5d_0)	Impact energy ISO-V KV J		
	MPa	MPa	%	-60°C	-40°C	-50°
u, DC+, 1,8 kJ/mm	490(≥ 460)	560 (530-680)	28 (≥ 22)	110 (≥ 47)	160 (≥ 47)	
u, DC+, 3,2 kJ/mm	460	540	26		120	100
a, DC+, 1,8 kJ/mm	460 (≥ 420)	540 (500-650)	28	175 (≥47)	190 (≥47)	

u untreated, as welded ; a annealed 1 hr 620°C

Operating data

Polarity	DC + / AC

Dimension mm
2.4
3.2
4.0

Approvals

TUV (19505), DB (51.052.02, 52.052.02), CE , ABS (5YQ460M H5; 4Y400T H5), BV (4Y40TH5 ; 5Y46MH5), DNV (IV Y40T H5 and V Y46M H5), LR

All information provided is based upon careful investigation and intensive research.
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