Union S 2 Ni 2,5 - UV 418 TT

SAW wire/flux combination, low-alloyed, cryogenic

Classifications

EN ISO 14171-A	AWS A5.23 / SFA-5.23
S 46 8 FB S2Ni2 H5	F8A10-ENi2-Ni2 / F7P10-ENi2-Ni2

Characteristics and typical fields of application

Union S 2 Ni 2,5 - UV 418 TT is a wire flux combination for submerged arc welding of fine-grained structural steels. The wire flux-combination has been designed to achieve optimum toughness properties of the weld metal (at -80ºC), produced by multi-pass welding technique. It is suitable for cryogenic application such as pressure vessel and liquefied gas storage equipment manufacturing till a minimum temperature of -80ºC (e.g. for CO_2 and Ethane) and arctic off-shore- constructions.
UV 418 TT is an agglomerated fluoride-basic flux with high basicity has a neutral metallurgical behavior, and is suitable for single (AC or DC) and tandem welding, however the tandem process is not recommended for this combination. Very good slag detachability also for narrow gap welding. Detailed information about the flux can be found in the separate datasheet of the flux.

Base materials

Cryogenic constructional steels and Ni-steels
10Ni14, 12Ni14, 13MnNi6-3, 15NiMn6, S275N-S460N, S275NL-S460NL, S275M-S460M, S275ML-S460ML, P275NL1-P460NL1, P275NL2-P460NL2
ASTM A 203 Gr. A, B ; A 333 Gr. 3; A334 Gr. 3; A 350 Gr. LF1, LF2, LF3; A 420 Gr. WPL3, WPL6; A 516 Gr. 60, 65; AA 529 Gr. 50; A 572 Gr. 42, 65; A 633 Gr. A, D, E; A 662 Gr. A, B, C; A 707 Gr. L1, L2, L3; A 738 Gr. A; A 841 A, B, C

Typical analysis

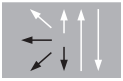
wt.-%	C	Si	Mn	Ni	S	P
all-weld metal	0.07	0.20	1.00	2.20	≤ 0.010	≤ 0.012

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	%	-80°C	20°C
u, DC+	≥ 470	≥ 530	≥ 24	≥ 60	≥ 140
a1, DC+	≥ 400	≥ 500	≥ 24	≥ 54	≥ 150

u untreated, as welded ; a1 = 1 hour 620 °C

Operating data



Polarity	DC / AC
Polarity	DC + / AC

Dimension mm
2.5
3.0
4.0

Approvals

TÜV (11575), DB, DNV, ABS, BV, CE