

Classifications

EN ISO 26304-A
AWS A5.23 / SFA-5.23

S 69 6 FB SZ3Ni2,5CrMo H4

F11A10-EG-F6-H4 / F11P8-EG-F6-H4

Characteristics and typical fields of application

Union S 3 NiMoCr - UV 422 TT-LH is a wire-flux combination for submerged arc welding of high strength steel grades. This combination is recommended for overmatching strength requirements in S690 applications, combined with the highest requirements to Charpy toughness. Very low amount of diffusible hydrogen (ISO 3690). Applications in the off shore construction (jack up rigs), heavy cranes, and pressure pipes in pumped-storage hydropower plants and other high strength applications.

UV 422 TT-LH is an agglomerated fluoride-basic flux with high basicity, neutral metallurgical behavior and very low level of diffusible hydrogen. For information regarding this welding flux see our detailed data sheet.

Base materials

Fine grained structural steels, especially for steel grades with yield strength 690 MPa (overmatching); S690QL1, S770QL1, Alform 700 M.

Typical analysis

wt.-%	C	Si	Mn	Cr	Ni	Mo
wire	0.14	0.05	1.75	0.35	2.10	0.60
DC+	0.07	0.35	1.65	0.35	2.0	0.57
AC	0.11	0.30	1.65	0.35	2.0	0.55

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

Condition	Yield strength $R_{p0.2}$ MPa	Tensile strength R_m MPa	Elongation A ($L_0=5d_0$) %	Impact energy ISO-V KV J				
				-60°C	-80°C	-40°C	-20°C	20°C
u, DC+	780 (≥ 760)	835 (≥ 820)	19 (≥ 17)	100 (≥ 69)	80 (≥ 27)	105	117	125
a1, DC+	750 (≥ 720)	850 (≥ 800)	21 (≥ 18)	77 (≥ 47)			101	119
a2, DC+	760 (≥ 720)	850 (≥ 800)	21 (≥ 18)	61 (≥ 27)			96	115
u, AC	830 (≥ 760)	935 (≥ 820)	18	110 (≥ 69)				

u untreated, as welded; a1 = 1 hour 580 °C ; a2 = 5 hours 560 °C

Operating data

	Polarity	DC + (AC)	Dimension mm	
				1.6
				2.0
				2.4
				3.0
				4.0

Approvals

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