

## Classifications

EN ISO 26304-A

AWS A5.23 / SFA-5.23

S 69 6 FB TZ H4

F11A10-ECF5-F5 H4/ F11P6-ECF5-F5 H4

## Characteristics and typical fields of application

**diamondspark S 700 HP - UV 422 TT-LH** is a wire flux combination for joint welding of high-strength, quenched and tempered fine grained structural steels up to MSYS = 690 MPa. The weld metal demonstrates very good toughness at low temperatures and good strength properties, which allows to weld with relative high heat-input at high welding speed resulting in high productivity with a good bead appearance, nice fusion and good slag detachability. The coppered seamless cored wire has a high deposit rate (~13 kg/hr for single wire 3,2 mm, 750 Amp, DC+). The wire is not sensitive to moisture pick up, has a good resistance to deformation (wire feed rollers) and is very easy to straighten to ensure the best current transfer with low contact tip consumption. Low level of diffusible hydrogen (max 4 ml/100 gr according to ISO 3690).

**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

S690Q,QL,QL1; alform plate 620 M, 700 M, aldur 620Q, aldur 700Q, 700 QL, 700 QL1

ASTM A 514 Gr. F, H, Q; A 709 Gr. 100 Type B, E, F, H, Q; A 709 Gr. HPS 100W

## Typical analysis

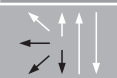
wt.-%	C	Si	Mn	Cr	Ni	Mo
all-weld metal	0.05	0.3	1.6	0.3	2.7	0.5

## 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			
				-73 °C	-60 °C	-51 °C	0 °C
	MPa	MPa	%				
u, DC+	730 (≥ 690)	790 (770-900)	20 (≥ 17)	50 (≥ 27)	80 (≥ 69)	100 (≥ 69)	140 (≥ 90)
u, AC	730 (≥ 690)	790 (770-900)	20 (≥ 17)	90 (≥ 27)	125 (≥ 69)	135 (≥ 69)	170 (≥ 100)
a, DC+	735 (≥ 690)	800 (770-900)	21 (≥ 17)		55	65 (≥ 27)	120 (≥ 60)

u untreated, as welded ; a annealed 3 hours 570°C

## Operating data

	Polarity	DC + / AC	Dimension mm	
				2.4
				3.2
				4.0

Mechanical properties depend on thermal weld cycle and dilution.

## Approvals

CE, ABS, DNV GL, LRS