

Classifications

AWS A5.23
EN ISO 26304-A

F10A6-EG-G-H4 / F9P6-EG-G-H4

S 62 4 FB SZ3Ni0,9MoCr H4

Characteristics and typical fields of application

Union S Ni1MoCr - UV 420 TTR-C is a wire flux combination for submerged arc welding of low alloyed high strength steel grades. It is applied in high strength applications in oil and gas industry (sour service Ni < 1%, + PWHT). Especially for joining castings, forgings and pipe connections in steel grades like AISI 4130 and 8630 that need a PWHT at relative high temperatures (e.g. 630 – 660°C) for long (cumulative) duration.

UV 420 TTR-C is agglomerated fluoride basic flux with the special feature of a Carbon support resulting in a compensated Carbon loss and a low level of diffusible hydrogen. More detailed information is available in the separate datasheet of the flux.

Base materials

For joining and surfacing applications in forging parts in F22, AISI 8630, AISI 4130, and dissimilar joints to pipe grades API 5L – X75 and X80.

Typical analysis

wt.-%	C	Si	Mn	Cr	Ni	Mo
wire	0.10	0.55	1.55	0.25	0.95	0.50
all-weld metal	0.09	0.50	1.70	0.24	0.90	0.45

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	-50°C	-40°C
u, DC+	650 (≥620)	760 (700-830)	20 (≥18)	40	50 (≥27)	65 (≥47)
a1, DC+	625 (≥610)	720 (690-830)	21 (≥18)	40	50 (≥27)	65 (≥47)
a2, DC+	580	670	23 (≥18)	40		70 (≥47)
a3, DC+	580	670	24 (≥18)	40		70 (≥47)

u untreated, as welded ; a1 = 1 hour 620 °C ; a2 = 4 hours 650 °C ; a3 = 6 hours 660 °C

Operating data

	Polarity	DC+	Dimension mm	
				2.5
				3.2

Preheating and interpass temperature depending on the base metal

General recommendation: 180 – 240°C

Approvals

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