

Classifications

EN ISO 24598-A	AWS A5.23 / SFA-5.23
S S CrMo 1 FB	F8P2-EB2R-B2R-H4

Characteristics and typical fields of application

Union S 2 CrMo - UV 420 TTR-C is a wire flux combination for submerged arc welding of creep resistant steel grades with 1-1,5% Cr - 0,5% Mo. This combination is especially recommended for DC+ polarity in applications where a high strength level after (long) PWHT – duration is to be maintained, in e.g. pressure vessels.

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

Creep resistant steels and similar alloyed cast steels, case hardening and nitrating steels of similar chemical composition, like 1.7335 - 13CrMo4-5, 1.7262 - 15CrMo5, 1.7728 - 16CrMoV4, 1.7218 - 25CrMo4, 1.7258 - 24CrMo5, 1.7354 - G22CrMo5-4, 1.7357 - G17CrMo5-5, ASTM A193 Gr. B7, A335 Gr. P11 and P12, A217 Gr. WC6

Typical analysis

wt.-%	C	Si	Mn	Cr	Mo	P	Sb	Sn	As
wire	0.12	0.10	0.80	1.25	0.55				
all-weld metal	0.10	0.20	1.00	1.15	0.55	≤ 0.010	≤ 0.005	≤ 0.005	≤ 0.005

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		
				-40°C	-29°C	20°C
a1, DC+	530 (≥470)	660 (550-690)	25 (≥20)		(≥ 27)	220 (≥ 100)
a2, DC+	430 (≥400)	550 (520-640)	28 (≥20)	(≥ 47)	(≥ 60)	(≥ 100)
a3, DC+	325	460	31	65	180	235

a1 = 1 hour 690 °C ; a2 = 26 hours 690 °C ; a3 = 30 Min 950 °C + cooling in air

Operating data

	Polarity	DC +	Dimension mm
			1.6
			2.0
			2.5
			3.0
			4.0

Preheating, interpass temperature and post weld heat treatment are determined by the base metal.

Approvals

-