

Classifications

EN ISO 24598-A	AWS A5.23 / SFA-5.23
S S CrMo1 FB	F8P4-EB2R-B2R

Characteristics and typical fields of application

Union S 2 CrMo - UV 420 TTR-W is a wire flux combination for submerged arc welding of creep resistant steel grades with 1-1,5% Cr - 0,5% Mo. Applications are in long-term condition up to +570 °C service temperature. Bruscato < 15 ppm. This combination is recommended to achieve the highest toughness and strength levels; for this, AC polarity is recommended. Smooth beads, good wetting, excellent slag detachability. The combination is ideally suited for multi-pass welding in applications with high thickness.

UV 420 TTR-W is an agglomerated fluoride-basic welding flux with high basicity; optimised for welding on AC polarity. For information regarding this welding flux see our detailed data sheet.

Base materials

Creep resistant steels and similar alloyed cast steels, case hardening and nitriding steels of similar chemical composition, similar alloyed heat treatable steels with tensile strength up to 780 MPa, steels resistant to caustic cracking.

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				
DC+	0.08	0.20	1.00	1.10	0.45	≤ 0.012	≤ 0.005	≤ 0.005	≤ 0.01
AC	0.10	0.20	1.00	1.10	0.45	≤ 0.012	≤ 0.005	≤ 0.005	≤ 0.01

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

Condition	Yield strength R _{po.2} MPa	Tensile strength R _m MPa	Elongation A (L ₀ =5d ₀) %	Impact energy ISO-V KV J		
				-40°C	-30°C	20°C
a1, AC	≥ 470	≥ 550	≥ 20	≥ 27	≥ 47	≥ 100
a2, AC	≥ 420	≥ 520	≥ 24	≥ 80	≥ 100	≥ 150
a3, AC	≥ 380	≥ 520	≥ 24	≥ 80	≥ 100	≥ 150
a4, AC	≥ 470	≥ 550	≥ 22		≥ 47	≥ 100
a5, AC	≥ 400	≥ 520	≥ 20	≥ 47	≥ 80	≥ 120

a1 = 1 hour 690 °C ; a2 = 8 hours 690 °C ; A3 = 32 hours 690 °C ; A4 = 8 hours 650 °C ; A5 = 32 hours 650 °C

Operating data

	Polarity	AC / 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

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