

Classifications

EN ISO 24598-A	AWS A5.23 / SFA-5.23
S S CrMo9 FB	F8PZ-EB8-B8-H4

Characteristics and typical fields of application

Union S 1 CrMo 9 - Marathon 543 is a wire flux combination for submerged arc welding creep resistant steel grades with 9% Cr and 1% Mo. Applied for hot hydrogen service, particularly for application in oil refineries and the base metals X12CrMo9-1 (P9) in long-term condition up to +600°C service temperature.

Marathon 543 is an agglomerated fluoride-basic flux with high basicity and neutral metallurgical behaviour. For information regarding this welding flux see our detailed data sheet.

Base materials

Similar alloyed creep resistant steels
1.7386 X12CrMo9-1, 1.7388 X7CrMo9-1, 1.7389 GX12CrMo10
ASTM A217 Gr. C12, A 234 Gr. WP9, A335 Gr. P9

Typical analysis

wt.-%	C	Si	Mn	Cr	Mo
wire	0.08	0.4	0.5	9.1	1.0
all-weld metal	0.07	0.3	0.6	8.7	0.95

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
	MPa	MPa	%	20 °C
a1, DC+	≥ 470	≥ 590	≥ 18	≥ 34

a1 = 3 hours 760 °C + cool down in furnace to 300°C + air cooling

Operating data

	Polarity	DC +	Dimension mm
			3.0

Preheating and interpass temperature 250 – 350°C. Tempering at 710 – 760°C for at least 3 h followed by cooling in furnace down to 300°C / air. For detailed information about the welding technology please contact our service departments.

Approvals

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