



Covered electrode, high-alloyed, austenitic stainless, heat resistant

Classifications

EN ISO 3581-A AWS A5.4 / SFA-5.4

E 22 12 R 3 2 E309-17

Characteristics and typical fields of application

Rutile core wire alloyed electrode of E 22 12 R / E309-17 type for welding heat resistant rolled, forged and cast steels as well as heat resistant ferritic CrSiAl steels, e.g. in annealing plants, hardening plants, steam boiler construction, the crude oil industry and the ceramics industry. For weld joints in CrSiAl steels exposed to sulphurous gases, the final layer has deposited by means of FOX FA. Scaling resistant up to 950°C. Smooth beads and easy slag removal.

Atmosphere Max. application temperature in °C

Sulfur-free Max. 2 g S/Nm³ > 2 g S/Nm³
Air and oxidizing combustion gases 950 930 850

Reducing combustion gases 900 850

Base materials

1.4710 GX30CrSi6, 1.4713 X10CrAl7, 1.4724 X10CrAl13, 1.4742 X10CrAl18, 1.4740 GX40CrSi17,

1.4828 X15CrNiSi20-12, 1.4826 GX40CrNiSi22-9, 1.4833 X7CrNi23-14

AISI 305, 309, 405,

UNS \$40500, \$30900, ASTM A297 HF

Typical analysis

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	С	Si	Mn	Cr	Ni	
wt%	0.1	0.8	0.9	22.5	12.5	

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
	MPa	MPa	%	20°C
U	460 (≥ 350)	590 (≥ 550)	37 (≥ 25)	50 (≥ 32)

u untreated, as welded

Operating data

→	Polarity	DC+/AC	Dimension mm	Current A
	Electrode identification	FOX FF-A E 22 12 R	2.5 × 350	50 – 80
			3.2 × 350	80 – 110
			4.0×350	110 – 140

Preheating and interpass temperatures for ferritic steels $200-300^{\circ}\text{C}$.

Suggested heat input max. 1.5 kJ/mm.

Re-drying if necessary at 250 - 300°C for min. 2 h.

Approvals

TÜV (01315), ABS (309-17), CE