Thermanit 309 H

TIG rod, high-alloyed, austenitic stainless, heat resistant

Classifications

EN ISO 14343-A	AWS A5.9 / SFA-5.9
W 22 12 H	ER309 (mod.)

Characteristics and typical fields of application

TIG rod G 22 12 H / ER309 (mod.) type for similar, heat resisting rolled, forged and cast steels as well as for heat resisting, ferritic CrSi-Al-steels, e.g. in annealing shops, hardening shops, steam boiler construction, the crude oil industry and the ceramics industry. Results in an austenitic microstructure deposited with a ferrite content of approximately 8%. Preferably used for applications involving the attack of oxidizing gases. The final layer of joint welds in CrSiAl-steels exposed to sulfurous gases must be deposited using a 25 4 grade welding consumable.

	Atmospere	max. Service Temperature
Air and oxidizing combustion gas:	Sulfur free	950ºC
	Max. 2g S/Nm³	850ºC
Reducing combustion gas:	Sulfur free	900ºC

Base materials

Heat resistant ferritics:
1.4826 GX40CrNiSi22-10, 1.4828 X15CrNiSi20-12, 1.4833 X12CrNi23-13
Heat resistant austenitics:
1.4710 GX30CrSi7, 1.4713 X10CrAlSi7, 1.4724 X10CrAlSi13, 1.4740 GX40CrSi17, 1.4742 X10CrAlSi18 AISI 305, ASTM A 297 HF

Typical analysis

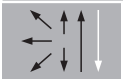
	C	Si	Mn	Cr	Ni
wt.-%	0.1	1.1	1.6	22.5	11.5

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	500 (≥ 350)	630 (≥ 550)	32 (≥ 25)	115

u untreated, as-welded – shielding gas Ar

Operating data



Polarity	DC-	**Dimension mm**
Shielding gas (EN ISO 14175)	I1	1.6 × 1000
		2.0 × 1000
Rod marking	+ W 22 12 H / 1.4829	2.4 × 1000

Heat input, max. 2.0 kJ/mm, interpass temperature max. 150ºC.
Preheating and interpass temperatures for ferrite steels 200 – 300ºC. Creep rupture properties according to matching high temperature steels / alloys.

Approvals

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