

Classifications

EN ISO 14343-A	AWS A5.9 / SFA-5.9
W 19 9 H	ER308H

Characteristics and typical fields of application

TIG rod of G 19 9 H / ER308H type for welding heat and creep-resistant austenitic stainless steels such as 18Cr-10Ni and similar. The consumable has an enhanced carbon content compared to 1.4307 / 308L. This provides improved creep resistance properties, which is advantageous at service temperatures up to 400°C. Short term service temperatures up to 600°C are possible. Good resistance to general corrosion.

The microstructure is austenite with 5 – 10% ferrite.

Base materials

1.4301 X5CrNi18-10, 1.4541 X6CrNiTi18-10, 1.4550 X6CrNiNb18-10, 1.4878 X8CrNiTi18-10, 1.4948 X7CrNi18-9
 UNS S30400, S30409, S32100, S34700
 AISI 304, 304H, 321, 321H, 347, 347H

Typical analysis


	C	Si	Mn	Cr	Ni	FN
wt.-%	0.05	0.4	1.8	20	9.0	10 (WRC 92)

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	Hardness
	MPa	MPa	%	20°C	HB
u	450 (≥ 350)	640 (≥ 550)	38 (≥ 30)	150 (≥ 80)	210

u untreated, as-welded – shielding gas Ar

Operating data

	Polarity	DC-	Dimension mm
	Shielding gas (EN ISO 14175)	I1 Ar + 20 – 30 % He Ar + 1 – 5 % H2	2.4 × 1000
	Rod marking	+ ER 308 H	

Suggested heat input is max. 2.0 kJ/mm and interpass temperature max. 150°C. Post-weld heat treatment generally not needed. In special cases, solution annealing can be performed at 1050°C followed by water quenching.

Approvals

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