

Classification

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

Characteristics and typical fields of application

Avesta 308H is designed for welding austenitic stainless steel type 18 Cr 10 Ni or similar. The consumable has an enhanced carbon content when compared to 308L. This provides improved creep resistance properties, which is advantageous at temperatures above 400 °C. 308H type consumables are normally used at temperatures up to 600 °C. For higher temperatures a niobium stabilized consumable such as Avesta 347/MVNB is required.

Structure: Austenite with 5 – 10 ferrite.

Scaling temperature: Approx. 850 °C (air).

Corrosion resistance:

Corresponding to ASTM 304, i.e. good resistance to general corrosion. The enhanced carbon content, compared to 308L, makes it slightly more sensitive to intercrystalline corrosion.

Base materials

Outokumpu	EN	ASTM	BS	NF	SS
4301	1.4301	304	304S31	Z7 CN 18-09	2333
4541	1.4541	321	321S31	Z6 CNT 18-10	2337
-	1.4550	347	347S31	Z6 CNNb 18-10	2338

Typical analysis of the solid wire (wt.-%)

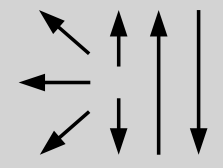
	C	Si	Mn	Cr	Ni	Ferrite
wt.-%	0.05	0.4	1.8	20.0	9.0	10 FN (WRC-92)

Mechanical properties of all-weld-metal

Heat treatment	Yield strength $R_{p0.2}$	Tensile strength R_m	Elongation ($L_0=5d_0$)	Impact work ISO-V KV J	Hardness
	MPa	MPa	%	+20 °C	Brinell
u	450	640	38	150	210

u untreated, as welded – Shielding gas Ar (99.95 %)

Operating data

	Polarity DC (+)	Shielding gas: Ar (99.95 %) Ar + 20 – 30 % He Ar + 1 – 5 % H ₂ Gas flow rate: 4 – 8 l/min.	∅ (mm) 2.4
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Heat treatment: Generally none (in special cases quench annealing at 1050 °C). Interpass temperature: Max. 150 °C. Heat input: Max. 2.0 kJ/mm.

Approvals

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