

Classifications

EN ISO 14343-A	AWS A5.9 / SFA-5.9
W 23 12 L	ER309L

Characteristics and typical fields of application

TIG rod W 23 12 L / ER309L for welding dissimilar joints. Well-suited for depositing intermediate layers when welding of clad materials. The average ferrite content is >10 FN.

Suitable for service temperatures between -80°C and 300°C.

Base materials

For surfacing (buffer layer) unalloyed or low-alloyed steels and when joining non-molybdenum-alloyed stainless and carbon steels. Joints and mixed joints between austenitic steels or mixed joints between austenitic and heat resistant steels with ferritic steels to pressure boiler steels P295GH and fine grained structural steels to P355N, ship building steel grades A – E, AH 32 – EH 36, A40 – F40, etc.

Typical analysis

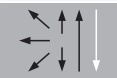
	C	Si	Mn	Cr	Ni
wt.-%	0.02	0.5	1.7	23.5	13.2

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	440 (≥ 320)	580 (≥ 520)	34 (≥ 25)	150 (≥ 47)

u untreated, as-welded – shielding gas Ar

Operating data

	Polarity	DC -	Dimension mm
	Shielding gas (EN ISO 14175)	I1 (Ar)	1.6 x 1000
	Rod marking	+ W 23 12 L / ER 309 L	2.0 x 1000
			2.4 x 1000
			3.2 x 1000

Approvals

TÜV (19795), DB (43.132.92), CE