

## Classifications

**EN ISO 14343-A**
**AWS A5.9 / SFA-5.9**

W 25 22 2 N L

ER310 (mod.)

## Characteristics and typical fields of application

TIG rod and wire of W 25 22 2 N L / ER310 (mod.) type. Max. service temperature 350°C. Good resistance to Cl-bearing environment, pitting corrosion and nitric acid. Huey test acc. to ASTM A 262: max. 1.5 µm/48 h (0.25 g/m<sup>2</sup>h), selective attack max. 100 µm. Particularly suited for corrosion conditions in urea synthesis plants. For joining and surfacing applications with matching/similar steels. For weld cladding on high temperature steels and for fabricating joints on claddings. Resulting all weld metal microstructure is austenite with max. 0.5% ferrite.

## Base materials

1.4335 X1CrNi25-21, 1.4435 X2CrNiMo18-14-3, 1.4465 X1CrNiMoN22-25-3, 1.4466 X1CrNiMoN25-22-2, 1.4577 X3CrNiMoTi25-25  
UNS S31050, S31603  
AISI 316L, 725LN

## Typical analysis

	C	Si	Mn	Cr	Ni	Mo	N
wt.-%	0.02	0.2	6.0	25	22.5	2.2	0.13

## Mechanical properties of all-weld metal - typical values (min. values)

Condition	Yield strength R <sub>p0.2</sub>	Tensile strength R <sub>m</sub>	Elongation A (L <sub>0</sub> =5d <sub>0</sub> )	Impact energy ISO-V KV J
	MPa	MPa	%	20°C
u	450 (≥ 400)	625 (≥ 600)	32 (≥ 30)	120 (≥ 80)

u untreated, as-welded – shielding gas Ar

## Operating data

	<b>Polarity</b>	DC-	<b>Dimension mm</b>
	<b>Shielding gas (EN ISO 14175)</b>	I1	1.0 1.2
			2.0 × 1000
			2.4 × 1000

Suggested heat input is max. 1.0 kJ/mm, interpass temperature max. 100°C.

Post-weld heat treatment generally not needed when welding similar austenitic base metals. When cladding and joining creep resistant steels and cast steel grades, preheating is determined by the parent metal, usually 150°C. In case post-weld heat treatment is needed to soften the HAZ of the base metal, stress relieving should be limited to max. 530°C (recommended is 510°C for max. 20 h). If it is necessary to apply a post-weld heat treatment temperature above 530°C, the last (cladding) layer should be performed after this postweld heat treatment.

## Approvals

CE