

## Classifications

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

W Z 20 25 6 Cu N L

ER385 (mod.)

## Characteristics and typical fields of application

TIG rod of W 20 25 6 Cu N L / ER385 (mod.) type designed for welding corrosion resistant 4 – 5% Mo-alloyed CrNi-steels such as 1.4539 / 904L. Due to the high Mo content (6.2%) as compared to 1.4539 / UNS N08904, the segregation high Mo-alloyed CrNi-weld metal can be compensated. The fully austenitic weld metal possesses a marked resistance towards pitting and crevice corrosion in chloride containing media. Very high pitting resistant equivalent ( $PRE_n \geq 45$ ). Highly resistant against sulfuric, phosphoric, acetic and formic acid, as well as seawater and brackish water. Due to the low C-content of the weld metal, the risk of intergranular corrosion is low. The high Ni-content in comparison to standard CrNi-weld metals leads to high resistance to stress corrosion cracking. Especially suitable for sulfur and phosphorus production, pulp and paper industry, flue gas desulfurization plants. Other applications include, but are not limited to; fertilizer production, petrochemical industry, fatty, acetic and formic acid production, seawater sludge fittings and pickling plants.

## Base materials

1.4505 X4NiCrMoCuNb20-18-2, 1.4506 X5NiCrMoCuTi20-18, 1.4537 X1CrNiMoCuN25-25-5, 1.4538 X2NiCrMoCuN20-18, 1.4539 X1NiCrMoCu25-20-5, 1.4586 X5NiCrMoCuNb22-18  
UNS S31726, N08904  
AISI 904L

## Typical analysis

	C	Si	Mn	Cr	Ni	Mo	N	Cu	$PRE_n$
wt.-%	≤ 0.02	0.7	4.7	20	25.4	6.2	0.12	1.5	≥ 45

## 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	-269°C
u	440 (≥ 320)	670 (≥ 510)	42 (≥ 25)	145 (≥ 80)	90 (≥ 32)

u untreated, as-welded – shielding gas Ar

## Operating data

	<b>Polarity</b>	DC-	<b>Dimension mm</b>
	<b>Shielding gas</b> (EN ISO 14175)	I1 (Ar)	1.6 × 1000
	<b>Rod marking</b>	+ WZ 20 25 6 Cu NL	2.0 × 1000
			2.4 × 1000

Suggested heat input is max. 1.5 kJ/mm, interpass temperature max. 100°C. No preheating unless required by the parent material. Post-weld heat treatment generally not needed. In special cases, solution annealing can be performed at 1120°C.

## Approvals

TÜV (04881), Equinor, CE