

Classifications

EN ISO 14343-A

AWS A5.9

W Z20 25 5 Cu N L

ER385 (mod.)

Characteristics and typical fields of application

GTAW rod for corrosion resistant 4 – 5 % Mo-alloyed CrNi-steels like 1.4539 / 904L. Very high pitting resistant equivalent ($PRE_N \geq 45$) – pitting potential ($\%Cr + 3.3 \times \%Mo + 30 \times \%N$). Due to the high Mo content (6.2 %) in comparison to W-No. 1.4539 respectively UNS N08904, the high segregation rate of high Mo-alloyed CrNi-weld metal can be compensated. The fully austenitic weld metal possess a marked resistance towards pitting and crevice corrosion in chloride containing media. Highly resistant against sulphur-, phosphorus-, acetic- and formic acid, as well as sea- and brackish water. Caused from the low C-content of the weld metal, the risk of intergranular corrosion can be avoided. The high Ni-content in comparison to standard CrNi-weld metals leads to high resistance against stress corrosion cracking.

Special applicable in sulphur- and phosphorus production, pulp and paper industry, flue gas desulphurisation plants, further on for fertilizer production, petrochemical industry, fatty-, acetic- and formic acid production, sea water sludge fittings and pickling plants which are proceeded with sea or brackish water.

Base materials

Same-alloyed high-Mo Cr-Ni-steels

1.4539 X1NiCrMoCu25-20-5, 1.4439 X2CrNiMoN17-13-5, 1.4537 X1CrNiMoCuN25-25-5

UNS N08904, S31726

Typical analysis of the TIG rods (wt.-%)

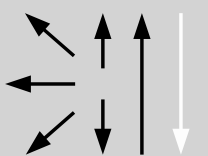
	C	Si	Mn	Cr	Ni	Mo	Cu	N		PRE_N
wt-%	≤ 0.02	0.7	4.7	20.0	25.4	6.2	1.5	0.12		≥ 45.0

Mechanical properties of all-weld metal

Condition	Yield strength $R_{p0.2}$	Tensile strength R_m	Elongation A ($L_0=5d_0$)	Impact work ISO-V KV J	
	MPa	MPa	%	+20 °C	-296 °C
u	440 (≥ 320)	670 (≥ 510)	42 (≥ 25)	115	72 (≥ 32)

u untreated, as welded – shielding gas Argon

Operating data

	Polarity:	Shielding gas:	Rod marking:	ø (mm)
	DC (-)	100 % Argon	front: ⚡ W Z 20 25 5 Cu NL back: ER 385	1.6
				2.0
				2.4

Preheating and post weld heat treatment is not required by the weld deposit. Interpass temperature should not exceed 150°C.

Approvals

TÜV (04881.), Statoil, CE