BÖHLER CN 20/25 M-IG (Si)

Solid wire, high-alloyed, highly corrosion resistant

Classifications

EN ISO 14343-A	AWS A5.9
G Z20 25 5 Cu N L	ER385 (mod.)

Characteristics and typical fields of application

GMAW solid wire 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 x %Mo + 30 x %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. The GMAW wire exhibits good feeding, welding and wetting characteristics.

Base materials

Same-alloyed CrNi-steels with high Mo-content

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

UNS N08904, S31726

Typical analysis of solid wire (wt.-%)

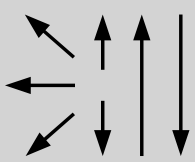
	C	Si	Mn	Cr	Ni	Mo	Cu	N		PRE_N
wt-%	≤ 0.02	0.7	4.7	20.0	25.4	6.2	1.5	0.12		≥ 45

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	–196 °C
u	**410** (≥ 320)	**650** (≥ 510)	**39** (≥ 25)	**100**	≥ 32

u untreated, as welded – shielding gas Ar + 20% He + 0.5% CO_2

Operating data



Polarity:	Shielding gases:	ø (mm)
DC (+)	Argon + 20 – 30 % He + max. 2 % CO_2	0.8
	Argon + 20 % He + 0.5 % CO_2	1.0
		1.2

Preheating and post weld heat treatment is not required by the deposit.

Interpass temperature should not exceed +150°C.

Approvals

TÜV (04897.), Statoil, SEPROZ, CE