BÖHLER DCMS-IG

TIG rod, low-alloyed, creep resistant

Classifications

EN ISO 21952-A	EN ISO 21952-B	AWS A5.28	AWS A5.28M
W CrMo1Si	W 1CM3	ER80S-G	ER55S-G
		ER80S-B2 (mod.)	ER55S-B2 (mod.)

Characteristics and typical fields of application

GTAW rod for 1.25 % Cr 0.5% Mo alloyed boiler, plate and tube steels as well as for the welding of quenched and tempered and case hardening steels. Preferably used for the steels 13CrMo4-5 or ASTM A335 P11/P12. Approved in long-term condition up to +570 °C service temperature. Suitable for step- cooling applications. Bruscato ≤ 15 ppm.

The deposit is noted for its good mechanical properties and good toughness. Further, good resistance to cracking, when attacked by caustic soda, and the fact that it is suitable for nitriding, quenching and tempering are additional features. The values of the creep rupture strength lay within the scatter band of the material 13CrMo4-5. Very good operating characteristics.

Base materials

Similar alloyed creep resistant steels and cast steels, case hardening and nitriding steels of similar chemical composition, steels resistant to caustic cracking

1.7335 13CrMo4-5, 1.7262 15CrMo5, 1.7728 16CrMoV4, 1.7218 25CrMo4, 1.7258 24CrMo5, 1.7354 G22CrMo5-4, 1.7357 G17CrMo5-5

ASTM A193 Gr. B7, A217 Gr. WC6, A335 Gr. P11 u. P 12

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

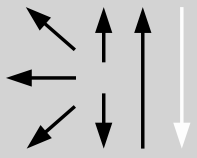
	C	Si	Mn	Cr	Mo	P	As	Sb	Sn
wt.-%	0.1	0.6	1.0	1.2	0.5	≤ 0.015	≤ 0.010	≤ 0.005	≤ 0.006

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
a	**440** (≥ 355)	**570** (≥ 550)	**25** (≥ 20)	**250** (≥ 47)
a1	**510**	**620**	**22**	**200**

a annealed, 680°C/1h / furnace down to 300°C / air – shielding gas Argon
a1 annealed, 620°C/1h / furnace down to 320°C / air – shielding gas Argon

Operating data



Polarity:	Shielding gas:	Rod marking:	ø (mm)
DC (–)	100% Argon	front: W CrMo1 Si back: 1.7339	1.6 2.0 2.4 3.0

Preheat, interpass temperature and post weld heat treatment as required by the base metal.

Approvals

TÜV (0727.), SEPROZ, CE, NAKS (ø 2.4 mm; ø 3.0 mm)