BÖHLER DCMS-IG

TIG Rod, low-alloyed, creep resistant

böhler welding
by voestalpine

GTAW

Classifications

EN ISO 21952-A
W CrMo1Si

AWS A5.28 / SFA-5.28
ER80S-G

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 service up to 570°C . Suitable for step-cooling applications. Bruscato ≤ 15 ppm.

The deposit is noted for its good mechanical properties and good toughness with good resistance to cracking in caustic soda. Creep rupture strength values are within the scatter band of the base material 13CrMo4-5.

Base materials

Creep resistant steels and similar alloyed cast steels, case hardening and nitriding steels of similar chemical composition, similar alloyed heat treatable steels with tensile strength up to 780 MPa, 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, A335 Gr. P11 u. P12, A217 Gr. WC6

Typical analysis of the wire rod

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

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

Condition	Yield strength $R_{p0.2}$ MPa	Tensile strength R_m MPa	Elongation A ($L_0=5d_0$) %	Impact values ISO-V KV J 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

Shielding gas (EN ISO 14175)	I1	**Dimension mm**
		1.6 × 1000
		2.0 × 1000
Rod marking	W CrMo1 Si	2.4 × 1000
	1.7339	3.0 × 1000

Preheat, interpass temperature and post weld heat treatment as required by the base metal.
Shielding gas: 100% Ar. Gas flow: 8 – 12 l/min.
Polarity: DC-

Approvals

TÜV (00727),CE, NAKS (Ø 2.4 mm; Ø 3.0 mm)

Alternative products

Union I CrMo