BÖHLER DCMS-IG

Solid wire, low-alloyed, creep resistant

Classifications

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

Characteristics and typical fields of application

GMAW wire 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.

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.

The wire shows very good feeding characteristics, resulting in smooth welding and wetting behaviour. Uniform copper bonding with low total copper content.

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 solid wire (wt.-%)

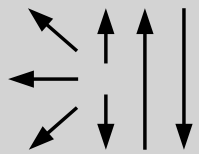
	C	Si	Mn	Cr	Mo
wt.-%	0.11	0.6	1.0	1.2	0.5

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)	**23** (≥ 20)	**140** (≥ 47)

a annealed, 680 °C/1h / furnace down to 300 °C / air – shielding gas Ar + 18 % CO_2

Operating data



Polarity:	Shielding gases:	ø (mm)
DC (+)	Argon + 15 – 25 % CO_2	0.8
	100 % CO_2	1.0
	Using 100 % CO_2 the mechanical properties can be different.	1.2
		1.6

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

Approvals

TÜV (1091.), DB (42.014.15), SEPROZ, CE