BÖHLER CM 2-IG

Solid Wire, low-alloyed, creep resistant

Classifications

EN ISO 21952-A	AWS A5.28 / SFA-5.28
G CrMo2Si	ER90S-B3Si

Characteristics and typical fields of application

Solid wire of type G CrMo2Si / ER90S-G with increased Manganese content supporting desoxidation behavior, reducing porosity and improving strength after PWHT. The weld metal exhibits a bainitic microstructure with favorable mechanical properties in tempered and quenched and tempered condition. The range of application covers joint welding of similar alloyed creep resistant steel and steel casting in thermal power and chemical industry.
Approved for application under creep condition at design temperatures up to 600ºC. Due to the low content of residual and tramp elements the weld metal offers a Bruscato factor ≤ 15 ppm.

Base materials

Creep resistant steels and similar alloyed cast steels
Similar alloyed QT-steels up to 980 MPa tensile strength
Similar alloyed case hardening steels, nitriding steels
1.7380 – 10CrMo9-10, 1.7276 – 10CrMo11, 1.7281 – 16CrMo9-3, 1.7383 – 11CrMo9-10,
1.7379 – G17CrMo9-10, 1.7382 – G19CrMo9-10
ASTM A 182 Gr. F22; A 213 Gr. T22; A 234 Gr. WP22; A 335 Gr. P22; A 336 Gr. F22; A 426 Gr. CP22

Typical analysis

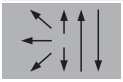
	C	Si	Mn	Cr	Mo
wt.-%	0.08	0.6	0.95	2.6	1.0

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

Condition	Yield strength $R_{p0.2}$	Tensile strength R_m	Elongation A (L_0=5d_0)	Impact energy ISO-V KV J
	MPa	MPa	%	20°C
s	510 (≥ 500)	640 (≥ 620)	23 (≥ 18)	180 (≥ 120)

s heat treated, annealed, 720°C/ 2 h / furnace down to 300°C / air – shielding gas Ar + 18 % CO_2

Operating data



Polarity	DC +
Shielding gas (EN ISO 14175)	M1 M2 M3 C

Dimension mm
0.8
1.0
1.2
1.6

Preheating, interpass temperature, and post-weld heat treatment as required by the base metal. Preheating can normally be recommended being in a range of 150 to 350ºC depending on the wall thickness. Common post weld heat treatments are carried out between 650 and 750ºC.

Approvals

TÜV (01085), DB (42.132.70),CE