

Classifications

EN ISO 21952-A	EN ISO 21952-B	AWS A5.28	AWS A5.28M
G CrMo2Si	G G2C1M3	ER90S-G	ER62S-G
		ER90S-B3 (mod.)	ER62S-B3 (mod.)

Characteristics and typical fields of application

GMAW for 2.25 % Cr 1 % Mo alloyed boiler, plate and tube steels as well as in oil refineries e.g. in crack plants. Preferably used for the base metal 10CrMo9-10 (ASTM A335 Gr. P22) Approved in long-term condition up to +600 °C service temperature. Also for similar alloyed quenched and tempered steels and case hardening steels. The deposit is noted for its good mechanical properties and cracking resistance, but also for its creep rupture strength which is within the scatter band of 10CrMo9-10.

The wire shows very good feeding characteristics, resulting in smooth welding and wetting behaviour.

Base materials

Creep resistance steels and similar alloyed cast steels, QT-steels similar alloyed 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; 335 Gr. P22; A 336 Gr. F22; A 426 Gr. CP22

Typical analysis of solid wire (wt.-%)

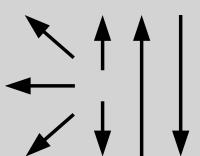
	C	Si	Mn	Cr	Mo
wt.-%	0.08	0.6	0.95	2.6	1.0

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 (≥ 400)	580 (≥ 550)	23 (≥ 18)	170 (≥ 47)

a annealed, 720 °C/h / furnace down to 300 °C / air – shielding gas Ar + 18 % CO₂

Operating data

	Polarity:	Shielding gases:	ø (mm)
	DC (+)	Argon + 15 – 25 % CO ₂ 100 % CO ₂ Using 100 % CO ₂ the mechanical properties can be different.	0.8 1.0 1.2

Preheating and interpass temperature 200 – 350 °C. Tempering at 700 – 750 °C for at least 1 h followed by cooling in furnace down to 300 °C and still air.

Approvals

TÜV (1085.), DB (42.014.39), SEPROZ, CE