

Classifications

EN ISO 17634-A	EN ISO 17634-B	AWS A5.36	AWS A5.36M
T CrMo2 P M 1 H10	T 62T1-1M-2C1M-H10	E91T1-M21PY-B3-H8	E621T1-M21PY-B3-H8

Characteristics and typical fields of application

The welding consumable Böhler CM 2 Ti-FD is a low alloyed, flux-cored wire with rutile filling, primarily designed for the welding of 2.25 % Cr and 1% Mo alloyed creep-resistant base metals (e.g. 10CrMo9-10), that are used for the fabrication of high-pressure vessels and pipe systems. Due to the fast freezing slag system this flux-cored wire provides excellent positional welding characteristics and allows fast travel speeds to be used. This flux cored wire is for welding with normal power sources on DCEP under Mixture gas (82% Ar + 18% CO₂).

Base materials

Creep resistant steels and similar alloyed cast steels, similar alloyed case hardening steels up to 980 MPa tensile strength, 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 all-weld metal (wt.-%)

	C	Si	Mn	Cr	Mo	P	As	Sn	Sb
wt.-%	0.08	0.25	0.8	2.25	1.1	< 0.015	< 0.005	< 0.005	< 0.005

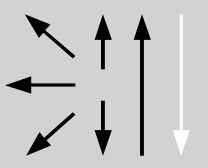
Mechanical properties of all-weld metal

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	600 (≥ 540)	700 (620 – 760)	19 (≥ 18)	70 (≥ 47)
a1	≥ 540	620 – 760	≥ 18	

a annealed, 720°C/2 h – shielding gas Ar + 18% CO₂

a1 annealed, 690°C/1 h – shielding gas Ar + 18% CO₂

Operating data

	Polarity: DC (+)	Shielding gases: Argon + 15 – 25% CO ₂	Redrying possible, 150°C / 10 h	ø (mm) 1.2	Amps A 150 – 330
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Preheating, interpass temperature and post weld heat treatment as required by the base metal.

For heavy walled components an interpass temperature to a min. 175°C is recommended. Stress relieved annealing should be carried out between (675°C) 690°C and 750°C. We recommend a post weld heat treatment of min. 730°C/4h to increase the toughness.

Approvals

TÜV (11812.), CE