BÖHLER alform® 700-MC

Metal cored wire, high strength

Classifications

EN ISO 18276-A	EN ISO 18276-B	AWS A5.28	AWS A5.28M
T 69 5 Mn2NiCrMo M M 1 H5	T765T15-1MA-N4C1M2-UH5	E110C-K4H4	E76C-K4H4

Characteristics and typical fields of application

The alform® 700-MC metal cored wire is developed for shielded arc welding of thermo mechanically produced fine grained structural steels. A high sophisticated metallurgy combined with a very precise production technology results in high strength combined with very good toughness behaviour. This tubular wire possesses higher rigidity – as a result it offers exact ignition and excellent feeding characteristic. Due to the technology metal cored wire ensures low diffusible hydrogen content of <3 ml / 100g. This metal cored wire is designed for welding under mixture gas (Ar + CO_2) in PA and PB-position. Good results were also achieved after using alternative gases CO_2, 8 – 10 % CO_2 + Ar and different welding positions (PG). This filler material is used for high strength steel constructions, crane and vehicle manufacturing, for ship building, offshore applications and also for penstocks.

Base materials

S690 and higher strength grades, thermo mechanically treated fine grain steels up to 690 MPa.

S690Q, S690QL, aldur 700Q, 700QL, alform® 700 M (wire is especially balanced for this plate steel).

ASTM A 514 Gr. F, H, Q ; A 709 Gr. 100 Type E, F, H, Q; A 709 Gr. HPS 100W

Typical analysis of all-weld metal (wt.-%)

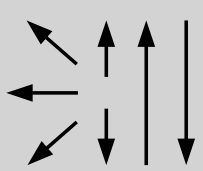
	C	Si	Mn	Cr	Ni	Mo
wt.-%	0.07	0.7	1.6	0.35	2.0	0.3

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	–50 °C
u (acc. to EN ISO)	**770** (≥ 690)	**830** (770 – 960)	**18** (≥ 17)	**145**	**63** (≥ 47)
u (acc. to AWS)	**770** (≥ 680)	**830** (≥ 760)	**18** (≥ 13)	**145**	**63** (≥ 47)

u untreated, as welded – shielding gas Ar + 18 % CO_2

Operating data



Polarity	Shielding gases:	Redrying if necessary:	ø (mm)
DC (+)	Argon + 15 – 25% CO_2	150 °C/24 h	1.2

Preheating and interpass temperature as required by the base metal.

Approvals

TÜV (12822.), DB (42.014.51), GL, CE