

Classifications

EN ISO 18276-A	EN ISO 18276-B
T69 6 Mn2NiCrMo M M21 1 H5	T766T15-1M21A-N4C1M2-UH5
AWS A5.36	AWS A5.36M
E110T15-M21A8-K4-H4	E760T15-M21A6-K4-H4

Characteristics and typical fields of application

The BÖHLER X70 L-MC metal cored wire manufactured with seamless laser technology is developed for shielded arc welding of thermo mechanically and quenched and tempered fine grained structural steels. The metallurgy combined with a very precise production technology results in high strength combined with very good toughness behaviour and excellent welding performance. This tubular wire possesses higher rigidity – as a result it offers exact ignition and excellent feeding characteristic. Due to the manufacturing technology, this metal cored wire ensures low diffusible hydrogen content of <2 ml / 100g. This metal cored wire is designed for welding under mixture gas (Ar + CO₂) in PA and PB-position. Good results were also achieved after using alternative gases CO₂, 8 – 10 % CO₂ + 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

thermo mechanically treated and quenched and tempered fine grain steels up to 690 MPa.
S550Q-S690Q, S550QL-S690QL, P550Q-P690Q, P550QL-P690QL
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.-%)

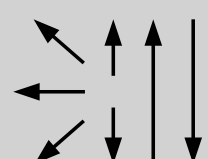
	C	Si	Mn	Cr	Ni	Mo
wt.-%	0.07	0.7	1.6	0.35	2.0	0.3

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	%	-40 °C	-60 °C
u	770 (≥ 690)	830 (770 – 900)	19 (≥ 17)	130	85 (≥ 47)

u untreated, as welded – shielding gas Ar + 18 % CO₂

Operating data

	Polarity: DC (+)	Shielding gases: (EN ISO 14175): M21; M20 Argon + 5 – 25 % CO ₂	ø (mm)
			1,0
			1.2
			1.6

Preheating and interpass temperature as required by the base metal.

Approvals

TÜV, DB, DNV GL, LR, CWB, CE