

Classifications

EN ISO 18276-A	AWS A5.36
T89 5 ZMn2NiCrMo M M21 1 H5	E131T15-M21A6-K4-H4
EN ISO 18276-B	AWS A5.36M
TZ835T15-1M21A-N4C2M2-UH5	E901T15-M21A5-K4-H4

Characteristics and typical fields of application

The BÖHLER X90 L-MC metal cored wire, manufactured with seamless laser technology, is developed for shielded arc welding of thermo mechanically and quenched and tempered produced fine grained structural steels. A balanced 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 weld metal. 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, 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.

Base materials

S890 and higher strength grades, thermo mechanically treated and quenched and tempered fine grain steels

S890Q, S890QL, XABO 90, QX 1002, ASTM A 709 Gr. 100 Type B, E, F, H, Q, HPS 100W

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

	Gas	C	Si	Mn	Cr	Ni	Mo
wt.-%	M21	0.06	0.7	1.9	0.5	2.1	0.4

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	920 (≥ 890)	980 (940 – 1180)	17 (≥ 15)	80	70 (≥ 47)
u untreated, as welded – shielding gas M21					

Operating data

	Polarity DC (+)	Shielding gases: (EN ISO 14175) M21	ø (mm) 1.0
			ø (mm) 1.2

Preheating and interpass temperature as required by the base metal.

Approvals

TÜV, DB, CE