

# BÖHLER HL 51 T-MC



Metal-cored wire, seamless, mild steel

## Classifications

### EN ISO 17632-A

T 46 6 M M21 1 H5

T 42 5 M C1 1 H5

### AWS A5.36 / SFA-5.36

E70T15-M21A8-CS1-H4

E70T15-C1A6-CS1-H4

## Characteristics and typical fields of application

Seamless metal cored wire for single- or multilayer welding of Carbon, Carbon-Manganese and similar types of steels, including fine grain steels with Argon-CO<sub>2</sub> or pure CO<sub>2</sub> shielding gas. Features include: high yield, good weldability, excellent bead appearance, very low spatter losses and exceptional mechanical properties at low temperatures (-60°C) in as welded conditions as well with post weld heat treatment. This wire is especially suitable for automated-robotized applications and for root pass welding for piping and butt-joints. This product can be used in sour gas applications. (HIC tested acc. to NACE TM-0284). Test values for SSC are available upon request

## Base materials

S235JR-S355JR, S235JO-S355JO, S450JO, S235J2-S355J2, S275N-S460N, S275M-S460M, P235GH-P355GH, P275NL1-P460NL1, P215NL, P265NL, P355N, P285NH-P460NH, P195TR1-P265TR1, P195TR2-P265TR2, P195GH-P265GH, L245NB-L415NB, L450QB, L245MB-L450MB, GE200-GE240

Shipp building steels: A, B, D, E, A 32-E 36

ASTM A 106 Gr. A, B, C; A 181 Gr. 60, 70; A 283 Gr. A, C; A 285 Gr. A, B, C; A 350 Gr. LF1; A 414 Gr. A, B, C, D, E, F, G; A 501 Gr. B; A 513 Gr. 1018; A 516 Gr. 55, 60, 65, 70; A 573 Gr. 58, 65, 70; A 588 Gr. A, B; A 633 Gr. C, E; A 662 Gr. B; A 711 Gr. 1013; A 841 Gr. A; API 5 L Gr. B, X42, X52, X56, X60, X65

## Typical analysis of the wire

	Gas	C	Si	Mn
wt.-%	M21	0.06	0.80	1.60
wt.-%	C1	0.05	0.60	1.50

## Mechanical properties of all-weld metal - typical values (min. values)

Condition	Yield strength R <sub>e</sub> MPa	Tensile strength R <sub>m</sub> MPa	Elongation A (L <sub>0</sub> =5d <sub>0</sub> ) %	Impact values ISO-V KV J		
				-40°C	-50°C	-60°C
u	500 (≥ 460)	600 (550-660)	29 (≥ 20)	120		80 (≥ 47)
u1	460 (≥ 420)	560 (530-640)	30 (≥ 20)	80	60 (≥ 47)	
s	420	510	24	90		

u untreated, as welded – shielding gas M21

u1 untreated, as welded – shielding gas C1

s stress relieved 620°C / 2h – shielding gas M21

## Operating data

	<b>Polarity</b>	DC+/- in PG-Position	<b>Dimension mm</b>
	<b>Shielding gas (EN ISO 14175)</b>		1.0
			1.2
			1.4
			1.6

Welding with conventional or pulsed power sources using DC+

## Approvals

TÜV, DB, DNV-GL, ABS, LR, BV, RINA, CWB, CE