

## Classifications

EN ISO 17632-A	EN ISO 17632-B	AWS A5.36	AWS A5.36M
T46 6 M M21 1 H5	T556T15-1M21A-H5	E71T15-M21A8-CS1-H4	E491T15-M21A6-CS1-H4
T42 5 M C1 1 H5	T495T15-1C1A-H5	E71T15-C1A6-CS1-H4	E491T15-C1A5-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. This wire is CTOD-tested.

## 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 all-weld metal (wt.-%)

	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

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

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

	Polarity:	Shielding gases:	ø (mm)
	DC (+)	(EN ISO 14175) M21; M20, C1	1.0 1.2 1.4 1.6
DC (-) in PG-Position			

Welding with standard GMAW power source possible

## Approvals

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