



Product Data Sheet

T 'Tubular cored electrode arc welding'

OK Tubrod 14.03

Prepared by Jenny Broström	Qualified by Tero Tolonen	Approved by Neil Farrow	Reg no EN006452	Cancelling EN005804	Reg date 2014-07-04	Page 1 (2)
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REASON FOR ISSUE

New AWS A5.36 added

GENERAL

A metal cored wire for high strength applications (>690 Mpa) for use with M21 shielding gas. Diameters less than 1.4mm are all-positional except vertical down.

Shielding Gas: M21 (EN ISO 14175)

Polarity: DC+-

Alloy Type: C Mn, low alloy steel (2% Ni, 0.5% Mo)

Fill Type: Metal cored

Diff Hydrogen: < 5ml/100g

CLASSIFICATIONS Weld Metal

SFA/AWS A5.36 E111T15-M21A4-G
EN ISO 18276-A T 69 4 Mn2NiMo M M 2 H5

APPROVALS

CE EN 13479
DB 42.039.23 (M21)
VdTÜV 04142

CHEMICAL COMPOSITION

All Weld Metal (%)

	M21 shielding gas	
	Min	Max
C	0.04	0.10
Si	0.3	0.8
Mn	1.4	1.9
P		0.020
S		0.020
Cr		0.15
Ni	1.95	2.55
Mo	0.4	0.7
V		0.05
Nb		0.05
Cu		0.10

MECHANICAL PROPERTIES OF WELD METAL

All Weld Metal

Properties	M21 shielding gas		
	As welded		
	Min	Max	Typ
Rp0.2 (MPa)	690		757
Rm (MPa)	770	900	842
A5 (%)	17		20
at -40°C (J)	47		71

Comments:

The diffusible hydrogen values are determined in accordance with the method given in ISO 3690.

Welding parameters for hydrogen determination: Wire diameter 1.6mm,

Shielding gas M21, Current 350 amps, Voltage 31 volts, Stickout 20mm



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ECONOMICS & CURRENT DATA

Dimension (mm) Ø	Current (A)		W	η	H		Feed		U	
	Min	Max	Nom	Nom	Min	Max	Min	Max	Min	Max
1.2	100	320	20	95	1.3	7.5	1.8	12.0	16	32
1.4	120	380	20	95	1.6	7.5	2.0	9.0	16	34
1.6	140	450	20	95	1.6	8.0	1.5	8.5	18	36

W = Gas consumption (l / min)

η = Recovery, g weld metal / 100g wire (%)

H = Deposit rate (kg weld metal / hour arc time)

Feed = Feeding rate (m/min)

U = Arc voltage (V)