



Product Data Sheet

T 'Tubular cored electrode arc welding'

OK Tubrod 14.04

Prepared by Daniel Amahatsion	Qualified by P-O Oskarsson	Approved by Neil Farrow	Reg no EN007638	Cancelling EN006450	Reg date 2017-10-20	Page 1 (2)
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REASON FOR ISSUE

EN ISO Classification updated

GENERAL

A 2% Ni metal cored wire which gives good toughness down to -60 degrees C using M21 shielding gas.
All-positional except vertical down.

Shielding Gas: M21 (EN ISO 14175)

Polarity: DC+-

Alloy Type: Low alloy steel - (2% Ni)

Fill Type: Metal cored

Diff Hydrogen: < 5 ml/100g

CLASSIFICATIONS Weld Metal

SFA/AWS A5.36 E71T15-M21A8-Ni2
EN ISO 17632-A T 42 6 2Ni M M21 2 H5

APPROVALS

ABS 3YSAH10
CE EN 13479
DNV-GL V YMS(H10)
LR 5Y40S H5 (M21)
RS 5YMS H5 (M21)
VdTÜV 04304

CHEMICAL COMPOSITION

All Weld Metal (%)

	M21 shielding gas	
	Min	Max
C	0.03	0.09
Si	0.20	0.70
Mn	0.70	1.30
P		0.018
S		0.018
Cr		0.20
Ni	2.0	2.6
Mo		0.10
V		0.05
Nb		0.05
Cu		0.10
Al		0.05
Sn		0.05
Ti		0.05
Pb		0.10
As		0.10
Sb		0.10
B		0.0015
N		0.0100



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MECHANICAL PROPERTIES OF WELD METAL

Properties	All Weld Metal		
	M21 shielding gas		
	As welded		
	Min	Max	Typ
ReL (MPa)	420		460
Rm (MPa)	530	640	570
A5 (%)	22		26
Charpy V at -20°C (J)	54		141
Charpy V at -60°C (J)	47		78

Comments:

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

Welding parameters for hydrogen determination: Wire diameter 1.4mm,

Shielding gas M21, Current 300 amps, Voltage 31 volts, Stickout 20mm,

ECONOMICS & CURRENT DATA

Dimension (mm)	Current (A)		W	η	H		Feed		U	
Ø	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

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)