



Product Data Sheet

T 'Tubular cored electrode arc welding'

OK Tubrod 14.05

Prepared by Daniel Amahatsion	Qualified by P-O Oskarsson	Approved by Neil Farrow	Reg no EN007639	Cancelling EN006453	Reg date 2017-10-20	Page 1 (2)
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REASON FOR ISSUE

EN ISO Classification updated

GENERAL

A 1% Ni metal cored wire which gives good toughness down to -40 degrees C using M21 shielding gas.

Shielding Gas: M21 (EN ISO 14175)

Polarity: DC+-

Alloy Type: Low alloy steel - (1% Ni)

Fill Type: Metal cored

Diff Hydrogen: <5 ml/100g

CLASSIFICATIONS Weld Metal

SFA/AWS A5.36 E71T15-M21A4-G
EN ISO 17632-A T 42 4 Z M M21 2 H5

APPROVALS

ABS 3YSA H10 (M21)
BV SA3YM HH (M21)
CE EN 13479
DNV IIIYMS (H10) (M21)
LR 4Y40S H5 (M21)

CHEMICAL COMPOSITION

All Weld Metal (%)

	M21 shielding gas	
	Min	Max
C	0.03	0.09
Si	0.25	0.75
Mn	1.00	1.60
P		0.025
S		0.025
Cr		0.20
Ni	0.65	1.25
Mo		0.20
V		0.08
Nb		0.05
Cu		0.30

MECHANICAL PROPERTIES OF WELD METAL

All Weld Metal

Properties	M21 shielding gas		
	As welded		
	Min	Max	Typ
ReL (MPa)	420		501
Rm (MPa)	510	640	601
A5 (%)	22		27
Charpy V at -20°C (J)	54		110
Charpy V at -40°C (J)	47		80

Comments:

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

Welding parameters for hydrogen determination:

Wire diameter: 1.2mm, Shielding gas M21, Current 250 amps,

Voltage 31 V, Stickout: 15mm,



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ECONOMICS & CURRENT DATA

Dimension (mm) Ø	Current (A)		W Nom	η Nom	H		Feed			U Max
	Min	Max			Min	Max	Min	Max	Min	
1.0	80	250	20	95	1.2	4.2	2.5	10.0	14	30
1.2	100	320	20	95	1.3	7.5	1.8	12.0	16	32

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)