



Product Data Sheet

OK Tubrod 14.13

T 'Tubular cored electrode arc welding'

Signed by Neil Farrow	Approved by Shaun Studholme/Barbro Karlström	Reg no EN002268	Cancelling PS000092	Reg date 2004-07-01	Page 1 (2)
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GENERAL

A general purpose metal cored wire for use with M21 shielding gas. Diameters less than 1.4mm are all-positional except vertical down.

Shielding Gas: M21 (EN 439)

Polarity: DC+

Alloy Type: C Mn

Fill Type: Metal cored

Diff Hydrogen: < 5 ml/100g

CLASSIFICATIONS Weld Metal

EN 758 T 42 2 M M 2 H5
SFA/AWS A5.18 E70C-6M

APPROVALS

Ü 42.039/3 (M21)
ABS 3SA 3YSA (M21)
BV SA3YM (M21)
DB 42.039.03 (M21)
DNV IIIYMS (M21)
DS T 42 2 M M 2 H10 (M21)
GL 3YS (M21)
LR 3S 3YS (M21)
MoD MS<25mm, B & BX < 12mm (M21)
VdTÜV 09086 (M21)

CHEMICAL COMPOSITION

All Weld Metal (%)

	M21 Shielding gas	
	Min	Max
C	0.03	0.10
Si	0.4	0.8
Mn	1.2	1.7
P		0.030
S		0.030
Cr		0.20
Ni		0.50
Mo		0.20
V		0.08
Nb		0.05
Cu		0.30



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MECHANICAL PROPERTIES OF WELD METAL

Properties	All Weld Metal		
	Min	Max	Typ
	M21 shielding gas EN		
	As welded		
ReL (MPa)	420		503
Rm (MPa)	510	640	611
A4-A5 (%)	22		26
Charpy V at -20°C (J)	54		106
Charpy V at -29°C (J)	27		

Comments:

The 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: 29 V Stickout: 25mm

ECONOMICS & CURRENT DATA

Dimension (mm)	Current (A)		W	η	H	Feed		U		
	Min	Max				Min	Max	Min	Max	
\emptyset			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)