



Product Data Sheet

OK Tubrod 14.03

T 'Tubular cored electrode arc welding'

Signed by Neil Farrow	Approved by Neil Farrow/Christos Skodras	Reg no EN004881	Cancelling EN004505	Reg date 2009-07-01	Page 1 (2)
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REASON FOR ISSUE

Shielding gas standard updated

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: < 10 ml/100g

CLASSIFICATIONS Weld Metal

SFA/AWS A5.28 E110C-G
EN ISO 18276-A T 69 4 Mn2NiMo M M 2 H10

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



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MECHANICAL PROPERTIES OF WELD METAL

Properties	All Weld Metal		
	Min	Max	Typ
	M21 shielding gas		
	As welded		
Rp0.2 (MPa)	690		757
Rm (MPa)	770	900	842
A5 (%)	17		
Charpy V 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 25mm

ECONOMICS & CURRENT DATA

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