Product Data Sheet

W 'Tungsten inert gas arc welding'

OK Tigrod 13.37

Prepared by	Qualified by	Approved by	Reg no	Cancelling	Reg date	Page
Benjamin Mousa	Christos Skodras	Per-Erik Andersson	EN005659	EN004652	2012-01-13	1 (2)

REASON FOR ISSUE

Shielding gas update.

GENERAL

A copper coated, low-alloyed, chromium-molybdenum (9% Cr, 1% Mo), rod for GTAW of high temperature steels and steels for hot hydrogen service, especially in oil refineries. The electrode is a plain ER505 type.

Shielding Gas: I1 (EN ISO 14175)

Alloy Type: Alloyed steel (9 % Cr - 1 % Mo) "ER505"

CLASSIFICATIONS Wire Electrode

EN ISO 21952-A	W CrMo9
EN ISO 21952-B	W 55 9C1M
SFA/AWS A5.28	ER80S-B8

APPROVALS

Not applicable

CHEMICAL COMPOSITION

	All Weld Metal (%)	Wire/Strip (%)	
	Nom	**Min**	**Max**
C	0.1	0.06	0.10
Si	0.4	0.30	0.50
Mn	0.5	0.40	0.70
P	0.01		0.025
S	0.005		0.025
Cr	8.6	8.5	10.0
Ni			0.50
Mo	0.9	0.80	1.20
V			0.15
Cu			0.35

MECHANICAL PROPERTIES OF WELD METAL

	All Weld Metal					
	Ar (I1) EN Stress relieved+ 735°C 4h	Ar (I1) EN Stress relieved 760°C 2h		Enhanced testing temperature. Stress relieved++ 760°C 2h	Enhanced testing temperature. Stress relieved+ 760°C 2h	Enhanced testing temperature. Stress relieved 760°C 2h
Properties	**Typ**	**Min**	**Typ**	**Typ**	**Typ**	**Typ**
Rp0.2 (MPa)	560	435	540	350	410	430
Rm (MPa)	680	590	660	390	480	500
A4-A5 (%)	22	18	26	22	18	17
Charpy V at -20°C (J)	150	34	140			
Charpy V at -40°C (J)	130		120			
Charpy V at -60°C (J)	50		90			
	Comments: Tested at 20°C	Comments: Tested at 20°C		Comments: Tested at 560°C	Comments: Tested at 482°C	Comments: Tested at 450°C

Product Data Sheet

W 'Tungsten inert gas arc welding'

OK Tigrod 13.37

Prepared by	Qualified by	Approved by	Reg no	Cancelling	Reg date	Page
Benjamin Mousa	Christos Skodras	Per-Erik Andersson	EN005659	EN004652	2012-01-13	2 (2)

ECONOMICS & CURRENT DATA

Dimension (mm)	Current (A)		W	η	H		Feed		U	
Ø	Min	Max	Nom	Nom	Min	Max	Min	Max	Min	Max
1.6	40	180	10							
2.0	60	200	10							
2.4	100	220	11							
3.2	130	250	12							

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)