



Product Data Sheet

W 'Tungsten inert gas arc welding'

OK Tigrod 13.38

Prepared by Mats Linde	Qualified by skodcz	Approved by Per-Erik Andersson	Reg no EN006320	Cancelling EN004635	Reg date 2013-12-17	Page 1 (2)
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REASON FOR ISSUE

Description changed to non copper coated

GENERAL

A non copper coated, low-alloyed, (9CrMoVN), rod for GTAW of high-temperature steels and steels for hot hydrogen service especially in oil refineries. Preferably used for 9 % Cr steels as e.g. P 91/T 91 steels.

The alloy is modified as regards limits of impurity elements and is extremely "clean". This to receive improved strength levels both at room temperature and at higher temperatures.

AWS have changed the classification for this product, earlier classification was A5.9 ER505.

Shielding Gas: I1 (EN ISO 14175)

Alloy Type: Alloyed steel (9 % Cr - 1 % Mo - V - N)
"9CrMoVN"

CLASSIFICATIONS Wire Electrode

APPROVALS

EN ISO 21952-A W CrMo91
EN ISO 21952-B W 62 9C1MV
SFA/AWS A5.28 ER90S-B9

VdTÜV 07686

CHEMICAL COMPOSITION

	All Weld Metal (%)	Wire/Strip (%)	
	Nom	Min	Max
C	0.1	0.07	0.13
Si	0.3	0.15	0.50
Mn	0.5	0.40	1.20
P	0.004		0.010
S	0.002		0.010
Cr	8.7	8.00	10.50
Ni	0.8	0.40	0.80
Mo	0.9	0.85	1.20
V	0.2	0.15	0.30
Nb	0.06	0.03	0.10
Cu	0.1		0.15
Al			0.04
Sn			0.006
Mn+Ni			1.50
N	0.04	0.030	0.070



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MECHANICAL PROPERTIES OF WELD METAL

All Weld Metal

Properties	Ar (I1) EN		Ar (I1) EN	Ar (I1) EN	Ar (I1) EN	Ar (I1) EN
	Min	Typ	Typ	Typ	Typ	Typ
Stress relieved 760°C 2h			Stress relieved++ 760°C 2h	Stress relieved+ 760°C 2h	Stress relieved 760°C 2h	Stress relieved 735°C 4h
Rp0.2 (MPa)	415	690	420	500	510	670
Rm (MPa)	585	785	450	560	580	760
A4-A5 (%)	17	20	22	16	14	20
at 20°C (J)	47	200				210
at 0°C (J)		180				190
at -20°C (J)		150				130
at -40°C (J)		90				60
at -60°C (J)		70				30
Comments: Tested at 20°C			Comments: Tested at 560°C	Comments: Tested at 482°C	Comments: Tested at 450°C	Comments: Tested at 20°C