



Product Data Sheet

G 'Gas-shielded metal-arc welding'

OK Autrod 18.16 / 5183

Signed by Mats Linde	Approved by Mats Öhman/Barbro Karlström	Reg no EN002497	Cancelling EN001133	Reg date 2004-10-26	Page 1 (2)
-------------------------	--	--------------------	------------------------	------------------------	---------------

REASON FOR ISSUE

Classification and chemical composition modified.

GENERAL

OK Autrod 18.16 was developed to provide the highest strengths possible in the as welded condition of alloy AA 5083 and other similar high magnesium alloys. The more common OK Autrod 18.15 will typically fail to meet the as-welded tensile requirements of AA 5083. The alloy is typically utilised in marine and structural applications where high strengths, high fracture toughness for impact resistance and exposure to corrosive elements are important. The alloy is not recommended for elevated temperature applications due to its susceptibility to stress corrosion cracking. The alloy is non-heat treatable.

Shielding Gas: I1, I3 (EN 439)

Alloy Type: AlMgMn

CLASSIFICATIONS Wire Electrode

SFA/AWS A5.10	ER5183
EN ISO 18273	S Al 5183 (AlMg4,5Mn0,7(A))

APPROVALS

Ü	61.039
ABS	ER5183
BV	WC
DB	61.039.03
DNV	5183 (WC)
GL	RAIMg4.5
LR	WC/I-1, RC/I-1
UDT	DIN 1732
VdTÜV	04666

CHEMICAL COMPOSITION

Wire/Strip (%)

	Min	Max
Si		0.25
Mn	0.60	1.00
Cr	0.05	0.25
Cu		0.10
Ti		0.15
Zn		0.25
Fe		0.40
Be		0.0003
Mg	4.3	5.2
Other each		0.05
Others total		0.15

Comments:
Al balance



Product Data Sheet

G 'Gas-shielded metal-arc welding'

OK Autrod 18.16

Signed by Mats Linde	Approved by Mats Öhman/Barbro Karlström	Reg no EN002497	Cancelling EN001133	Reg date 2004-10-26	Page 2 (2)
-------------------------	--	--------------------	------------------------	------------------------	---------------

MECHANICAL PROPERTIES OF WELD METAL

All Weld Metal

Properties	As welded	
	Min	Typ
Rp0.2 (MPa)	125	140
Rm (MPa)	275	290
A4-A5 (%)	17	25
Charpy V at 20°C (J/cm ²)	20	30

ECONOMICS & CURRENT DATA

Dimension (mm)	Current (A)		W	η Nom	H		Feed		U	
	Min	Max			Min	Max	Min	Max	Min	Max
\emptyset			Nom							
0.8	60	170	15						13	24
1.0	90	210	16						15	26
1.2	140	260	19						20	29
1.6	190	350	25						25	30
2.4	280	400	30						26	31

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)

OTHER DATA

Clean material is essential for a good weld quality. Remove oxide, dirt, oil, humidity etc. before welding. If brushing use a stainless steel wire brush. Preheating: is not required for welds in sections up to 20 mm but risk of porosity can be reduced by preheating sections over 10 mm. Preheating temperature is usually 150-200 °C.