



Product Data Sheet

G 'Gas-shielded metal-arc welding'

OK Autrod 5183

Prepared by Mats Linde	Qualified by Tero Tolonen	Approved by Michael Spieß	Reg no EN006185	Cancelling EN005027	Reg date 2013-08-29	Page 1 (2)
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REASON FOR ISSUE

JIS added and comment to mechanical data added.

GENERAL

OK Autrod 5183 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 5356 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 ISO 14175)

Alloy Type: AlMgMn

CLASSIFICATIONS Wire Electrode

SFA/AWS A5.10	ER5183
EN ISO 18273	S Al 5183 (AlMg4,5Mn0,7(A))
JIS Z 3232	A5183

APPROVALS

ABS	ER5183	For lots starting with RB
BV	WC	
CE	EN 13479	(only for lots beginning with RB)
ClassNK	KAI5RCG(I-1)(I-4)	
CWB	AWS A5.10	
DB	61.039.03	
DNV	5183	
GL	RAIMg4,5Mn	
JIS	JIS Z 3232	
LR	WC1/I-1	
VdTÜV	04666	

CHEMICAL COMPOSITION

Wire/Strip (%)

	Min	Max
Si		0.40
Mn	0.50	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 tot		0.15



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MECHANICAL PROPERTIES OF WELD METAL

All Weld Metal

Properties	As welded
	Min
Rp0.2 (MPa)	125
Rm (MPa)	275
A4-A5 (%)	17

Comments:

THIS INFORMATION IS BASED ON DATA DEVELOPED UNDER LABORATORY CONDITIONS AND IS DESIGNED AS A GUIDELINE ONLY. INDIVIDUAL CONDITIONS, WELDING EQUIPMENT AND ENVIRONMENT CAN AFFECT RESULTS.

ECONOMICS & CURRENT DATA

Dimension (mm)	Current (A)		W	η	H		Feed		U	
	Min	Max			Nom	Min	Max	Min	Max	Min
\emptyset										
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 to 65 °C can be used to reduce risk of porosity.