



Product Data Sheet

G 'Gas-shielded metal-arc welding'

OK Autrod 5183

| | | | | | |
|-------------------------|--|--------------------|------------------------|------------------------|---------------|
| Signed by Mats Linde | Approved by Per-Åke Pettersson/Christos Skodras | Reg no EN005027 | Cancelling EN004338 | Reg date 2009-11-23 | Page 1 (2) |
|-------------------------|--|--------------------|------------------------|------------------------|---------------|

REASON FOR ISSUE

LR 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))

APPROVALS

| | | |
|---------|-----------------------------------|-----------------------------------|
| ABS | ER5183 for dim. 1.2 and 1.6 mm | |
| BV | WC | |
| CE | EN 13479 | |
| ClassNK | KAI5RCG(I-1)(I-4) | (only for lots beginning with RB) |
| CWB | AWS A5.10 (Item no ending with A) | |
| DB | 61.039.03 | |
| DNV | 5183 (WC) | |
| GL | RAIMg4.5 | |
| LR | WC/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 | 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 | H | | Feed | | U | | |
|----------------|-------------|-----|----|--------|-----|-----|------|-----|-----|-----|-----|
| | Min | Max | | | Nom | Nom | Min | Max | Min | Max | Min |
| \emptyset | | | | | | | | | | | |
| 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.