

## OK Autrod 5183

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 5356 grade 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.

| Specifications         |                                                                                                                                                                                                      |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Classifications</b> | SFA/AWS A5.10 : ER5183<br>EN ISO 18273 : S Al 5183 (AlMg4,5Mn0,7(A))                                                                                                                                 |
| <b>Approvals</b>       | ABS : WC<br>ABS : ER 5183<br>BV : WC<br>CE : EN 13479<br>ClassNK : KAI5RCG(I)<br>CWB : ER5183<br>DB : 61.039.03<br>DNV : 5183<br>LR : WC1/I-1 S<br>RINA : WC (*)<br>UKCA : EN 13479<br>VdTÜV : 04666 |

Approvals are based on factory location. Please contact ESAB for more information.

|                      |                       |
|----------------------|-----------------------|
| <b>Alloy Type</b>    | AlMgMn                |
| <b>Shielding Gas</b> | I1, I3 (EN ISO 14175) |

| Typical Charpy V-Notch Properties |                     |
|-----------------------------------|---------------------|
| <b>Testing Temperature</b>        | <b>Impact Value</b> |
| 20 °C ( 68 °F )                   | 90 J ( 66 ft-lb )   |

| Typical Wire Composition % |           |           |           |           |           |           |           |           |
|----------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| <b>Mn</b>                  | <b>Si</b> | <b>Cr</b> | <b>Al</b> | <b>Cu</b> | <b>Ti</b> | <b>Zn</b> | <b>Fe</b> | <b>Mg</b> |
| 0.65                       | 0.04      | 0.08      | 94.200    | 0.01      | 0.100     | 0.01      | 0.13      | 4.9       |

| Deposition Data     |                |                |
|---------------------|----------------|----------------|
| <b>Diameter</b>     | <b>Current</b> | <b>Voltage</b> |
| 0.8 mm ( .030 in. ) | 60-170 A       | 13-24 V        |
| 1.0 mm ( .040 in. ) | 90-210 A       | 15-26 V        |
| 1.2 mm ( .045 in. ) | 140-260 A      | 20-29 V        |
| 1.6 mm ( 1/16 in. ) | 190-350 A      | 25-30 V        |
| 2.4 mm ( 3/32 in. ) | 280-400 A      | 26-31 V        |

| Recommended Welding Parameters |                      |                |
|--------------------------------|----------------------|----------------|
| <b>Current</b>                 | <b>Wire Diameter</b> | <b>Voltage</b> |
| 90-275 A                       | 1.0 mm ( 0.040 in. ) | 15-26 V        |
| 140-300 A                      | 1.2 mm ( 0.047 in. ) | 20-29 V        |
| 190-350 A                      | 1.6 mm ( 1/16 in. )  | 25-30 V        |