

Aluminium alloy DE63 - S AL 5183 - AlMg_{4,5}Mn_{0,7} (A)

Reference analysis in wt. %			
Si	≤ 0,40	Zn	≤ 0,25
Fe	≤ 0,40	Ti	≤ 0,15
Cu	≤ 0,10	Be	≤ 0,0003
Mn	0,50 - 1,0	others each	≤ 0,05
Mg	4,3 - 5,2	others together	max. 0,15
Cr	0,05 - 0,25	Al	Rest

Standard designation

DIN EN ISO 18273

S AL 5183 (AlMg_{4,5}Mn_{0,7} (A))

Base materials

Suitable for joint welding of aluminium alloys from 5000 and 6000 series.

Additional information

The weld metal has a very good corrosion resistance to seawater and marine atmosphere as well as industrial atmosphere. Suitable to hard chrome plating and chemical nickel-plating.

Physical properties (guideline values, partly calculated)

Modulus of elasticity [MPa]	69000
Heat conductivity at 20°C [W/(mK)]	110 - 120
Coefficient of expansion (20°-100°C) [10 ⁻⁶ /K]	23,7*10 ⁻⁶
Melting range [°C]	574 - 638
Electrical conductivity [m/Ω*mm ²]	16 - 19
Density [g/cm ³]	2,66

Mechanical properties (guideline values, without dilution)

Yield strength R _{p0,2} [MPa]	≥ 130
Tensile strength R _m [MPa]	≥ 275
Elongation A ₅ [%]	≥ 18
Test temperature [°C]	20

Welding positions

PA, PB, PC, PF

Shielding gas

I1, I2, I3 (argon, helium or argon/helium-mixture)

Polarity

MIG =+, TIG ~

Approvals

LR, TÜV, DB, BWB

Dimensions Ø

MIG - wires [mm]	0,80 - 2,40
TIG - rods [mm]	1,6 - 6,0

Forms of supply - spools and rods

Standard spools: S 300 / B 300 / BS 300	max. 6,0 kg / max. 7,0 kg / max. 7,0 kg
Special spools: B 435 / B 400	max. 14 kg / max. 40 kg
Small spools: S 100 / S 200	0,5 kg / 2,0 kg
Drums: Ø 500 x 800 mm / Ø 580 x 890 mm	max. 80 kg / max. 140 kg
TIG - rods: 1000 mm	2,5 kg / 5 kg / 10 kg