

Aluminium alloy DE59 - S AL 4043 A - AlSi5 (A)

Reference analysis in wt. %			
Si	4,5 - 6,0	Ti	≤ 0,15
Fe	≤ 0,6	Be	≤ 0,0003
Cu	≤ 0,30	others each	≤ 0,05
Mn	≤ 0,15	others together	max. 0,15
Mg	≤ 0,20	Al	Rest
Zn	≤ 0,10		

Standard designation

DIN EN ISO 18273 S AL 4043 A (AlSi5 (A))

Base materials

Suitable for joint welding of aluminium alloys from 3000, 5000 and 6000 series.

Additional information

This alloy is used to prevent solidification cracks in combination with a high clamping. During anodizing there could be a dark- grey color change. The melting bath is very thin.

Physical properties (guideline values, partly calculated)

Modulus of elasticity [MPa]	69000
Heat conductivity at 20°C [W/(mK)]	170 - 190
Coefficient of expansion (20°-100°C) [10 ⁻⁶ /K]	22,1*10 ⁻⁶
Melting range [°C]	573 - 625
Electrical conductivity [m/Ω*mm²]	24 - 32
Density [g/cm³]	2,68

Mechanical properties (guideline values, without dilution)

Yield strength R _{p0,2} [MPa]	≥ 40
Tensile strength R _m [MPa]	≥ 120
Elongation A ₅ [%]	≥ 8
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

TÜV, DB

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