

Solid copper coated wire for gas welding of aluminium-magnesium alloys, homogeneous at 5% Mg content or heterogeneous. Its excellent mechanical properties and resistance to corrosion make it an ideal material for marine construction, rail industry (carriages), and road transport.

■ Classification

AWS 5.10 : ER 5356
EN ISO 18273 : S Al 5356
DIN 1732 : SG-AlMg5

■ Applications

- ✓ Shipbuilding,
- ✓ Storage tanks,
- ✓ Railway construction,
- ✓ Transport industry (skips and trailers).

■ Benefits

- ⊕ Excellent resistance to corrosion.
- ⊕ Very good mechanical properties.

■ Polarity

DC +

■ Chemical properties

Al %	Mg %	Mn %	Cr %	Ti %
Base	5.00	0.35	0.10	0.15

■ Mechanical properties

Re	Rm	A 5 d
110 Mpa	250 Mpa	25 %

■ Recommendations



Gas protection is compliant with EN ISO 14175
100% Argon (I1)

■ Approval

TÜV - DB - UDT



Packaging

weight (kg)	Wire reel type		Wire diameter (mm)			
			Ø 0.6	Ø 0.8	Ø 1.0	Ø 1.2
0.5	S100	—	—	086548	—	—
2	S200	—	—	086555	086562	—
7	S300	—	—	—	086524	086531

Solid wire for gas welding of aluminium-magnesium alloys up to 7% silicon concentration. It is commonly used for cast iron repairs.

Classification

AWS 5.10 : ER 4043
EN ISO 18273 : S Al 4043 (AlSi5)
DIN 1732 : SG-AlSi5

Applications

- ✓ Cast iron repairs.
- ✓ Automotive.

Benefits

- ⊕ Good weld bead aspect.
- ⊕ Good thermal conductivity of the filler metal.
- ⊕ Very fluid weld bath.

Polarity

DC +

Chemical properties

Al %	Si %
Base	5.00

Mechanical properties

Re	Rm	A 5 d	KV 20°C
100 Mpa	160 Mpa	15 %	20 J

Recommandations

Gas protection compliant with EN ISO 14175
100% Argon (l1) : 14 - 24 l/min.

Approval

TÜV, DB, UDT



S100

S200

Packaging

weight (kg)	Wire reel type		Wire diameter (mm)			
			Ø 0.6	Ø 0.8	Ø 1.0	Ø 1.2
0.5	S100	—	—	086685	—	—
2	S200	—	—	—	086142	086159

ML-4043 ALSi5

Rod/Wire electrode for Aluminium

Typical composition in %	Si 4,50-5,50 Fe < 0,60 Cu < 0,30 Mn < 0,15 Mg < 0,20 Zn < 0,10 Be < 0,0003 Ti < 0,15 Others < 0,05 Others total < 0,15
Classification	EN ISO 18273 S Al 4043A (AlSi5(A)) Material No. 3.2245 AWS A 5-10 ER 4043
Base materials	See page 15.
Remarks	This alloy is particularly used to prevent solidification cracks in connection with high dilution and clamp conditions. Anodizing gives dark gray colours and is not recommended. The weld pool is very fluid. Consider the technological application reference.
Physical properties of pure weld metal (Approx. values)	0,2 % yield strength $R_{p0,2}$ [MPa] 40 Tensile strength R_m [MPa] 120 Elongation A_5 ($L_0=5d_0$) [%] 8 Test temperature [°C] 20
Welding position	PA, PB, PC, PF
Shielding gas	I1, I2, I3 (Argon, Helium or Argon/Helium-mixtures)
Polarity	MIG =+, TIG ~
Approvals	DB, VdTÜV
Dimensions Ø	MIG-wires [mm] 0,8; 1,0; 1,2; 1,6; 2,0; 2,4 TIG-rods [mm] 1,6; 2,0; 2,4; 3,2; 4,0; 5,0
Wire packagings	Spools Packaging units S 100 / 0,5 kg 20 spools = 10 kg (box) S 200 / 2 kg 4 spools = 8 kg (box) S 300 / 6 kg 56 spools = 336 kg (pallet) B 300 / BS 300 / 7 kg 56 spools = 392 kg (pallet) B 400 / 18 kg 28 spools = 504 kg (pallet) B 400 / 40 kg 15 spools = 600 kg (pallet) Eco-drum / 80 kg 2 drums = 160 kg (pallet) Jumbo-drum / 140 kg 2 drums = 280 kg (pallet)
Rod packagings	Box 10 kg Length 1.000 mm

ML-5087 AlMg4,5MnZr

Rod/Wire electrode for Aluminium

Typical composition in %	Si < 0,25 Fe < 0,40 Cu < 0,05 Mn 0,70-1,10 Mg 4,50-5,20 Cr 0,05-0,25 Zn < 0,25 Be < 0,0003 Ti < 0,15 Zr 0,10-0,20 Others < 0,05 Others total < 0,15
Classification	EN ISO 18273 S Al 5087 (AlMg4,5MnZr(A)) Material No. 3.3546
Base materials	See page 15.
Remarks	Zirconium micro alloyed. The weld is not susceptible to hot cracking. Particularly advantageous for complicated weldments involving clamp conditions. Consider the technological application reference.
Physical properties of pure weld metal (Approx. values)	0,2 % yield strength $R_{p0,2}$ [MPa] 125 Tensile strength R_m [MPa] 275 Elongation A_5 ($L_0=5d_0$) [%] 17 Test temperature [°C] 20
Welding position	PA, PB, PC, PF
Shielding gas	I1, I2, I3 (Argon, Helium or Argon/Helium-mixtures)
Polarity	MIG =+, TIG ~
Approvals	VdTÜV, DB, DNV-GL, Bureau Veritas, Lloyds Register
Dimensions Ø	MIG-wires [mm] 0,8; 1,0; 1,2; 1,6; 2,0; 2,4 TIG-rods [mm] 1,6; 2,0; 2,4; 3,2; 4,0; 5,0
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Rod packagings	Box 10 kg Length 1.000 mm

ML-5356 ALMg5Cr

Rod/Wire electrode for Aluminium

Typical composition in %	Si < 0,25 Fe < 0,40 Cu < 0,10 Mn 0,05-0,20 Mg 4,50-5,50 Cr 0,05-0,20 Zn < 0,10 Be < 0,0003 Ti 0,06-0,20 Others < 0,05 Others total < 0,15
Classification	EN ISO 18273 S Al 5356 (AlMg5Cr(A)) Material No. 3.3556AWS A 5-10 ER 5356
Base materials	See page 15.
Remarks	The weld metal is sea water resistant. Suitable for anodizing when matching colours are required. Consider the technological application reference.
Physical properties of pure weld metal (Approx. values)	0,2 % yield strength $R_{p0,2}$ [MPa] 110 Tensile strength R_m [MPa] 240 Elongation A_5 ($L_0=5d_0$) [%] 17 Test temperature [°C] 20
Welding position	PA, PB, PC, PF
Shielding gas	I1, I2, I3 (Argon, Helium or Argon/Helium-mixtures)
Polarity	MIG =+, TIG ~
Approvals	VdTÜV, DB, DNV-GL, Bureau Veritas, Lloyds Register
Dimensions Ø	MIG-wires [mm] 0,8; 1,0; 1,2; 1,6; 2,0; 2,4 TIG-rods [mm] 1,6; 2,0; 2,4; 3,2; 4,0; 5,0
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Rod packagings	Box 10 kg Length 1.000 mm