



Rod for the GTAW of Al-Mg alloys containing up to 5% Mg. It is the most widely used welding alloy and can be classified as a general-purpose type filler alloy. High corrosion resistance, even in seawater. Applications in shipbuilding, storage tanks, railways and in the automotive industry. To be used with Ar, He, pure and mixed shielding gases.

Standards: **EN ISO 18273:16** **AWS A5.10:21**
Classification: **S Al 5356 (AlMg5Cr(A))** **ER 5356**

CHEMICAL COMPOSITION OF ROD (wt.-%)

elements	Sidergas Aluminium		EN ISO		AWS	
	min.	max.	min.	max.	min.	max.
Si	-	0,15	-	0,25	-	0,25
Fe	-	0,15	-	0,40	-	0,40
Cu	-	0,10	-	0,10	-	0,10
Mn	0,05	0,20	0,05	0,20	0,05	0,20
Mg	4,80	5,40	4,50	5,50	4,50	5,50
Cr	0,05	0,15	0,05	0,20	0,05	0,20
Zn	-	0,05	-	0,10	-	0,10
Ti	0,06	0,15	0,06	0,20	0,06	0,20
Be	-	0,0003	-	0,0003	-	0,0003
other each	-	0,05	-	0,05	-	0,05
other total	-	0,15	-	0,15	-	0,15
Al	rem.		rem.		rem.	

MECHANICAL PROPERTIES OF ALL-WELD METAL

	Sidergas Aluminium	EN ISO	AWS
	typical values (*)	minimum values	minimum values
Tensile strength (Rm)	285 [MPa]	mechanical properties of the weld metal are not part of the classification	mechanical properties of the weld metal are not part of the classification
Yield strength (Rp0,2)	129 [MPa]		
Elongation (A%)	11 (L ₀ =5d ₀)		
Impact work (ISO-V KV)	- [J] @ -196°C		

(*) Typical values are referred to EN ISO 14175 I1 (100% Ar); base material 5083 O; welding position PA; preheating T -; Interpass T 80°C; as-welded condition. Tensile test acc. to EN ISO 4136; Charpy impact test acc. to EN ISO 9016. Text results should not be assumed to be expected results in a particular application or weldment.

PHYSICAL PROPERTIES

	Sidergas Aluminium
	typical values
Melting range (solidus-liquidus)	575 - 633 [°C]
Density	2.640 [kg/m³]

PRODUCT APPROVALS

	Vd-TÜV	DB	CWB	CE
SHIELDING GASES (EN ISO 14175):	I1-I3	I1	-	according to EN 13479:17 and Regulation (UE) No. 305/2011
GRADING:	22.3-22.4/ 23.1-23.2 (ISO 15608)	EN AW-5083 EN AW-7020	R5356	
DIAMETERS:	1.60-4.00 mm.	1.60-4.00 mm.	1.60-4.00 mm.	
WELDING POSITIONS (EN ISO 6947):	PA,PB,PC,PF	PA,PB,PC,PF	-	

OPERATING DATA

welding positions (*):  PA, PB, PC, PD, PE, PF type of current and polarity:  AC.

(*) according to EN ISO 6947:20

Thicker plate materials require preheating to 150°C. Thorough cleaning of the workpiece bevels is necessary

BASE MATERIALS

The alloy is not recommended for elevated temperature applications (> 65 °C) due to its susceptibility to stress corrosion cracking. The alloy is not-heat treatable.

EN 573-3:19: AlMg3Mn (5454); AlMg3 (5754); AlMg5 (5019); AlMg4 (5086); AlMg1SiCu (6061); AlSiMg(A) (6005A); AlZn4,5Mg1 (7020); AlMgSi (6060); AlMgSi0,7 (6005); AlSi1MgMn (6082). G-AlMg10; G-AlMg5; G-AlMg3Si; G-AlMg5Si.

TECHNICAL DELIVERY CONDITIONS

The technical delivery conditions (type of product, dimensions, tolerance and marking) are in accordance with EN 544:18 and EN ISO 14344:10.

PACKAGING AND AVAILABLE SIZES

mm.	cut length mm.	cardboard tube	cardboard box	cardboard box
1.60	1.000	5 kg.	5 kg.	10 kg. (2 PE bags 5 kg. each)
2.00	1.000	5 kg.	5 kg.	10 kg. (2 PE bags 5 kg. each)
2.40	1.000	5 kg.	5 kg.	10 kg. (2 PE bags 5 kg. each)
3.20	1.000	5 kg.	5 kg.	10 kg. (2 PE bags 5 kg. each)
4.00	1.000	5 kg.	5 kg.	10 kg. (2 PE bags 5 kg. each)
5.00	1.000	5 kg.	5 kg.	10 kg. (2 PE bags 5 kg. each)

Other size and packaging available upon request