



Certified Quality System

GMAW welding wire for  
Aluminium and Aluminium Alloys

# SIDERGAS M5183

Solid wire for the GMAW of Al-Mg, Al-Mg-Mn alloys up to 5% Mg. These Aluminium alloys having an high tensile and corrosion strength, are suitable to use in shipbuilding, railway and automotive industry, cryogenic tanks and pressure vessel fabrication. To be used with Ar, He, pure and mixed shielding gases.

Standards: **EN ISO 18273:04** **AWS A5.10:12**  
Classification: **S AI 5183 (AlMg4,5Mn0,7(A))** **ER 5183**

## CHEMICAL COMPOSITION OF THE WIRE (wt.-%)

elements	Sidergas Aluminium		EN ISO		AWS	
	min.	max.	min.	max.	min.	max.
Si	-	0,40	-	0,40	-	0,40
Fe	-	0,40	-	0,40	-	0,40
Cu	-	0,10	-	0,10	-	0,10
Mn	0,50	1,00	0,50	1,00	0,50	1,00
Mg	4,30	5,20	4,30	5,20	4,30	5,20
Cr	0,05	0,25	0,05	0,25	0,05	0,25
Zn	-	0,25	-	0,25	-	0,25
Ti	-	0,15	-	0,15	-	0,15
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	EN ISO	AWS
	typical values (*)	minimum values	minimum values
Tensile strength (Rm)	330 [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)	145 [MPa]		
Elongation (A%)	30 (L <sub>0</sub> =5d <sub>0</sub> )		

(\*) Typical values are referred to EN ISO 14175 I1 (100% Ar), in the as-welded condition. Text results should not be assumed to be assumed to be expected results in a particular application or weldment.



## PHYSICAL PROPERTIES

	Sidergas
	typical values
Melting range	573 - 638 [°C]
Density	2.660 [kg/m <sup>3</sup> ]

## PRODUCT APPROVALS

	<b>CE</b>
SHIELDING GASES (EN ISO 14175):	(according to EN 13479:04 and Regulation (UE) No. 305/2011)
GRADING:	

## OPERATING DATA

welding positions (\*):  PA, PB, PC, PD, PE, PF      type of current and polarity:  D.C. +

(\*) according to EN ISO 6947:11

## 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 573-3:13: AlMg4,5Mn (5083); AlMg3 (5754); AlMg5 (5019); AlMg4 (5086); AlMg2Mn0,8 (5049); AlMg3,5Cr (5654); AlZn4,5Mg1 (7020); AlMgSi (6060); 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 ISO 544:11 and EN ISO 14344:10.

## PACKAGING AND AVAILABLE SIZES

mm.	D-100 plastic (0.5 kg.)	D-200 plastic (2.0 kg.)	D-300 plastic (7.0 kg.)	KS-300 wire basket (7.0 kg.)	MIDIPAC 150 (50 kg.)	MIDIPAC 300 (100 kg.)	SUPERPAC 550 (180 kg.)	MASTERPAC 1200 (400 kg.)
0.80	X	X	X (5.0 kg.)	X (5.0 kg.)	X	X	X	X
1.00	X	X	X	X	X	X	X	X
1.20	X	X	X	X	X	X	X	X
1.60			X	X			X	X

Aluminium and Aluminium alloys  
welding wires

SIDERGAS ALUMINIUM  
37020 VOLARGNE (VR) - ITALY  
VIA PEGROSSE # 560/A - phone + 39 045 6862044  
telefax +39 045 6861048 - web www.sidergasaluminium.com

Sidergas S.p.a. reserves the right to change product specifications without prior notice. CAT.INFO99\_rev.1 10/06/2014