



Certified Quality System

GMAW welding wire  
for mild steels

# SIDERGAS S7

Copper coated solid wire for the GMAW of mild steels, with higher Manganese and Silicon content to increase deoxidation and mechanical properties. Superior smooth weld bead appearance even at high welding parameters. To be used with both Ar/CO<sub>2</sub> mixed gas and pure CO<sub>2</sub> shielding gas.

<b>Standards:</b>	<b>EN ISO 14341-A:11(*)</b>	<b>AWS A5.18:05</b>	<b>CSA W48:14</b>
<b>Classification:</b>	<b>G 46 5 M21 4Si1/ G 46 4 C1 4Si1</b>	<b>ER70S-6</b>	<b>B-G 49A 5 C1 S6</b>

(\*) Wire electrode classified to the system based upon the yield strength and the average impact energy of 47 J of all-weld metal in accordance with EN ISO 14341:11

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

elements	Sidergas		EN ISO		AWS		CSA	
	min.	max.	min.	max.	min.	max.	min.	max.
C	0,065	0,08	0,06	0,14	0,06	0,15	0,06	0,14
Mn	1,60	1,70	1,60	1,90	1,40	1,85	1,60	1,90
Si	0,90	1,00	0,80	1,20	0,80	1,15	0,80	1,20
P	-	0,02	-	0,025	-	0,025	-	0,025
S	-	0,02	-	0,025	-	0,035	-	0,025
Cu	-	0,30	-	0,35	-	0,50	-	0,35
Mo	-	0,10	-	0,15	-	0,15	-	0,15
Ni	-	0,10	-	0,15	-	0,15	-	0,15
Ti+Zr	-	0,03	-	0,15	-	-	-	0,15
Al	-	0,02	-	0,02	-	-	-	0,02
Cr	-	0,15	-	0,15	-	0,15	-	0,15
V	-	0,015	-	0,03	-	0,03	-	0,03

## MECHANICAL PROPERTIES OF ALL-WELD METAL

	Sidergas	EN ISO	AWS	CSA
	typical values (*)	minimum values	minimum values	-
Tensile strength (Rm)	600 [MPa]	530 [MPa]	480 [MPa]	530 [MPa]
Yield strength (Rp0,2)	500 [MPa]	460 [MPa]	400 [MPa]	460 [MPa]
Elongation (A%)	26 (L <sub>0</sub> =5d <sub>0</sub> )	20 (L <sub>0</sub> =5d <sub>0</sub> )	22 (L <sub>0</sub> =2")	20 (L <sub>0</sub> =5d <sub>0</sub> )
Impact work (ISO-V KV)	80 [J] @ -20°C	47 [J] @ -50°C M21	27 [J] @ -29°C	47 [J] @ -50°C C1
	50 [J] @ -50°C			

(\*) Typical values are referred to EN ISO 14175 M21 (80% Ar, 20% CO<sub>2</sub>) as shielding gas, in the as-welded condition using an all-weld metal test assembly type 1.3 in accordance with EN ISO 15792-1:12, using a 1,20 mm diameter wire electrode under welding conditions specified in § 5.1 and 5.2 of EN ISO 14341:11. Test results should not be assumed to be expected results in a particular application or weldment.

## PRODUCT APPROVALS

SHIELDING GASES (EN ISO 14175):	M21	M2	C1 M2, M3	M21	-	(according to EN 13479:04 and Regulation (UE) No. 305/2011)
GRADING:	DXVu O BF 4YS H15 NA	group 3.1	group 1.2	4Y40S	-	

## OPERATING DATA

welding positions: PA, PB, PC, PD, PE, PF, PG type of current and polarity: = + D.C. +

## BASE MATERIALS

Suitable for steels with yield strength of up to 460 MPa.

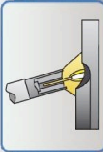
Non alloy structural steels:	EN 10025-2 up to S355
Steels for pressure purposes:	EN 10028-2 up to P355GH EN 10028-3 up to P355NH
Fine grain structural steels:	EN 10025-3 up to S460NL EN 10025-4 up to S460ML
Steels for pipelines:	EN ISO 3183 up to L415M/N L360QB; API5L up to X60 EN 10217-1 up to P355N EN 10216-1 up to P275T1

## 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	in	D-100 plastic	D-200 plastic	D-300 plastic	K-300 wire basket	KS-300 wire basket	FUSTO 280	MIDIPAC 150/300	SUPERPAC 450/550	MASTERPA C 4500
0.80	.030	X	X	X	X	X	X	X	X	
0.90	.035	X	X	X	X	X	X	X	X	
1.00	.040	X	X	X	X	X	X	X	X	
1.14	.045	X	X	X	X	X	X	X	X	
1.20			X	X	X	X	X	X	X	X
1.30	.052			X	X	X	X	X	X	X
1.40	.055			X	X	X	X	X	X	X
1.60	1/16			X	X	X		X	X	X





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wire PROSTAR S6 PROFESSIONAL Ø 1,20 mm (.047")  
shielding gas: Ar 90% CO<sub>2</sub> 10%  
(M20 to ISO 14175:2008)

Amps	Volts	metal trasfer	wire speed	
			m/min	ipm
231	25.8	spray arc	8	315
269	28.4	spray arc	10	394
300	29.5	spray arc	12	472
323	30.5	spray arc	14	551
350	32	spray arc	16	630

wire PROSTAR S6 PROFESSIONAL Ø 1,40 mm (.055")  
shielding gas: Ar 90% CO<sub>2</sub> 10%  
(M20 to ISO 14175:2008)

Amps	Volts	metal trasfer	wire speed	
			m/min	ipm
235	25	spray arc	4	157
253	25.5	spray arc	6	236
297	26.9	spray arc	8	315
347	31	spray arc	10	394
403	32.9	spray arc	12	472

The information contained or otherwise referenced herein is presented only as "typical" without guarantee or warranty, and Sidergas SpA expressly disclaim any liability incurred from any reliance thereon. Typical data are those obtained when welded and tested in accordance with the AWS A5.18 and EN ISO 14341-A (\*) specifications. Other tests and procedures may produce different results. No data is to be construed as a recommendation for any welding condition or technique not controlled by Sidergas SpA.