



Certified Quality System

GMAW welding wire
for mild steels

SIDERGAS S3

Copper coated solid wire for the GMAW of mild steels under both Ar/CO₂ mixed gas and pure CO₂ shielding gas. It is used in general construction, pressure vessel fabrication and shipbuilding.

Standards: EN ISO 14341-A:11(*) AWS A5.18:05 CSA W48:14
Classification: G 42 4 M21 2Si/ G 42 4 C1 2Si ER70S-3 B-G 49A 2 C1 S3

(*) 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	0,06	0,09	0,06	0,14	0,06	0,15	0,06	0,14
Mn	1,00	1,30	0,90	1,30	0,90	1,40	0,90	1,30
Si	0,50	0,70	0,50	0,80	0,45	0,75	0,50	0,80
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)	540 [MPa]	500 [MPa]	480 [MPa]	500 [MPa]
Yield strength (Rp0,2)	440 [MPa]	420 [MPa]	400 [MPa]	420 [MPa]
Elongation (A%)	30 (L ₀ =5d ₀)	20 (L ₀ =5d ₀)	22 (L ₀ =2")	20 (L ₀ =5d ₀)
Impact work (ISO-V KV)	80 [J] @ -20°C	47 [J] @ -40°C C1/M21	27 [J] @ -29°C	47 [J] @ -20°C C1
	60 [J] @ -40°C			

(*) Typical values are referred to EN ISO 14175 C1 (CO₂) 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

		CE
SHIELDING GASES (EN ISO 14175):	C1	(according to EN 13479:04 and Regulation (UE) No. 305/2011)
GRADING:	-	

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 420 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 S420NL
EN 10025-4 up to S420ML

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	MASTERPAC 1200
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	X

Sidergas

GMAW

Mild steels wires

SIDERGAS SPA

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