



Copper coated solid wire for the GMAW of creep-resistant low-alloyed steels and steels with a service temperature of up to 500 °C, with higher Manganese and Silicon content to increase deoxidation properties. Molybdenum (0,5%) provide high mechanical properties to the weld deposit at high temperature. The wire can also be used for welding low-alloyed, high tensile strength steels. To be used with both Ar/CO₂ mixed gas and Ar/CO₂/O₂ shielding gas.

Standards:	EN ISO 14341-A:21(*)	AWS A5.28:20	CSA W48:18
Classification:	G 50 4 M21 4Mo	ER80S-D2	B-G 55A 5 M G4M31

(*) 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-A:21

CHEMICAL COMPOSITION OF THE WIRE (wt.-%)

elements	Sidergas		EN ISO		AWS		CSA	
	min.	max.	min.	max.	min.	max.	min.	max.
C	0,07	0,10	0,06	0,14	0,07	0,12	0,06	0,14
Mn	1,70	1,95	1,70	2,10	1,60	2,10	1,70	2,10
Si	0,60	0,80	0,50	0,80	0,50	0,80	0,50	0,80
P	-	0,02	-	0,025	-	0,025	-	0,025
S	-	0,02	-	0,025	-	0,025	-	0,025
Cu	-	0,30	-	0,35	-	0,50	-	0,35
Mo	0,40	0,60	0,40	0,60	0,40	0,60	0,40	0,60
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
V	-	0,015	-	0,03	-	-	-	0,03

MECHANICAL PROPERTIES OF ALL-WELD METAL

	Sidergas	EN ISO	AWS	CSA
	typical values (*)	minimum values	minimum values	-
Tensile strength (Rm)	730 [MPa]	560 [MPa]	550 [MPa]	560 [MPa]
Yield strength (Rp0,2)	590 [MPa]	500 [MPa]	470 [MPa]	500 [MPa]
Elongation (A%)	21 (L ₀ =5d ₀)	18 (L ₀ =5d ₀)	17 (L ₀ =2")	18 (L ₀ =5d ₀)
Impact work (ISO-V KV)	60 [J] @ -30°C 50 [J] @ -50°C	47 [J] @ -40°C M21	27 [J] @ -30°C	47 [J] @ -50°C M21

(*) Typical values are referred to EN ISO 14175 M21 (80% Ar, 20% CO₂) as shielding gas, in the as-welded condition using an all-weld metal test assembly type 1.3 in accordance with EN ISO 15792-1:21, using a 1,20 mm diameter wire electrode under welding conditions specified in § 5.1 and 5.2 of EN ISO 14341-A:21. Test results should not be assumed to be expected results in a particular application or weldment.

PRODUCT APPROVALS

	CWB	CE
SHIELDING GASES (EN ISO 14175):	M21	according to EN 13479:17 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. +

Preheating and interpass temperature as required by the base metal

BASE MATERIALS

Suitable for steels with yield strength of up to 580 MPa.

Steels for pressure purposes:

EN 10028-2 up to P355GH, 16Mo3, 20MnMoNi4-5

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 10216-1 up to P275T1

EN 10216-2 P235GH, P255GH, 16Mo3

TECHNICAL DELIVERY CONDITIONS

The technical delivery conditions (type of product, dimensions, tolerance and marking) are in accordance with EN ISO 544:18 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	DRUM280	MIDIPAC150 /300	SUPERPAC450 /550	MASTERPAC1200
0.90	.035		X	X	X	X	X	X	X	
1.00	.040		X	X	X	X	X	X	X	
1.14	.045		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