

MIG/MAG solid wires-TIG rods C-Mn and low-alloy steels

CARBOFIL 1A is a copper coated G4Si1/ER70S-6 type solid MAG welding wire supplied both random and precision layer wound, depositing C-1.3%Mn weld metal, for welding a wide range of mild and C-Mn structural steels. Suitable for welding with CO₂ and Ar-based mixed shielding gases.

CARBOFIL 1A is a general application welding wire electrode used for both single- and multipass welding. Weld metal impact toughness properties are down to -40°C.

CARBOFIL 1A is available with a wide range of packaging formats, from few kgs for small MIG/MAG welding equipments to high-quantity (max. 550 kgs drum) robotic application. The increased level of Manganese and Silicon scavenge oxides enhancing weld pool fluidity and stabilizing the arc, minimising weld metal spatter and resulting in a higher strength weld metal. Excellent weld bead appearance with an even contour finish and freedom from undercut.

Classification	
EN ISO	14341-A: G 46 3 C1 4Si1
EN ISO	14341-A: G 46 4 M21 4Si1
AWS	A5.18: ER 70S-6

Approvals	Grade
ABS	2YSA
ABS	3YSA
DB	●
DNV	IIYMS
GL	3YS
LRS	2YS H15
LRS	3YS H15
TÜV	●

CE

Chemical analysis (Typical values in %)

	C	Mn	Si	P	S
Wire	0.07	1.7	0.9	≤ 0.025	≤ 0.025
All weld metal (*)	0.08	1.3	0.7	≤0.025	≤0.025
All weld metal (**)	0.08	1.2	0.6	≤0.025	≤0.025

(*) 82% Ar+18% CO₂, (**) 100% CO₂

All-weld metal Mechanical Properties

Heat Treatment	Yield Strength (MPa)	Tensile Strength (MPa)	Elongation A5 (%)	Impact Energy ISO - V (J)		
				+20 °C	-30 °C	-40 °C
As Welded (*)	≥460	530-680	≥24	≥100	≥80	≥70
As Welded (**)	≥460	530-680	≥24	≥80	≥47	

Gas test: (*) 82% Ar+18% CO₂, (**) 100% CO₂

Shielding Gas - EN ISO 14175 : C1, M14, M2, M3

Materials

S(P)235 - S(P)460; GP240; GP280

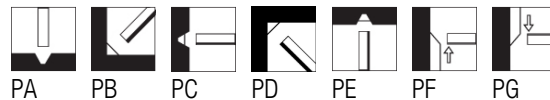
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Storage

Keep dry and avoid condensation

Current condition and welding position

DC+



Packaging data

Packaging Type Diam(mm) / weight(kg)	B300	BS300	DRUM		S300	SUPA			
	16	16	200	300	15	150	300	450	550
0.8	●	●			●				
0.9	●								
1.0	●	●			●		●	●	●
1.2	●	●		●	●	●	●	●	●
1.4	●							●	●
1.6	●		●				●	●	●