

CARBOFIL 1A is a copper coated G4Si1/ER70S-6 type solid MAG welding wire, depositing C-1.3%Mn weld metal, for welding a wide range of mild and C-Mn structural steels. Suitable for welding with CO<sub>2</sub> 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 spools for small MIG/MAG welding equipments to high-quantity bulk packagings for robotic application. The increased level of Manganese and Silicon scavenge oxides enhancing weld pool fluidity and stabilizing the arc, minimizing weld metal spatter and resulting in a higher strength weld metal. Excellent weld bead appearance with an even contour finish and freedom from undercut.

Solid coppered wire to use with CO<sub>2</sub> or Ar/CO<sub>2</sub> Mix shielding. Suitable for metal structures, earthmoving machinery.

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/GL	IV Y40MS
LR	2YS H15
LR	4Y40S 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% CO<sub>2</sub>, (\*\*) 100% CO<sub>2</sub>

## 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% CO<sub>2</sub>, (\*\*) 100% CO<sub>2</sub>

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

## Materials

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

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

## Storage

Keep dry and avoid condensation

## Current condition and welding position

DC+

