

CARBOFIL 1 is a copper coated G3Si1/ER70S-6 type solid MAG welding wire, depositing C-1.1%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 1 is a welding wire electrode used for general applications in both single- and multipass welding. Especially suited for sheet metal applications where smooth weld beads are required. Weld metal impact toughness properties are down to -40°C.

CARBOFIL 1 is available with a wide range of packaging format from spools for small MIG/MAG welding equipments to high-quantity bulk packagings for robotic application.

Solid wire with excellent mechanical characteristics. Use to weld non-alloy steels. Used under CO<sub>2</sub> or Mix shielding.

Classification	
EN ISO	14341-A: G 42 3 C1 3Si1
EN ISO	14341-A: G 42 4 M21 3Si1
AWS	A5.18: ER 70S-6

Approvals	Grade
ABS	3SA
ABS	3YSA
DB	●
DNV/GL	III YMS
LR	3YS H15
RINA	3YS
TÜV	●

CE

## Chemical analysis (Typical values in %)

	C	Mn	Si	P	S
Wire	0.08	1.5	0.9	≤ 0.025	≤ 0.025
All weld metal (*)	0.08	1.1	0.6	≤ 0.025	≤ 0.025
All weld metal (**)	0.09	1.0	0.5	≤ 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 (*)	≥ 420	500-640	≥ 24	≥ 90	≥ 70	≥ 47
As Welded (**)	≥ 420	500-640	≥ 22	≥ 70	≥ 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)355; 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+

