



# DAIKOWM SG1



CARBON STEELS  
STRUCTURAL STEEL

## DESCRIPTION

Copper coated wire for welding carbon and C-Mn steels

Copper coated wire for GMAW welding of C-Mn steels on greasy, oxidized surface and surface destined to subsequent coating process. Suitable for single pass or multipass welding of non alloy steels. It can be used for boilers fabrication, industrial machinery construction, car production. The minimum guaranteed yield reaches a maximum of 460Mpa for applications down to -40 ° C.

## SPECIFICATIONS

ISO 14341-A	G 42 4 M21/C1 2 Si1	AWS A5.18	ER70S-3
DIN	-	Werkstoff Number	-
Certifications	-	Shielding	M21, C1
Positions	PA, PB, PC, PD, PE, PF, PG	Current	DC+

## ASME QUALIFICATIONS

F-No (QW432)	6
A-No (QW442)	1

## FERRITE

FERRITE	-
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## PREN

PREN	-
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## HARDNESS

HARDNESS	-
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## CHEM. COMP. %

### DEFAULT

C	0.08
Mn	1.21
Cr	0.02
P	0.01
S	0.01
Si	0.5
Cu	0.04

## MECHANICAL PROPERTIES

	MIN	VARIANT
Tensile strength R <sub>m</sub> MPa	490	550
Yield strength R <sub>p0.2</sub> MPa	420	440
Elongation A (L <sub>0</sub> =5d <sub>0</sub> ) %	22	32
Impact Charpy ISO-V	27J @ -40°C	60J @ -40°C
Impact Charpy ISO-V	-	-

## WELDING PARAMETERS

Ampere	150A - 310A
Voltage	28V - 32V
Packaging	Ø 0,8÷1,6mm
Packaging Type	Drums, B300, D200 and D100 spools.

V 01/2024



The information in this datasheet is the result of detailed research and is considered accurate as of the publication date. However, we cannot guarantee its complete accuracy, and it is subject to change without notice. Actual results may vary due to many factors like welding procedures, material composition, temperature conditions, bevel configuration, and specific manufacturing techniques. We accept no liability for any errors or omissions in this datasheet. For the most current information, please visit [www.daikowelding.com](http://www.daikowelding.com).





# STRUCTURAL STEEL

DESCRIPTION

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## APPLICATION

Carbon-manganese (C-Mn) steels serve as the predominant structural steels extensively used across various applications in the engineering industry. Successful welding of C-Mn steel fabrications is generally achievable, provided the steel composition is known, necessary precautions are taken, and qualified procedures are adhered to. Weldability varies among C-Mn steels, with potential cracking mechanisms, including hydrogen cracking, solidification cracking, and reheat cracking, depending on specific circumstances. These consumables effectively resist such issues, emphasizing the importance of a meticulous welding procedure. While preheat and post-weld heat treatment (PWHT) may not be universally required, the actual specifications depend on the grade and thickness of the base material being welded. Attaining the required mechanical properties in a welded joint with C-Mn steels is achievable through the use of appropriate welding consumables. However, the intricate structural changes during the weld thermal cycle necessitate careful evaluation of properties such as heat-affected zone (HAZ) toughness and hardness.

## ALLOY TYPE

Consumables for welding mild and C-Mn steels of 340-510MPa tensile strength.

## MICROSTRUCTURE

Predominantly ferrite.

## MATERIALS

**EN W.Nr.:** EN AW-Al 99,0 (1200), EN AW-Al 99,7 (1070A), EN AW-Al 99,5 (1050A), EN AW-Al 99,5 (1350), EN AW-Al 99,8 (1080A).

