

DAIKOWS S2Si



CARBON STEELS
STRUCTURAL STEEL

DESCRIPTION

Solid SAW wire for C-Mn steel

Copper coated wire for submerged arc welding of C-Mn steels, structural steels, pressure vessels steels, fine-grained steels, etc. 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 depending on the flux combination. The higher silicon content increases the welding fluidity and improve the bead appearance.

SPECIFICATIONS

ISO 14171-A	S2Si	AWS A5.23	EM12k
DIN	-	Werkstoff Number	-
Certifications	CE	Shielding	DAIKOFLUX 470-W, 480-W, 490-W
Positions	PA, PB, PC	Current	DC/AC

ASME QUALIFICATIONS

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

FERRITE

-

PREN

-

HARDNESS

-

CHEM. COMP. %

DEFAULT

C	0.08
Mn	1.15
Ni	0.07
Cr	0.05
P	0.02
S	0.01
Mo	0.02
Si	0.5
Cu	0.1

MECHANICAL PROPERTIES

	MIN	VARIANT
Tensile strength R_m MPa	-	510
Yield strength $R_{p0.2}$ MPa	-	410
Elongation A ($L_0=5d_0$) %	-	29
Impact Charpy ISO-V	-	60J @ -40°C
Impact Charpy ISO-V	-	-

WELDING PARAMETERS

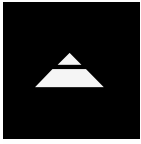
	2.4 mm	3.2 mm	4 mm
Ampere	350A - 450A	430A - 530A	480A - 580A
Voltage	26V - 30V	27V - 32V	27V - 32V
Packaging	Ø 2,0÷4,8mm	Ø 2,0÷4,8mm	Ø 2,0÷4,8mm
Packaging Type	K415 spool and drums. K415 spool and drums. K415 spool and drums.		

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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.





STRUCTURAL STEEL

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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).

