



DAIKOFCW 102SP



CARBON STEELS
STRUCTURAL STEEL

DESCRIPTION

All position rutile flux cored wire for welding C and CMn steels

Folded flux cored wire for single or multipass welding C and C-Mn steels up to a yield strength of 460 MPa. Specifically designed for Argon-CO₂ welding it ensures good mechanical properties till -20°C. The main features of this wire are excellent weldability in all positions, arc stability, excellent bead appearance, low amount of spatters and easy to remove slag with no porosity issues even on primer plates and very good feeding performance are achievable. This wire has a wider applicable welding condition than solid wire especially for vertical up position.

SPECIFICATIONS

ISO 17632-A	T 46 2 P M 1 H5	AWS A5.20	E71T-1M
DIN	-	Werkstoff Number	-
Certifications	-	Shielding	M21
Positions	PA, PB, PC, PD, PE, PF, PG	Current	DC+

ASME QUALIFICATIONS

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

FERRITE

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

PREN

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

HARDNESS

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

CHEM. COMP. %

	DEFAULT
C	0.05
Mn	1.28
P	0.01
S	0.009
Si	0.52

MECHANICAL PROPERTIES

	MIN	VARIANT
Tensile strength R _m MPa	490	550
Yield strength R _{p0.2} MPa	460	490
Elongation A (L ₀ =5d ₀) %	20	25
Impact Charpy ISO-V	27J @ -20°C	47J @ -20°C
Impact Charpy ISO-V	-	-

WELDING PARAMETERS

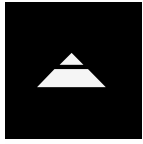
	1.2 mm	1.6 mm
Ampere	130A - 290A	170A - 400A
Voltage	18V - 30V	28V - 32V
Packaging	Ø 1,0÷1,6mm	Ø 1,0÷1,6mm
Packaging Type	BS300, D200 spools	BS300, D200 spools

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.





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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).

