



DAIKOMCW 66



CARBON STEELS

WEATHERING STEEL-Cor-Ten®

DESCRIPTION

Metal all position flux cored wire

Seamless copper coated metal cored wire with Ni-Cu-Cr additions for gas-shielded metal arc welding of weathering and fine grain structural steels such as Patinax or Cor-ten. Virtually spatter free in the spray-arc range. Particularly suitable for robotic applications. It ensures good edge wetting, finely rippled welds, little oxide formation on the weld surface making multipass welding possible without inter-run cleaning. The weld profile is easily controllable making this wire well suited for gap bridging and positional welding.

SPECIFICATIONS

ISO 17632-A	T 46 6 Z M21 M 1 H5	AWS A5.36	E81T15 M21 H4
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

-

PREN

-

HARDNESS

-

CHEM. COMP. %

DEFAULT

C	0.06
Mn	1.2
Cr	0.3
P	0.025
S	0.025
Si	0.45
Cu	0.5

MECHANICAL PROPERTIES

	MIN	VARIANT
Tensile strength R_m MPa	550	550
Yield strength $R_{p0.2}$ MPa	460	420
Elongation A ($L_0=5d_0$) %	17	22
Impact Charpy ISO-V	47J	47J @ -60°C
Impact Charpy ISO-V	-	-

WELDING PARAMETERS

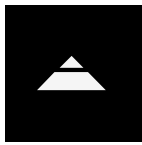
	1.2 mm	1.6 mm
Ampere	130A - 290A	170A - 400A
Voltage	18V - 30V	28V - 32V
Packaging	Ø 1,0÷1,6mm	Ø 1,0÷1,6mm
Packaging Type	BS300, D200 spools	BS300, D200 spools

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

Primarily engineered for weathering steels that incorporate a controlled copper addition, this weld metal offers an enhanced level of corrosion resistance and a more stable patina compared to plain carbon-manganese (C-Mn) steel. It finds versatile applications in architectural structures, bridges, exhaust gas flues, and chimneys. The weld metal stands out for its robust resistance to preferential corrosion in seawater, particularly in the harsh conditions of arctic waters characterized by heightened levels of oxygen and salinity. Its utility extends to welding micro-alloyed and C-Mn steels, making it a valuable choice for fabricating ice-breaker vessels and offshore structures. To optimize the welding process, a thoughtful approach to preheating, based on joint thickness and restraint considerations, is advisable. Typically, the material is left in the as-welded condition, eliminating the necessity for post-weld heat treatment (PWHT). This characteristic underscores the material's efficiency and practicality in various welding applications, ensuring reliable performance in corrosive and challenging environmental conditions.

ALLOY TYPE

Low alloy steel with Ni-Cu-Cr additions for welding weathering steels.

MICROSTRUCTURE

In the as-welded condition the microstructure is ferritic with a high proportion of acicular ferrite for optimum toughness.

MATERIALS

EN W.Nr.: S235JRW (1.8960), S235J2W (1.8961), S235J0W (1.8958), S275J0W, S275J2W, S355J0W (1.8959), S355J2W (1.8963), S355J0WP (1.8945).

ASTM: A588 gr. A, B, C, K, A242 gr. 1, 2.

PROPRIETARY: Cor-Ten® A, B (US Steel), Patinax® (Thyssenkrupp).

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