



DAIKOWT 66

GTAW

CARBON STEELS

WEATHERING STEEL-Cor-Ten®

DESCRIPTION

Solid rod with Ni-Cu-Cr additions designed for weather-resistant steel

Low-alloy copper-coated solid wire with Ni-Cu-Cr additions designed for weather-resistant steel. Thanks to the chemical composition and weld metal mechanical properties it is also used for welding high tensile strength steels. Suitable for the construction of containers, tanks, bridges, building panels, chimneys, means of transports, offshore platforms, etc. The weld material shows a good resistance to atmospheric corrosion and salt water.

SPECIFICATIONS

ISO 14341-A	W 50 4 M21 Z	AWS A5.28	ER80S-G
DIN	-	Werkstoff Number	-
Certifications	-	Shielding	11
Positions	PA, PB, PC, PD, PE, PF	Current	DC-

ASME QUALIFICATIONS

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

FERRITE

-

PREN

-

HARDNESS

-

CHEM. COMP. %

DEFAULT

C	0.09
Mn	1.4
Ni	0.8
Cr	0.3
P	0.01
S	0.007
Mo	0.01
Si	0.8
Cu	0.4

MECHANICAL PROPERTIES

	MIN	VARIANT
Tensile strength R _m MPa	550	630
Yield strength R _{p0.2} MPa	500	560
Elongation A (L ₀ =5d ₀) %	24	24
Impact Charpy ISO-V	47J @ -40°C	60J @ -40°C
Impact Charpy ISO-V	-	-

WELDING PARAMETERS

	1.6 mm	2.4 mm
Ampere	95A - 135A	145A - 205A
Voltage	-	-
Packaging	Ø 1,2÷3,2 mm	Ø 1,2÷3,2 mm
Packaging Type	5kg carton tube	5kg carton tube

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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