DAIKOWM 66

GMAW

CARBON STEELS

WEATHERING STEEL-Cor-Ten®

DESCRIPTION

Solid wire 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

EN ISO 14341-A	G 46 4 M21 Z	**AWS A5.28**	ER80S-G
Certifications	CE	**Shielding**	M21, C1
Positions	PA, PB, PC, PD, PE, PF, PG	**Current**	DC+
Packaging Type	Drums, B300, D200 and D100 spools.		

ASME QUALIFICATIONS

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

CHEM. COMP. %

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. PER STANDARD	PRODUCT
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

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

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APPLICATION

This type of steel is primarily used for constructing structures with weather-resistant steels, thanks to precise control of copper addition. This ensures corrosion resistance three times higher and a more stable patina compared to traditional carbon-manganese (C-Mn) steel. Its applications include architectural structures, bridges, drainpipes, and chimneys. It is particularly effective against corrosion in seawater, especially in harsh arctic waters with high oxygenation and salinity. It is often used in the welding of microalloyed and C-Mn steels for icebreaker ships and offshore structures. It is essential to preheat based on the thickness of the joint and its restraint. Typically, the material is left in the 'as-welded' condition, without further treatments.

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)