DAIKOMCW 66

FCAW

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

EN ISO 17632-A	T 46 6 Z M21 M 1 H5	**AWS A5.36**	E81T15 M21 H4
Shielding	M21	**Positions**	PA, PB, PC, PD, PE, PF, PG
Current	DC+	**Packaging Type**	BS300, D200 spools

ASME QUALIFICATIONS

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

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. PER STANDARD	PRODUCT
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

DAIKO

WEATHERING STEEL-Cor-Ten®

DESCRIPTION

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)