G-TECH 57B

SMAW

CARBON STEELS

WEATHERING STEEL-Cor-Ten®

DESCRIPTION

Basic coated electrode for weather resistant steels

Basic coated welding electrode producing a low alloyed deposit for welding weather resistant steels with excellent mechanical properties. Enriched with small percentages of Cr, Ni, Cu and P the weld metal do not require any type of painting or finishing to resist atmospheric corrosion phenomena. Mainly used for civil infrastructures as for bridges, pylons, security components and structural constructions, et. Suitable for positional welds except vertical down, spatter free, stable arc, regular fusion and easy deslagging.

SPECIFICATIONS

EN ISO 2560-A	E 46 2 Z B 42	**AWS A5.5**	E8018-W2
Shielding	-	**Positions**	PA, PB, PC, PD, PE, PF, PG
Current	DC+, AC	**Packaging Type**	Carton box and dry pack

ASME QUALIFICATIONS

F-No (QW432)	4
A-No (QW442)	1

CHEM. COMP. %	DEFAULT
C	0.06
Mn	1.3
Ni	0.55
Cr	0.55
N	0.04
P	0.015
S	0.006
Mo	0.02
Si	0.6
Cu	0.48

MECHANICAL PROPERTIES	MIN. PER STANDARD	PRODUCT
Tensile strength R_m MPa	550	600
Yield strength $R_{p0.2}$ MPa	460	500
Elongation A (L_0=5d_0) %	19	22
Impact Charpy ISO-V	47J @ -20°C	70J @ -20°C
Impact Charpy ISO-V	-	-

WELDING PARAMETERS	2.5 mm	3.2 mm	4.0 mm	5.0 mm
Ampere	50A - 80A	80A - 120A	110A - 160A	160A - 200A
Voltage	-	-	-	-
Packaging	50 pcs/kg	31 pcs/kg	20 pcs/kg	10 pcs/kg
Packaging Type	Carton box and dry pack	Carton box and dry pack	Carton box and dry pack	Carton box and dry pack

NOTES

Pcs/kg is indicative, actual number may vary ± 5%.

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)