



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

ISO 2560-A	E 46 2 Z B 42	AWS A5.5	E8018-W2
DIN	-	Werkstoff Number	-
Certifications	-	Shielding	-
Positions	PA, PB, PC, PD, PE, PF, PG	Current	DC+, AC

ASME QUALIFICATIONS

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

FERRITE

Ferrite	-
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PREN

PREN	-
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HARDNESS

Hardness	-
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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	VARIANT
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

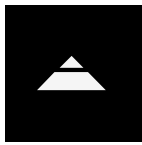
	2.5 mm	3.2 mm	4 mm	
Ampere	50A - 80A	80A - 120A	110A - 160A	160A -
Voltage	-	-	-	-
Packaging	50 pcs/kg	31 pcs/kg	20 pcs/kg	10 pcs/kg
Packaging Type	Carton box and dry pack	Carton box and dry pack	Carton box and dry pack	Carton box and dry pack

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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.

DAIKO®



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DESCRIPTION

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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).

