



# G-TECH 102

SMAW

CARBON STEELS  
STRUCTURAL STEEL

## DESCRIPTION

Rutile type electrode for universal application of non-alloyed structural steels

Rutile medium coated welding electrode, producing a mild steel deposit. Suitable for positional welds, except vertical down. High current carrying capacity, minimum spatter formation and virtually self-cleaning slag produce a concave bead with minimal ripple as well as a smooth and clean weld profile. Suitable for the light section steel fabrication, storage tanks, shipyards, car body works, boilers construction, sheet metal works, etc.

## SPECIFICATIONS

ISO 2560-A	E 42 0 RR 12	AWS A5.1	E6013
DIN	-	Werkstoff Number	-
Certifications	-	Shielding	-
Positions	PA, PB, PC, PD, PE, PF	Current	AC, DC+, DC-

## ASME QUALIFICATIONS

F-No (QW432)	2
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	0.07
Mn	0.64
P	0.02
S	0.01
Si	0.4

## MECHANICAL PROPERTIES

	MIN	VARIANT
Tensile strength $R_m$ MPa	430	520
Yield strength $R_{p0.2}$ MPa	420	450
Elongation A ( $L_0=5d_0$ ) %	22	22
Impact Charpy ISO-V	27J	47J @ -20°C
Impact Charpy ISO-V	-	60J

## WELDING PARAMETERS

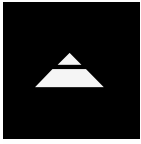
	2.5 mm	3.2 mm	4 mm	
Ampere	50A - 80A	80A - 120A	110A - 160A	160A -
Voltage	-	-	-	
Packaging	50 pcs/kg	31 pcs/kg	20 pcs/kg	10 pcs/kg
Packaging Type	Carton box and dry pack	Carton box and dry pack	Carton box and dry pack	Carton box and dry pack

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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](http://www.daikowelding.com).

DAIKO



# STRUCTURAL STEEL

DESCRIPTION

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## APPLICATION

Carbon-manganese (C-Mn) steels serve as the predominant structural steels extensively used across various applications in the engineering industry. Successful welding of C-Mn steel fabrications is generally achievable, provided the steel composition is known, necessary precautions are taken, and qualified procedures are adhered to. Weldability varies among C-Mn steels, with potential cracking mechanisms, including hydrogen cracking, solidification cracking, and reheat cracking, depending on specific circumstances. These consumables effectively resist such issues, emphasizing the importance of a meticulous welding procedure. While preheat and post-weld heat treatment (PWHT) may not be universally required, the actual specifications depend on the grade and thickness of the base material being welded. Attaining the required mechanical properties in a welded joint with C-Mn steels is achievable through the use of appropriate welding consumables. However, the intricate structural changes during the weld thermal cycle necessitate careful evaluation of properties such as heat-affected zone (HAZ) toughness and hardness.

## ALLOY TYPE

Consumables for welding mild and C-Mn steels of 340-510MPa tensile strength.

## MICROSTRUCTURE

Predominantly ferrite.

## MATERIALS

**EN W.Nr.:** EN AW-Al 99,0 (1200), EN AW-Al 99,7 (1070A), EN AW-Al 99,5 (1050A), EN AW-Al 99,5 (1350), EN AW-Al 99,8 (1080A).

