



G-TECH 102C

SMAW

CARBON STEELS
STRUCTURAL STEEL

DESCRIPTION

Cellulosic coated electrode for pipelines applications

Cellulosic type welding electrode suitable for positional welds on pipes grade API 5L X56 - X60. Indicated for the first pass in vertical down or overhead positions on site. Facility in using and exceptional penetration are obtained due to its special coating. The weld pool and slag are easy to control and facilitate the achievement of a clean bead surface even in narrow preparations. Excellent results on x-rays controls. Suitable for root and filler lays in pipeline application.

SPECIFICATIONS

ISO 2560-A	E 42 3 Z C 21	AWS A5.1	E7010-G
DIN	-	Werkstoff Number	-
Certifications	-	Shielding	-
Positions	PA, PB, PC, PD, PE, PF, PG	Current	DC-

ASME QUALIFICATIONS

F-No (QW432)	3
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	0.12
Mn	0.7
Ni	0.25
P	0.02
S	0.01
Mo	0.25
Si	0.3

MECHANICAL PROPERTIES

	MIN	VARIANT
Tensile strength R_m MPa	490	550
Yield strength $R_{p0.2}$ MPa	420	450
Elongation A ($L_0=5d_0$) %	22	25
Impact Charpy ISO-V	27J @ -30°C	47J @ -30°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.





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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).

