G-TECH 102HR

SMAW

CARBON STEELS
STRUCTURAL STEEL

DESCRIPTION

High recovery rutile coated electrode

Heavy coated rutile type welding electrode having a high efficiency and depositing a high tensile strength steel alloyed with Mn. Suitable for filet welds or lap joints. Smooth fusion without spatter loss, instantaneous striking and self-lifting slag. Smooth bead appearance with fine ripple deposit. Suitable for medium section steel fabrication, boilers and tanks constructions, shipyards and in general where a high speed welding is required.

SPECIFICATIONS

ISO 2560-A	E 42 0 RR 73	**AWS A5.1**	E7024
DIN	-	**Werkstoff Number**	-
Certifications	-	**Shielding**	-
Positions	PA, PB	**Current**	AC, DC+, DC-

ASME QUALIFICATIONS

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

FERRITE

-

PREN

-

HARDNESS

-

CHEM. COMP. %

	DEFAULT
C	0.09
Mn	1
P	0.02
S	0.01
Si	0.7

MECHANICAL PROPERTIES

	MIN	VARIANT
Tensile strength R_m MPa	490	520
Yield strength $R_{p0.2}$ MPa	420	470
Elongation A (L_0=5d_0) %	22	22
Impact Charpy ISO-V	27J	47J
Impact Charpy ISO-V	-	-

WELDING PARAMETERS

	2.5 mm	3.2 mm	4 mm	
Ampere	50A - 80A	80A - 120A	110A - 160A	160A -
Voltage	-	-	-	
Packaging	30 pcs/kg	18 pcs/kg	12 pcs/kg	8 p
Packaging Type	Carton box and dry pack	Carton box and dry pack	Carton box and dry pack	Carton box an

STRUCTURAL STEEL

DESCRIPTION

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).