G-TECH 109

SMAW

HIGH YIELD STRENGTH STEELS
100ksi

DESCRIPTION

Basic coated electrode for high strength low alloy steels

Basic coated electrode highly resistant to cracks and elaborated for welding fine grain steels and steels with high mechanical strength (Rm up to 800 MPa). Welds of high security, buffer layers before hardfacing. It is suitable for high strength low alloy -HSLA- constructions such as cranes and earth moving equipment . Applications include also offshore fabrication, chemical and petrochemical Industry. Regular fusion, stable arc, low spatters, good removal of the slag and nice aspect of the weld seam. Ease of slag removal reduces post-welding cleaning operations to a minimum.

SPECIFICATIONS

EN ISO 18275-A	E 62 5 1,5NiMo B 42	**AWS A5.5**	E10018-G
Shielding	-	**Positions**	PA, PB, PC, PD, PE, PF
Current	DC+, AC	**Packaging Type**	Carton box

ASME QUALIFICATIONS

F-No (QW432)	4
A-No (QW442)	10

CHEM. COMP. %	DEFAULT
C	0.08
Mn	1.3
Ni	1.3
Cr	0.05
P	0.01
S	0.01
Mo	0.4
Si	0.6
Cu	0.25

MECHANICAL PROPERTIES	MIN. PER STANDARD	PRODUCT
Tensile strength R_m MPa	690	720
Yield strength $R_{p0.2}$ MPa	620	620
Elongation A (L_0=5d_0) %	16	18
Impact Charpy ISO-V	47J @ -50°C	47J @ -50°C
Impact Charpy ISO-V	-	-

WELDING PARAMETERS	2.5 mm	3.2 mm	4.0 mm	5.0
Ampere	70A - 90A	100A - 140A	140A - 180A	180A - 24
Voltage	-	-	-	
Packaging	52 pcs/kg	21 pcs/kg	14 pcs/kg	9 pcs/
Packaging Type	Carton box	Carton box	Carton box	Carton b

NOTES

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

100ksi

DESCRIPTION

APPLICATION

These consumables are designed to ensure excellent impact resistance even at low temperatures, making them ideal for use in constructions with high-strength low-alloy (HSLA) steels, such as cranes, earth-moving equipment, and the like. They are also particularly suitable for offshore fabrications and components in the chemical and petrochemical industries. Preheating based on the base material and thickness is crucial, considering that higher strength materials often require a minimum preheat of 100 °C. For some HSLA steels, it's advisable to avoid interpass temperatures above 200 °C, as they may compromise the weld joint's strength and toughness. Post-weld heat treatment (PWHT) is closely related to the base material and the specific application.

ALLOY TYPE

Mn-Ni-Mo low alloy consumables for welding high strength steels with ultimate tensile strength to 690 MPa (100ksi).

MICROSTRUCTURE

Predominantly ferrite; some will contain high proportions of acicular ferrite for optimum as welded toughness.

MATERIALS

For joining of quenched and tempered and thermomechanically rolled fine-grained structural steels. For use in building, crane and vehicle constructions.
EN W.Nr.: S460, S500, S550, S620, S620Q, S620QL, S620QL1, S690Q, S690QL, S690QL1, S600MC, S650MC, S700MC, L690M, L830M
ASTM: A 514 Gr. F, H, Q, A 709 Gr. 100 Type B, E, F, H, Q, A 709 Gr. HPS 100W
API: 5L X65, 5L X70, 5L X80+
PROPRIETARY: N-A-XTRA® M 700 (ThyssenKrupp), Strenx® 700 (SSAB)