G-TECH 96

SMAW

HIGH YIELD STRENGTH STEELS
110ksi

DESCRIPTION

Basic coated electrode for high strength low alloy steels

Basic coated, Mn-Ni-Mo-alloyed electrode with high ductility and crack resistant for high-strength fine-grained constructional steels. Low-temperature ductility at -50°C. Easy weldability in all positions except vertical-down. Very low hydrogen content. Typical applications include construction (HSLA), pressure vessels and pipes and generally load carrying structures having high demands on low weight. Preheat and interpass follow the rules required by the base material.

SPECIFICATIONS

EN ISO 18275-A	E 69 5 Mn2NiMo B 42	**AWS A5.5**	E11018-M
Shielding	-	**Positions**	PA, PB, PC, PD, PE, PF
Current	DC+, AC	**Packaging Type**	Carton box

ASME QUALIFICATIONS

F-No (QW432)	4
A-No (QW442)	12

CHEM. COMP. %	DEFAULT
C	0.06
Mn	1.5
Ni	2.2
Cr	0.025
P	0.01
S	0.01
Mo	0.4
Si	0.3
Cu	0.3

MECHANICAL PROPERTIES	MIN. PER STANDARD	PRODUCT
Tensile strength R_m MPa	760	770
Yield strength $R_{p0.2}$ MPa	690	700
Elongation A (L_0=5d_0) %	16	20
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 mm
Ampere	70A - 90A	100A - 140A	140A - 180A	180A - 240A
Voltage	-	-	-	-
Packaging	52 pcs/kg	21 pcs/kg	14 pcs/kg	9 pcs/kg
Packaging Type	Carton box	Carton box	Carton box	Carton box

NOTES

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

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110ksi

DESCRIPTION

APPLICATION

Ideal for joining high-strength thermomechanically refined and quenched and tempered fine-grain structural steels and tubes. The deposited metal provides excellent strength even at low temperatures when used with gas mixes. It has good deformability, making it particularly suitable for use in crane construction, buildings, and vehicles. It is critical to preheat according to base material and thickness; materials that could be welded with higher-strength consumables normally require a minimum preheat of 100 °C. For some HSLA steels, exceeding interpass temperatures of 200 °C can compromise strength and toughness. The post-weld heat treatment (PWHT) varies depending on the base material and the specified application.

ALLOY TYPE

Mn-Ni-Mo low alloy consumables for welding high strength steels with ultimate tensile strength up to 750 MPa (110 ksi).

MICROSTRUCTURE

The microstructure of all the consumables is 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.: S690QL1, L555M, S690Q, S690QL, S690QL1, S650MC, S700MC
ASTM: A 514 Gr. F, H, Q
API: 5L X80, 5L X90, 5L X100
PROPRIETARY: N-A-XTRA® M 700 (ThyssenKrupp), Strenx® 700 (SSAB)

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