G-TECH 120

SMAW

HIGH YIELD STRENGTH STEELS
120ksi

DESCRIPTION

Basic coated electrode for high strength low alloy steels

Basic electrode with excellent welding characteristics, recommended for welding fine grained similar alloyed high yield strength steel (< 900 Mpa) in case high impact values are required at sub zero temperatures. These materials are used in lifting and handling machines, bridges, tanks, transports, shipbuilding, railway sector, mines, frames, crane fabrication, trailer construction, and other structural applications involving higher strength materials. Hydrogen content HD < 4 ml/100 g.

SPECIFICATIONS

ISO 18275-A	E 79 5 Mn2Ni1CrMo B 42 H5	**AWS A5.5**	E12018-G
DIN	-	**Werkstoff Number**	-
Certifications	-	**Shielding**	-
Positions	PA, PB, PC, PD, PE, PF	**Current**	DC+, AC

ASME QUALIFICATIONS

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

FERRITE

-

PREN

-

HARDNESS

-

CHEM. COMP. %

	DEFAULT
C	0.09
Mn	1.8
Ni	2.3
Cr	0.9
Mo	0.5
Si	0.5

MECHANICAL PROPERTIES

	MIN	VARIANT
Tensile strength R_m MPa	830	900
Yield strength $R_{p0.2}$ MPa	790	800
Elongation A (L_0=5d_0) %	16	18
Impact Charpy ISO-V	47J @ -50°C	60J @ -50°C
Impact Charpy ISO-V	-	-

WELDING PARAMETERS

	2.5 mm	3.2 mm	4 mm	
Ampere	70A - 90A	100A - 140A	140A - 180A	180A -
Voltage	-	-	-	
Packaging	52 pcs/kg	21 pcs/kg	14 pcs/kg	9 p
Packaging Type	Carton box	Carton box	Carton box	Carto

120ksi

DESCRIPTION

APPLICATION

Designed for applications demanding a minimum tensile strength of 120 Ksi and excellent Charpy V-notch toughness, these consumables are suitable for diverse structural uses. From lifting machines to shipbuilding, railway sectors to crane fabrication, they find application in various high-strength scenarios. Preheat as per base material and thickness; generally, a 100°C minimum preheat is needed for materials requiring these high-strength consumables. Exercise caution with some HSLA steels, as interpass temperatures above 200°C may compromise strength and toughness. Post-weld heat treatment (PWHT) depends on the base material and application.

ALLOY TYPE

Mn-Ni-Mo low alloy consumables for welding high strength steels with ultimate tensile strength up to 825 MPa (120 ksi).

MICROSTRUCTURE

The microstructure of all the consumables is predominantly ferrite; some will contain high proportions of acicular ferrite for optimum aswelded toughness

MATERIALS

This material is used for a variety of high strength steels. HY-80, HY-90, HY- 100. S890 and higher strength grades, thermo mechanically treated fine grain steels.

EN W.Nr.: S890QL, S960Q.

ASTM: A 709 Gr. 100 Type B, E, F, H, Q, HPS 100W.

PROPRIETARY: Strenx® 900 (SSAB), Alform® 900 X-treme (voestalpine).