

TL-120

AWS A5.5 E12016-G
EN757 E 69 Z Mn2NiMo B T 1 2

Characteristics and Applications:

TL-120 is a low hydrogen type electrode for the welding of 830N/mm² grade high tensile steel. Good crack resistance and mechanical properties, and good X-ray soundness can be obtained due to the low hydrogen content of weld metal. It is suitable for heat treatable low alloy steel (such as SCM21/4 chrome-molybdenum steel · SNCM8 Ni-Cr-Mo steel). Proper base metals are also including high tensile steels such as WEL-TEN80/80C/80P/80E · ASTM A486 Gr120/A508 Gr5a.4a/A543 GrB3.C, etc..

Notes on Usage:

1. Be sure to clean up the contaminations on the base metal and welding seam so as not to derogate the weld metal quality from particles.
2. Dry the electrodes at 300-350°C for 60 minutes before use.
3. Maintaining short arc length as possible is highly recommended. While welding with weave method, moving range should be controlled within 3 times of the wire's dia.
4. Use back-step method and hold for 3-5 seconds at every end-up to prevent arc starting from blowholes.
5. To avoid cracking from the differences of metals, thicknesses and restraints, pre-heating at 150~200°C is sometimes required according to the base metal and its thickness.
6. To ensure the malleability of the welding porting, heat-input should be properly controlled. (e. g., the heat-input of 25mm steel plate should not over 40KJ/cm).

Typical chemical composition of weld metal (wt%)

C	Mn	Si	P	S	Ni	Mo	Cr
0.10	1.30	0.50	0.02	0.010	2.50	0.60	0.18

Typical mechanical properties of weld metal

YS (MPa)	TS (MPa)	EL %	PWHT
765	905	20	620°C

Welding position



Sizes and recommended current range (AC or DC <+>)

Diameter (mm)		3.2	4.0	5.0	6.0
Length (mm)		350	400	400	400
Amps	F	90-130	130-180	180-240	240-310
	V&OH	80-120	110-160	-	-

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