

# TL-80

JIS Z 3212 D5816  
AWS A5.5 E9016-G  
EN757 E 55 3 Z B T 1 2

## Characteristics and Applications:

TL-80 is a low hydrogen type electrode for the welding of 620N/mm<sup>2</sup> grade high tensile steel in all-position welding. It provides excellent mechanical properties and X-ray test. Due to its good crack resistance, it is suitable for shipbuilding, machine fabrication, offshore structure, pressure vessel, high pressure pipe. Proper base metals are also including forging, cast iron, structural steel, steel pipe for heat transfer, pressure vessel, alloy steel, ASTM A202/486 Gr90/736 Gr3, 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. 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.
3. Use back-step method and hold for 3-5 seconds at every end-up to prevent arc starting from blowholes.
4. When the heat input is excessive, the impact value tends to be reduced. Therefore, select proper heat input depending on the required impact value.
5. Pre-heat at 80°C is sometime required according to base metal or its thickness.

## Typical chemical composition of weld metal (wt%)

C	Mn	Si	P	S	Ni	Mo
0.080	1.30	0.50	0.02	0.008	0.80	0.30

## Typical mechanical properties of weld metal

YS (MPa)	TS (MPa)	EL %	IV J	
			0°C	-30°C
580	650	28	169	95

## Welding position



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

Diameter (mm)		3.2	4.0	5.0
Length (mm)		350	450	450
Amps	F	90-130	130-180	180-240
	V&OH	80-120	110-160	150-200

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