

TNC-70B

AWS A5.11 ENiCrFe-2
JIS Z 3224 DNiCrFe-2

Characteristics and Applications:

TNC-70B is a low hydrogen type covered electrode with a composition of 70Ni, 15Cr, 1.5Mo, 8Fe, 2Mn, 2Nb. The welding is suitable for all positions with good X-ray soundness and crack resistance. The weld metal provides large temperature service range and excellent mechanical properties meeting the requirements of API and ASME for LNG tanks. Proper base metals are also including ASTM B163/166/167/168. All-position welding is available when the diameter of TNC-70C is ϕ 3.2(mm) or less, otherwise, horizontal and flat positions are available only.

Notes on usage:

1. Clean up the contaminations on the base metal, groove and pass to pass with stainless steel brush.
2. Dry the electrodes at 350~400°C for 60 minutes before using. Take out a batch of half day consumption and keep at 100~150°C during welding process.
3. Use back-step method to prevent arc starting from blowholes and hold for 3-5 seconds at every end-up.
4. Maintain short arc length to prevent porosity problem.
5. Do not exceed the range of recommended current. Over heat input might decrease the impact value.

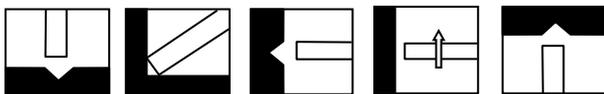
Typical chemical composition of weld metal (wt%):

	C	Mn	Si	P	S	Ni	Cr	Nb+Ta	Fe	Co	Mo
AWS	≤0.10	1.0-3.5	≤0.75	≤0.03	≤0.02	≥62.0	13.0-17.0	0.5-3.0	≤12.0	≤0.12	0.5-2.5
Typical value	0.03	2.30	0.45	0.012	0.008	78.00	14.20	1.00	2.5	0.02	1.4

Typical mechanical properties of weld metal:

	Tensile strength MPa(ksi)	Elongation %	Charpy V-Notch J (ft-lbf) -196°C (-320°F)
AWS	≥550(80)	≥30	-
Typical value	600(87)	34	157 (116)

Welding position:



Sizes and recommended current range (DC <+>):

Diameter (mm)	3.2	4.0
Length (mm)	350	350
Amps	F	120-160
	V&OH	90-130

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