KUANG TAI

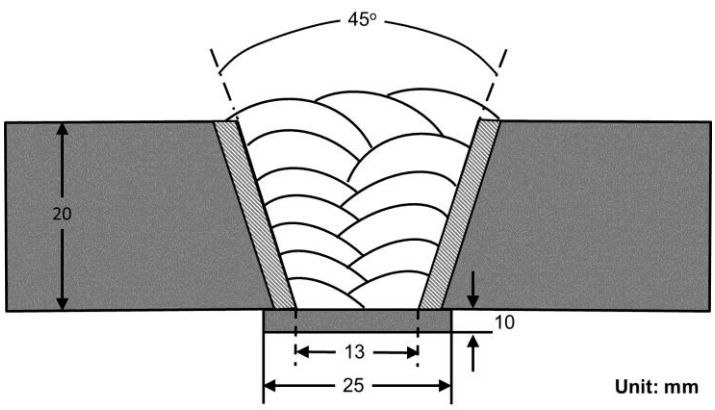
KFX-81TN

Product Data Sheet — **Flux Cored Wire for Low Alloy Steel**

Specification	AWS A5.29 E81T1-Ni1C
Applications	● Ideal for welding ASTM A302, A572, A575 and A734 steel. ● Used in offshore structure, low temperature storage tank, shipbuilding and construction.
Characteristics	● Capable of producing weld deposits with tensile strength exceeding 590 N/mm^2 ● Superior impact properties at low temperature. ● Stable arc, less spatters, smooth weld beads and good weldability.
Note on Usage	● Preheat Temperature: 135-165^{o}C ● Interpass temperature: 135-165^{o}C

Mechanical Properties & Chemical Composition of All Weld Metal

Welding Conditions



[Joint Preparation & Layer Details]

Method by AWS Rules

Diameter(mm)	1.2mm
Shielding Gas	100% CO_2
Flow Rate (l/min)	20
Amp / Volt	280 / 32
Stick-Out (mm)	15-20
Interpass Temp (℃)	150±15
Polarity	DC(+)

● Mechanical Properties of the Weld Metal

Brand Name	Tensile Test Results			Charpy V-Notch Impact Value (Joules)		
	Y.S. (MPa)	T.S. (MPa)	EL. (%)	-30℃	-40℃	-60℃
KFX-81TN	584	623	28	160	121	53
AWS A5.29 E81T1-Ni1C	470 min.	550–690	19min	27 min	-	-

● Chemical Analysis of the Weld Metal

Unit: wt%

Brand Name	C	Si	Mn	P	S	Ni	Cr	Mo	V
KFX-81TN	0.03	0.30	1.33	0.018	0.006	0.906	0.02	0.003	0.008
AWS A5.29 E81T1-Ni1C	≤0.12	≤0.8	≤1.50	≤0.03	≤0.03	0.8-1.1	≤0.15	≤0.35	≤0.05

Diffusible Hydrogen Content of Weld Metal

Unit: ml/100g weld metal

Specimen no.	1	2	3
	5.2	5.0	5.1

* Test method: carrier gas hot extraction with infrared furnace; conforms to EN/ISO 3690 and AWS A4.3.

Available Sizes and Suggested Operating Range

Welding Position	Wire Diameter (mm)		
	1.2mm	1.4mm	1.6mm
F&HF	120~300	150~350	180~400
Vertical Up	200~260	220~270	230~280

This information is provided solely for the purpose of confirming product conformance with applicable standards. The serviceability of a product or structure utilizing this type of information is and must be the sole responsibility of the builder/user. Many variables beyond the control of Kuang Tai Metal IND CO., LTD. affect the results obtained in applying this type of information. These variables include, but are not limited to, welding procedure, shielding gas, plate chemistry and temperature, weldment design, fabrication methods and service requirements.