

K-81TK2

For 560MPa low temperature service steel (1.5%Ni)

Classifications

EN ISO 17632-A:2015	: T50 6 1.5Ni P C1 1 H5
EN ISO 17632-B:2015	: T55 6 T1-1C1 A-N3-U H5
JIS Z 3313-2009	: T55 6 T1-1C A-N3-U H5
AWS A5.29-2010	: E81T1-K2C H4
AWS A5.36-2016:	: E81T1-C1A8-K2-H4
KS D 7104-2012	: YFL-C506R

Approvals – C1 (100% CO₂)

ABS	: 5YSA H5, 5Y400SA H5, E81T1-KC2 H4
BV	: 5Y40S H5
DNV	: V Y40MS(H5)
LR	: 5Y40S H5
KR	: L 3SG(C)H5
NK	: KSWL3G(C)H5

Description

- It is designed for welding of 560MPa high tensile steel for low temperature service
- Typical applications include offshore structures, LNG and LPG carriers and storage tank
- Wire is metal type of flux cored wire for all-position welding
- The weld metal contains about 15%Ni along with high impact values at low temp(-60°C)
- It features good porosity resistance and easy slag removal, and deposition rate is higher than a titania type wire

Welding positions



Polarity & shielding gas

- DCEP (DC+)
- CO₂: 100% CO₂ (15 – 25 l/min)

Typical chemical composition of all-weld metal (%)

Shielding Gas	C	Si	Mn	P	S	Ni
CO ₂	0.03	0.45	1.50	0.012	0.009	1.50

Typical mechanical properties of all-weld metal

	Yield Strength	Tensile Strength	Elongation	Impact Value (J)		Remarks
	(MPa)	(MPa)	(%)	-30 °C	-60 °C	
AWS A5.29	Min. 470	550-690	Min. 19	≥ 27		
EN ISO 17632-B	Min. 460	550-740	Min. 17	≥ 47		
Example	550	640	25	120	55	CO ₂

Notes on usage and welding condition

- To prevent crack at low temperatures, preheat and maintain interpass temperatures at 100-200 °C
- Refer to KISWEL welding handbook page 219-221 for more information on usage

Package

Diameter (mm)	1.2, 1.4, 1.6
Spool (kg)	5, 12.5, 15, 20
Pailpack (kg)	100 - 300