K-81TM

FLUX CORED ARC WELDING
CONSUMABLE FOR WELDING OF 560MPa
HIGH TENSILE STEEL

KISWEL

Rev.0

K-81TM

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■ Description & Application

- **It is designed for welding of 560MPa high tensile steel with outstanding mechanical properties**
- **Typical applications include machineries, shipbuilding, offshore structure, bridges and general fabrications**
- **Wire is a titania type of flux cored wire for all-position welding with 1.0% Ni component**
- **It provide good wet-in capabilities along with high impact values at low temperatures (-40℃)**

■ Classification

- **AWS A5.29 : E81T1-Ni1M**
- **AWS A5.36 : E81T1-M21A4-Ni1-H8**
- **KS D 7104 YFW-A602R**
- **JIS Z 3313 : T57 4 T1-1 M A-N2-U H10**
- **EN ISO 17632 A : T50 4 1Ni P M21 1 H10**
- **EN ISO 17632 B : T55 4 T1-1M21 A-N2 H10**

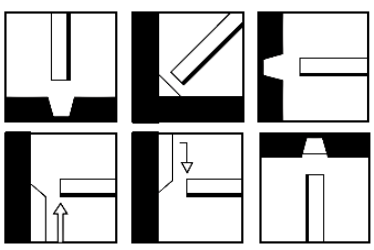
■ Typical Chemical Composition of Weld Metal(%)

Item	C	Si	Mn	P	S	Ni
AWS A5.29 E81T1-Ni1M	≤0.12	≤0.80	≤1.5	≤0.030	≤0.030	0.80-1.10
K-81TM	**0.04**	**0.45**	**1.26**	**0.008**	**0.013**	**0.87**

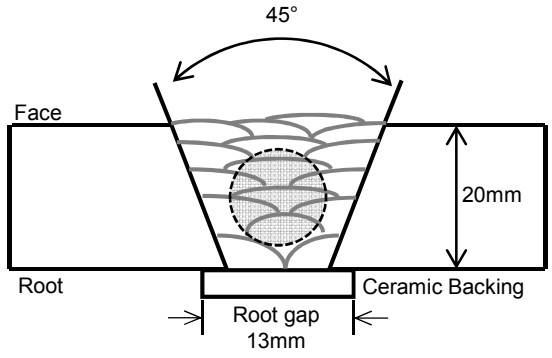
■ Shielding Gas

- **Mix : Ar+20% CO_2 (15~25ℓ/min)**

■ Welding position



All Weld Metal Test Specimen



Base metal	EH-36		
Diameter	1.2 mm		
Welding position	1G	2G	3G(up)
Welding current(A)	240	200	230
Arc voltage(V)	27	26	25
Heat input	17(1G), 11(2G), 25(3G) kJ/cm		

Typical Mechanical Properties of Weld Metal

	Y.S (MPa)	T.S (MPa)	El. (%)	IV (J) (Joule @ Temp)	Shielding Gas	PWHT
AWS E81T1-Ni1M	<470	550-690	<19	≥ 27 @ -30℃		AW
K-81KM(1G)	**594**	**632**	**27**	**86-98 @-40℃**	**Ar+20%CO_2**	**AW**
K-81TM(2G)	**621**	**652**	**25**	**65-82 @-40℃**	**Ar+20%CO_2**	**AW**
K-81TM(3G)	**602**	**642**	**26**	**77-95 @-40℃**	**Ar+20%CO_2**	**AW**

Typical Operating Procedures

Dia (mm)	Welding Conditions		Feed speed (m/min)	Deposition Efficiency(%)	Melt-off Rate (Kg/Hr)
	Current (amps)	Voltage (volts)			
1.2	200	25	10.2	84-87	3.4
	250	27	11.5	85-88	4.5
	300	31	15.3	86-88	5.2
1.4	250	27	7.6	85-87	3.9
	300	31	10.2	85-88	4.8
	330	34	12.8	86-86	5.8
1.6	280	30	6.4	85-88	4.2
	330	32	7.6	86-88	4.8
	400	36	9.2	87-90	5.7

■ Packaging





■ Size and Weight

Dia. (mm)	1.2,1.4,1.6
Weight (kg)	5, 12.5, 15, 20
Pail pack(kg)	100~300

■ Approval

ABS	BV	DNV*GL	LR
4YSAH5	4YSH5	IVYMS(H5)	4YS H5

■ Handling and Storage

- **Once Flux cored wire picked up moisture, it cannot be dried at high temperature, unlike covered electrode.**
- **If a wire was left in a wire feeder in a high-temperature high- humidity atmosphere in summer season, a wet environment in rainy season or a dew fall environment at night in winter was unpacked, the wire should be kept in an area of low humidity.**

  ※ Temp. below 30℃ relative humidity below 60%

KISWEL

The Management System of KISWEL LTD, 704, Gongdan-ro, Seongsan-gu, Changwon-si, Gyeongnam 51544, Republic of Korea, 70, Saebyeok-ro 63beon-gil, Sasang-gu, Busan 47018, Republic of Korea has been approved by Lloyd's Register Quality Assurance to : IATF 16949:2016, ISO 14001:2015, applicable to : Manufacture of solid welding wires & rods, flux cored wires, submerged arc welding wires & fluxes, stainless steel welding wires & rods and covered electrodes.
More information : www.kiswel.com

