K-71UT

FLUX CORED ARC WELDING
CONSUMABLE FOR WELDING OF 490MPa
LOW TEMPERATURE SERVICE STEEL

KISWEL

Rev.0

K-71UT

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Description & Application

- **It is designed for welding of 490MPa low temperature steels**
- **Typical applications include railcar, automotive machinery, shipbuilding, bridges, heavy equipment etc**
- **Wire is a titania type of flux cored wire for all-position welding**
- **It feature excellent mechanical properties, easy slag removal, low spatter generation, and good impact value at low temperatures down to -40℃**

Classification

- **AWS A5.20 : E71T-1C/9CJ H4**
- **AWS A5.36 : E71T12-C1A4 CS1 H4**
- **KS D 7104 YFL-C504R**
- **JIS Z 3313 : T49 4 T1-1CA-U H5**
- **EN ISO 17632 A : T46 4 P C 1 H5**
- **EN ISO 17632 B : T49 4 T1-1CA-U H5**

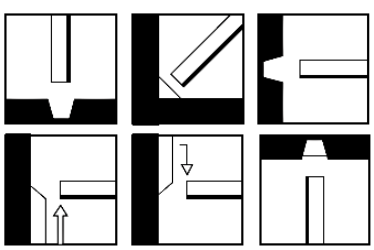
Typical Chemical Composition of Weld Metal(%)

Item	C	Si	Mn	P	S	Ni
AWS A5.20 E71T-1C/9CJ H4	≤0.12	≤0.90	≤1.75	≤0.03	≤0.03	≤0.50
K-71UT	**0.03**	**0.16**	**0.92**	**0.011**	**0.013**	**0.72**

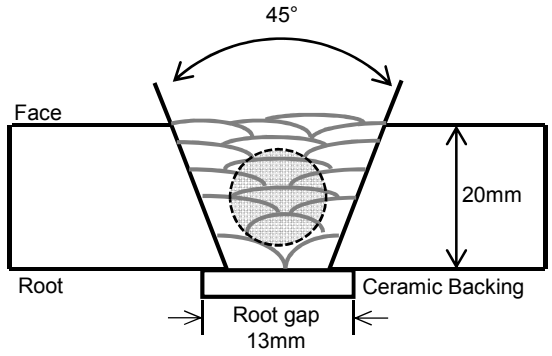
Shielding Gas

- **100% 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	230	220
Arc voltage(V)	29	27	26
Heat input	15(1G), 10(2G), 30(3G) kJ/cm		

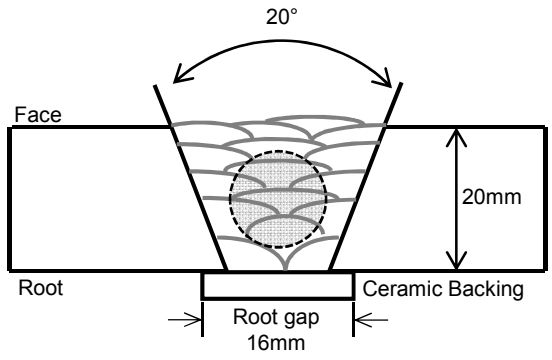
Typical Mechanical Properties of Weld Metal

	Y.S (MPa)	T.S (MPa)	El. (%)	IV (J) (Joule @ Temp)	Shielding Gas	PWHT
AWS E71T-9CJ	<390	490-670	<22	≥ 27 @ -40℃		AW
K-71UT(1G)	**584**	**591**	**31**	**84-95 @-40℃**	**100%CO_2**	**AW**
K-71UT(2G)	**617**	**631**	**27**	**80-98@-40℃**	**100%CO_2**	**AW**
K-71UT(3G)	**606**	**625**	**28**	**96-101@-40℃**	**100%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	26	10.2	84-87	3.4
	250	28	11.5	85-88	4.5
	300	33	15.3	86-88	5.2
1.4	250	28	7.6	85-87	3.9
	300	32	10.2	85-88	4.2
	330	36	12.8	86-89	8.5
1.6	280	31	6.4	85-88	4.2
	330	33	7.6	86-88	4.8
	350	34	8.1	87-89	5.3
	400	38	9.2	87-90	5.7

■ Welding Condition of PQ test



Base metal	A516-70	
Diameter	1.2 mm	
Welding position	1G	2G
Welding current(A)	280	200
Arc voltage(V)	32	26
Heat input	14(1G), 31(3G) kJ/cm	

■ Mechanical properties of PQ test

	Y.S (MPa)	T.S (MPa)	El. (%)	IV (J) (Joule @ Temp)	Shielding Gas	PWHT
AWS E71T-9CJ	<390	490-670	<22	≥ 27 @ -40℃		-
K-71UT(1G)	**575**	**601**	**28**	**84-95**	**100%CO_2**	**AW**
K-71UT(1G)	**531**	**586**	**30**	**67-80**	**100%CO_2**	**605℃ 1Hr**
K-71UT(3G)	**590**	**632**	**28**	**110-118**	**100%CO_2**	**AW**
K-71UT(3G)	**561**	**604**	**29**	**90-95**	**100%CO_2**	**605℃ 1Hr**

■ Diffusible Hydrogen Content (Gas chromatography method)

Class.	Diffusible Hydrogen Content (㎖) / 100g Weld Metal				
	1	2	3	4	Av.
Result	3.51	3.61	3.94	3.81	3.71

*** Test Information**

- **▶ Test Method : Reference to EN ISO 3690**
- **▶ Test Equipment : G.C (Gas Chromatograph)**

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	KR	NK
4YSAH5	4S4YSH5	ⅣYMS(H5)	4YSH10	RSW54GHHH	KSW54GH5

■ 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

