KC-37

SOLID WELDING WIRE
FOR 490MPa GRADE STEEL

KISWEL

Rev.0

■ Description & Application

- **Slag generation is reduced compared to conventional products, resulting in fine dispersion.**
- **By replacing the Si component, with other components, the glass slag are extremely reduced.**
- **Reduction of slag removal work and prevention of gradation of corrosion resistance due to slag peel off after painting.**
- **Automotive, Electronic products, Thin plate welding parts**

■ Classification

- **AWS A5.18-2005 : ER70S-G**

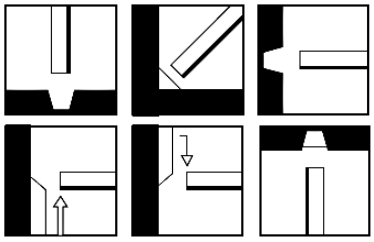
■ Typical Chemical Composition of Wire (%)

	C	Si	Mn	P	S	Cu
KC-37	0.08	0.06	1.20	0.010	0.030	0.10-0.35

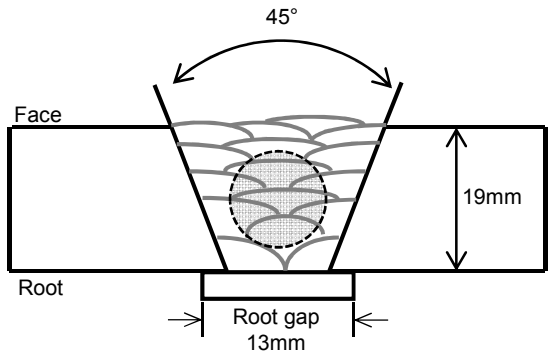
■ Shielding Gas

- **Ar + 5 ~ 15%CO_2**
- **Ar + 15 ~ 25%CO_2 (15~25ℓ/min)**

■ Welding Position



All Weld Metal Test Specimen



Base metal	A515 Gr.70
Diameter	1.2mm
Current / Voltage	280A / 30V
Stick out	20mm
Travel Speed	30 CPM
Welding Position	PA / 1G

Typical Mechanical Properties of Weld Metal

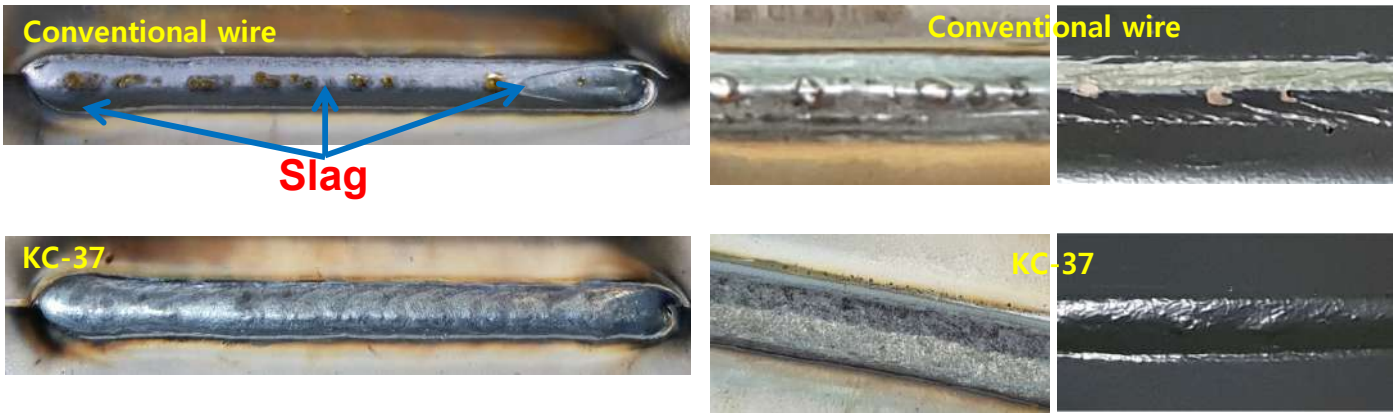
	Y.S (MPa)	T.S (MPa)	El. (%)	IV (J) (Joule @ Temp)	Shielding Gas	PWHT
AWS ER70S-G	≥ 400	≥ 480	≥ 22	-	-	AW
KC-37	**450**	**553**	**32**	**100 @ -20℃**	**Ar + 10%CO_2**	**AW**
KC-37	**510**	**570**	**31**	**80 @ -20℃**	**Ar + 20%CO_2**	**AW**

Typical Operating Procedures

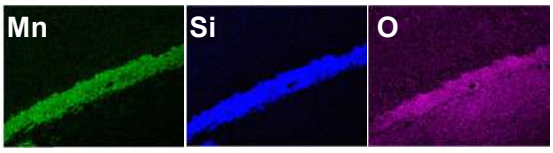
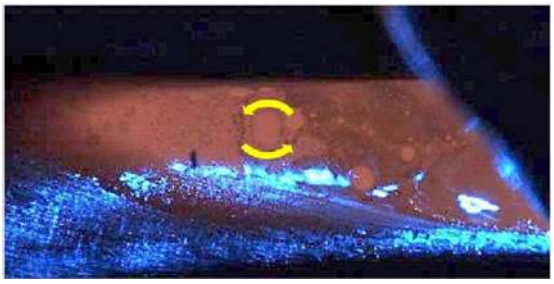
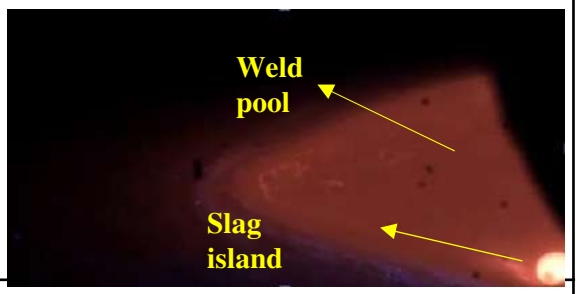
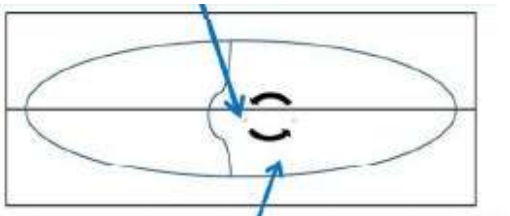
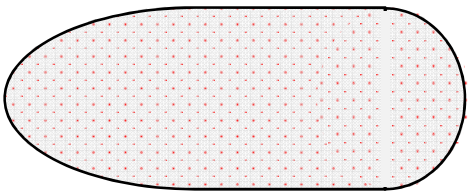
Dia (mm)	Shielding Gas	Current (amps)	Voltage (volts)	Feed speed (m/min)	Melt-off Rate (Kg/Hrs)
0.9	Ar + 10% CO_2	190-280	24-30	9.5-15.5	2.4-4.2
1.2	Ar + 10% CO_2	280-340	27-30	8.5-12.5	4.2-6.2
1.4	Ar + 10% CO_2	300-440	30-34	7.5-12.5	5.1-8.5
1.6	Ar + 10% CO_2	320-440	28-32	5.5-7.5	4.9-6.7

* Polarity : DCEP (DC+)

1. Bead Appearance and paint durability on galvanized steel



2. Formation of slag

	Conventional	KC-37
Bead		
Content		
Welding Pool		
Slag Behavior	 Both flows merge and create a single spin.	 Slag dispersed widely and thinly

■ Welding wire feeding

- **Welding wire is fed by feed system**
- **If feeding is not stable, the arc length is changed. It makes problems.**
- **A stable feeding requires the proper configuration of the welding system and the selection of the product with the appropriate level of surface roughness**

■ Wire feed system

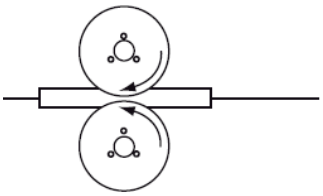


Push system for normal GMAW wire

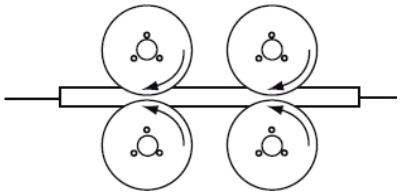


Push/Pull system for soft GMAW wire (Aluminum)

■ Drive rollers



Two roll feeder



Four roll feeder

■ Improve paint durability

After Welding & Painting





Cyclic Corrosion Test (CCT)

After CCT Test





■ Packaging



■ Size and Weight

Dia. (mm)	0.8, 0.9, 1.0, 1.14, 1.2, 1.32, 1.4, 1.6			
Weight (kg)	2	5	12.5, 15, 20	100~450
Packaging	Plastic Spool			Pail-pack / DPP
	-		Wire Basket	

■ Approval

Shielding gas	ABS	BV	DNV GL	LR	KR	NK
CO2	-	-	-	-	-	-
MIX	-	-	-	-	-	-

■ Handling

- **Do not speed up or brake loaded products to prevent rollover during transport.**
- **Please run out product within two weeks of its packaging release.**
- **If the product is discontinued for more than two weeks, it should be packed and stored separately to prevent air contact.**
- **Products that are in use on the supply line must be prevented by covering to prevent product contamination and electric shock accidents.**
- **When using Drum or DPP, check the enclosed installation and handling manual, and use it after proper installation.**

■ Storage

- **Do not stock Drum or DPP packaging palettes more than 2 layers and Spool or Wire basket packaging palettes more than 3 layers. To prevent damage to the products and external packaging.**
- **Store the product without removing the packaging to prevent air contact.**
- **To prevent product packaging damage and condensation due to moisture. Keep the product at a relative humidity of less than 50%.**

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

