ZO-27

SOLID WELDING WIRE
FOR 490MPa GRADE STEEL

KISWEL

Rev.0

■ Description & Application

- **ZO-27 is intended for both single and multiple-pass welding with mixed gas**
- **This indicates excellent arc stability and feedability on high current welding condition and has low spatter on welding with mixed gas**
- **Stables arc performance in almost welding current**
- **A wide range of use due to low spatter and all welding positions**
- **For welding of mild steel and 490N/mm^2 class high tensile strength steel**
  - **Vehicles, Buildings, Ships, Machineries and bridges**

■ Classification

- **AWS A5.18-2005 : ER70S-G**
- **KS D 7025-2005 : YGW15**
- **JIS Z 3312-2009 : YGW15**
- **EN ISO 14341-A : G 46 2 M21 Z**
- **EN ISO 14341-B : G 49 A 2 M21 S15**

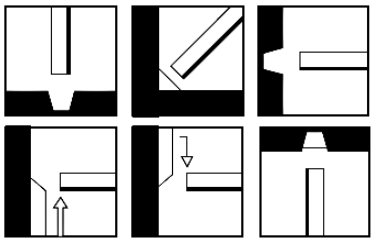
■ Typical Chemical Composition of Wire (%)

	C	Si	Mn	P	S	Ti	Cu
EN ISO S15	0.02-0.15	0.40-1.00	1.00-1.60	≤0.030	≤0.030	0.02-0.30	≤0.50
JIS YGW15	0.02-0.15	0.40-1.00	1.00-1.60	≤0.030	≤0.030	0.02-0.30	≤0.50
ZO-27	**0.07**	**0.62**	**1.18**	**0.014**	**0.010**	**0.09**	**0.10-0.35**

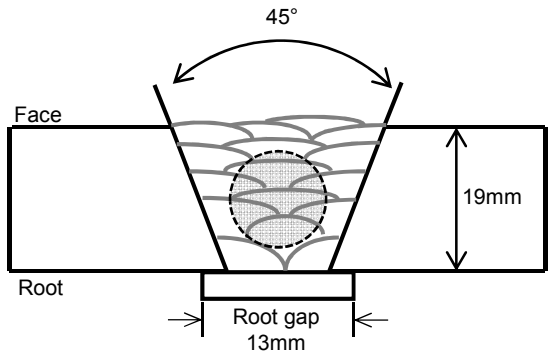
■ Shielding Gas

- **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
EN ISO S15	≥ 390	490~670	≥ 18	≥ 27 @ -20℃	**Ar+15~25%CO_2**	AW
ZO-27	**490**	**560**	**31**	**160 @ -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)
1.2	Ar + 20% CO_2	280-340	27-30	8.5-12.5	4.2-6.2
1.4	Ar + 20% CO_2	300-440	30-34	7.5-12.5	5.1-8.5
1.6	Ar + 20% CO_2	320-440	28-32	5.5-7.5	4.9-6.7

* Polarity : DCEP (DC+)

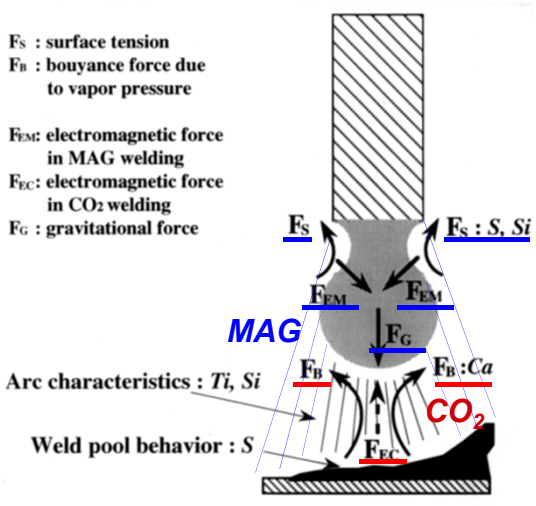
■ Wire surface

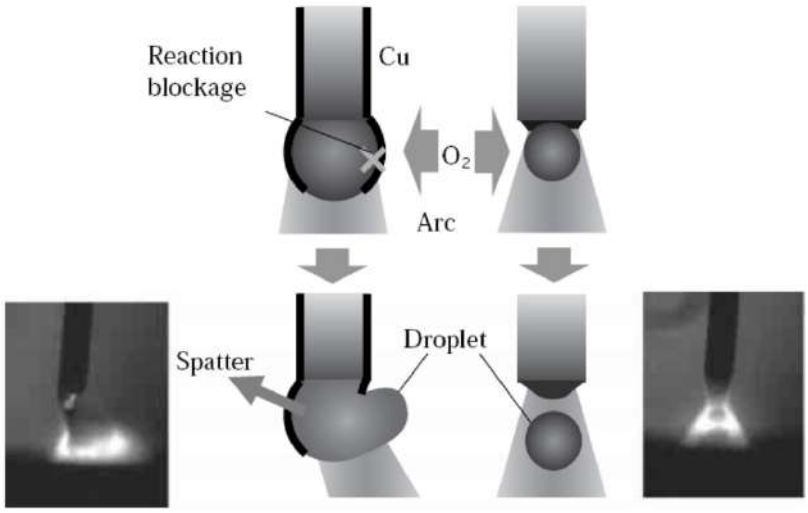
	KC-27CF	ZO-27 (R2)	ZO-27
Wire Appearance	-		
Cu Adhesive			
	Cu free Rough surface	Less Cu	Basic

※ Various surfaces are provided according to the customer's environment to improve wire feeding

■ Low Cu plated

- **Various forces are applied to the melting edge of the wire at the Arc**
- **Excessive Cu-plate prevents penetration of oxygen and maintains surface tension**
- **Because of maintained surface tension, The size of droplet is increase, this increases the generation of spatter**





■ Packaging



■ Size and Weight

Dia. (mm)	1.0, 1.2, 1.32, 1.4, 1.6	
Weight (kg)	20	250~450
Packaging	Plastic Spool	Pail-pack

■ Approval

Shielding gas	ABS	BV	DNV GL	LR	KR	NK
CO2	-	-	-	-	-	-
MIX	3YSA	-	III YMS	3YS H15	-	KSW53G

* Remark : JIS

■ 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%.**

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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

