ZO-55

COPPER COATED SOLID WIRE

KISWEL

Rev.0

■ Description & Application

- **For robot and fillet welding of machineries, bridges, heavy equipment and pressure vessels.**
- **Excellent mechanical properties on high heat input (40KJ/cm) or interpass temperature (350℃)**
- **High deposition rate per unit time**
- **Beautiful weld appearance due to excellent arc stability**

■ Classification

- **AWS A5.18-2005 : ER70S-G**
- **JIS Z 3312-2009 : YGW18**
- **EN ISO 14341-A : G 50 0 C1 Z**
- **EN ISO 14341-B : G 55 A 0 U C1 S18**

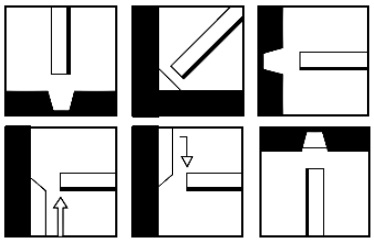
■ Typical Chemical Composition of Weld Metal (%)

	C	Si	Mn	P	S	Cu
AWS ER70S-G	Not specified					
EN ISO S18	0.02-0.15	0.50-1.10	1.60-2.40	≤0.030	≤0.030	≤0.50
ZO-55	**0.07**	**0.92**	**1.97**	**0.015**	**0.006**	**0.04**

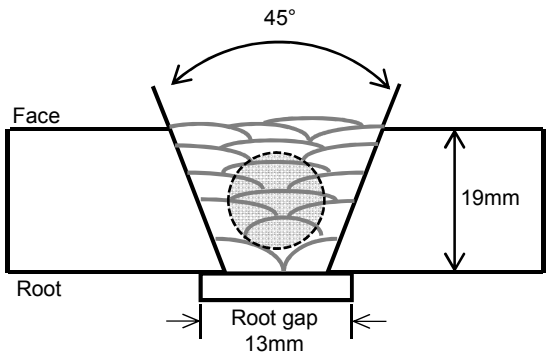
■ Shielding Gas

- **100% CO_2 (15~25ℓ/min)**
- **Ar + 20% 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

	Shielding Gas	PWHT	Y.S (MPa)	T.S (MPa)	El. (%)	IV (J) (Joule @ Temp)
AWS ER70S-6	-	AW	< 400	< 480	< 22	≥ 27 @ 0℃
EN ISO S18	-	AW	< 460	500~740	< 17	≥ 47 @ 0℃
JIS YGW18	-	AW	< 460	500~740	< 17	≥ 47 @ 0℃
ZO-55	**100%CO_2**	**AW**	**580**	**640**	**27**	**120 @ 0℃**

Typical Operating Procedures

Dia (mm)	Shielding Gas	Current (amps)	Voltage (volts)	Feed speed (m/min)	Melt-off Rate (Kg/Hr)
0.9	100% CO_2	80-250	18-22	2.5-6.5	0.7-1.7
	Ar + 10% CO_2	190-280	24-30	9.5-15.5	2.4-4.2
1.2	100% CO_2	140-200	19-21	3.0-5.0	1.4-2.3
	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+)

■ High heat input – High Interpass Temp. Welding wire

Shielding Gas	Y.S (MPa)	T.S (MPa)	El. (%)	IV (J) (Joule @ Temp)	Heat Input	Interpass Temp (℃)
Requirment	< 460	500~740	<22	≥ 47 @ 0℃	-	-
100%CO_2	587	651	27	170 @ 20℃	18KJ/cm	150℃
	464	560	29	120 @ 20℃	**40KJ/cm**	**350℃**

※ Mechanical properties under high heat input welding conditions.

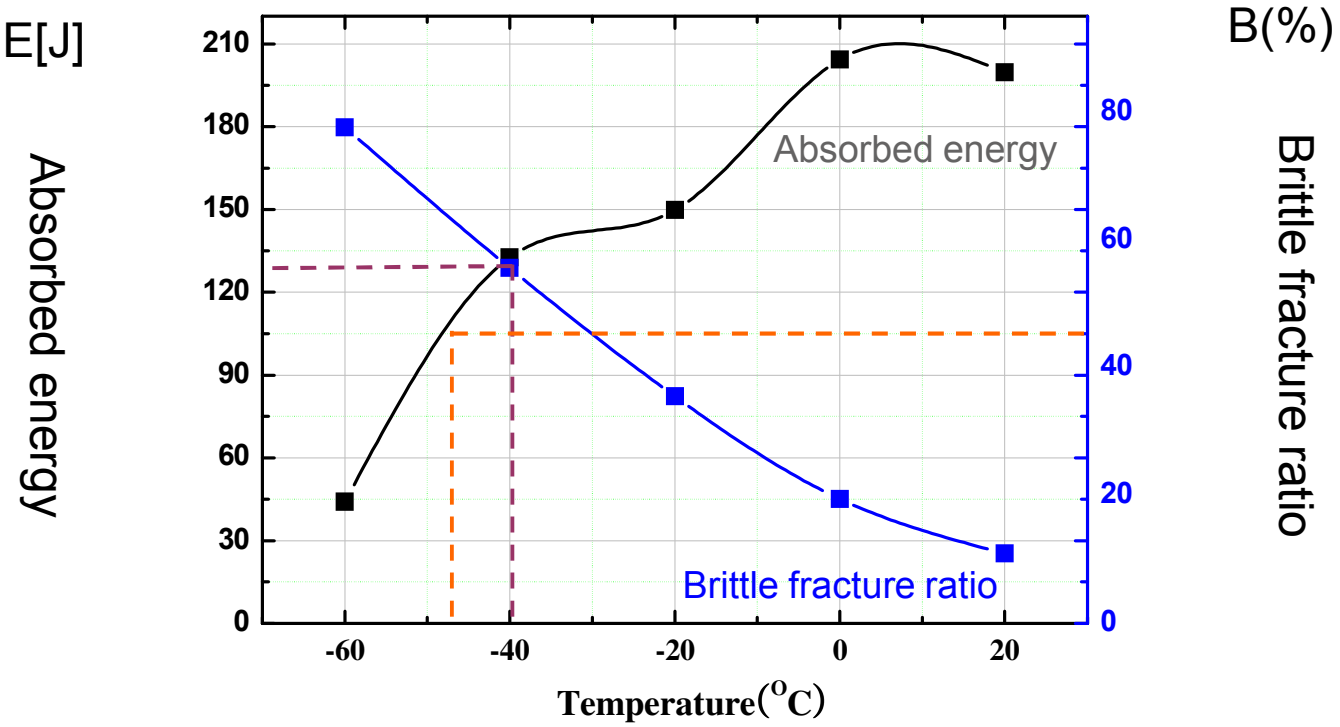
■ Slag on bead



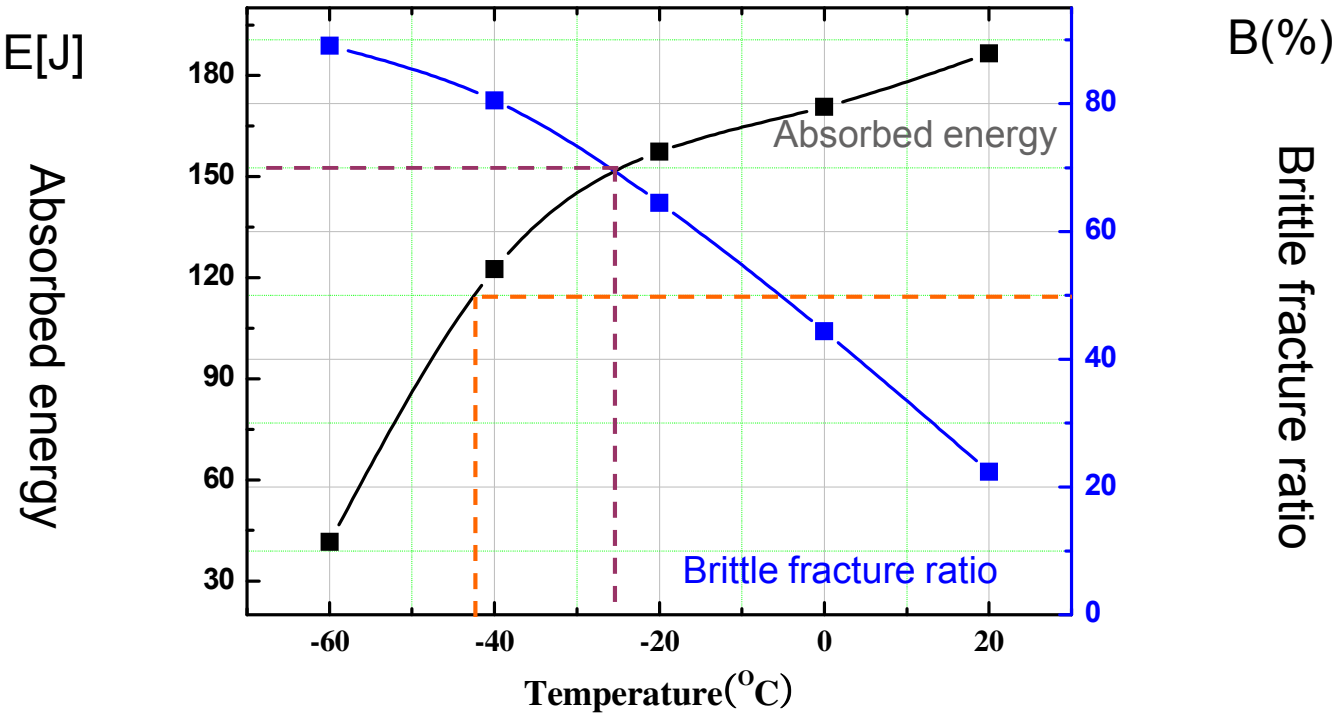
■ Bead appearance

YGW12 (ZO-26)	
YGW18 (ZO-55)	

■ Ductile-Brittle Transition Temperature (100%CO_2)



■ Ductile-Brittle Transition Temperature (Ar + 20%CO_2)



■ Packaging





■ Size and Weight

Dia. (mm)	0.6, 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	

■ 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

