KISWEL

COMPANY PROFILE

Envisioning tomorrow,
Starting today.

ABOUT

Since its establishment, KISWEL has earned the trust of its customers by focusing solely on welding consumables for over 50 years.
With large advancements apparently seen through global network expansions, acquirements of more than necessary certifications, numerous collaborations and large sales growth, the trademark " KISWEL " can be seen in more than 120 countries worldwide.

Always thriving to become a leading solutions provider within the welding industry, KISWEL continuously places its top priority on providing sound solutions to the welding needs of its customers.

Creation of values beyond welding materials

Creation of the Future integrating high quality welding materials with customized solutions.

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INTRODUCTION

KISWEL has been working hard to localize welding materials and advance the basic material industry based on its management philosophy: ‘Creativity’ ‘Reliability’ ‘Fortitude’ and ‘Solidarity’.

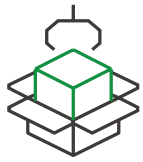
With pride that innovation of materials translates into innovation of the industry, we are constantly working on improving the world to be more a convenient place with a safer everyday life. With passion in doing so, KISWEL has been connecting the world around you.

KISWEL IN NUMBERS

KISWEL is striving to supply the best welding materials to our customers while actively responding to changes and innovations with efficient resource management as a company specializing in welding materials representing Korea, releasing over 400 products ranging from general-purpose materials to specialized materials.

1973

Founded in 1973 Headquartered in Seoul, Korea



450

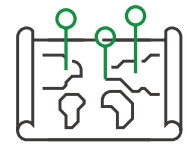
450 Customers

120

Business in more than 120 countries

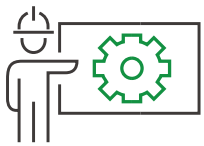
20

20 Overseas Branches & Offices



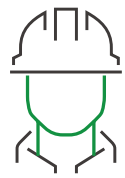
1

1 Technology R&D center



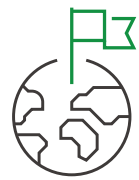
1,000

1000 employees across



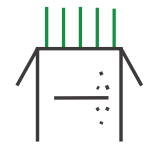
7

7 Production bases

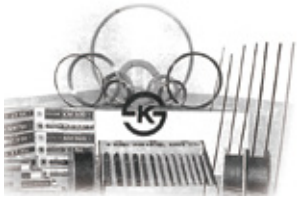


400

Products more than 400 types



CHRONOLOGY 50 Years of KISWEL & ongoing



KISWEL product produced in 1973

1960-1970
Farther than others, getting ahead of others

KISWEL R&D Center

1969
- Established welding rod Business dept. in KISWIRE

1973
- Founded KISWEL Co., Ltd.
- Introduced in-line equipment for the first time in East Asia

1989
- Established Japanese Branch (KISWEL JAPAN)

1997
- Established Plant in Malaysia

1998
- Selected as top 50 company with superior quality competitiveness
- Established EU branch

1999
- Established US branch (KISWEL USA INC.)

2004
- Established R&D CENTER
- Established Plant in China (KISWEL DALIAN LTD.)

2006
- Established US manufacturing corporation (KISWEL INC.)

Nov. 30, 1987 Received commendation for achieving $10 million in exports on Korea Trade Day

1980-1990
Pushed ahead with technology independence

2020-Present

Establishment of foundation for solution partnership

Mar.04.2020
MOU Ceremony for defence industry welding material localization with HYUNDAI ROTEM.

2016

- Selected as World Class 300 (~Present)

2007

- Established Dubai branch

2021

- JDA with GESTAMP for low-slag welding consumables
- Localization of 9% Ni steel welding material for onshore LNG storage tank for the first time in Korea

2023

- MOU with ADD (Agency for Defense Developement)
- Acquisition approval- Onshore LNG Storage Tank 9% Ni-steel welding consumables for KOGAS

2009

- Established Ho Chi Minh branch
- Established Bangkok branch

2022

- MOU with KAI (Korea Aerospace Industries Ltd)
  KRIT (Korea Research Institute for Defense Technology Planning and Advancement)

2020

- MOU with POSCO
  KOMATSU
  HYUNDAI ROTEM
- Korea's first bullet-proof steel welding materials through localization & Awarded by Ministry of National Defense

WORLD CLASS 300

Selected as World Class 300 (~Present)

2000-2010

As a global specialty company

KISWEL's VISION

TOTAL WELDING SOLUTION PARTNER

With its experience of 50 years in technology and its know-how, KISWEL not only supplies high quality and high-performance welding materials, but also is certified for its quality, and provides total welding solutions including robot automation systems.

Welding consumables

×

Customer needs

Robot automation system

Highly efficient welding technology

Quality certification

Eco-friendly material development

Future-oriented new steel customized development

Welding technology

Technical Solution

Joint business/agreement signing

Commercial Solution

+

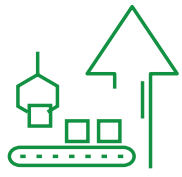
Establishment of win-win collaborative relations

Human Solution

Creation of values beyond welding materials
Creation of the Future integrating high quality welding materials with customized solutions.

Customer's

New product development



Cost-saving productivity enhancement

KISWEL is your total welding solutions partner, thriving to solve customer concerns together as well as growing together with customers.

Welding technology
Grafting of optimum welding technology perfecting product innovation

Steel material
Creation of new values actualizing business diversification by enabling innovation of steel materials

Welding system
Fusing of optimized welding system leading the creation of a safe and efficient environment in various sites

Quality certification service
Providing a variety of certification services and various business services

Human solution
Establishing win-win collaborative relations impressing customers by being close to customers

Building a better World Together

AFFILIATED COMPANIES

SAMHWA

Sam Hwa Steel Co., Ltd

IHTW
[Induction Heated, Quenched and Tempered Wire]
ESW
[Energy Saver Wire]

KISWEL
흥국제선

Heung Kuk Steel Wire Co., Ltd.

FCW
[Flux Cored Wire]

高麗熱鍊(株)

Korea Heat Treatment Co., Ltd.

PC Steel Bar
SCR / SCR-S
KSS

Korea Omega

Korea Omega Co., Ltd.

Investment Consultation Services

PRODUCTS

SMAW

Mild & 490MPa high tensile strength steel
High tensile strength steel (520~830MPa)
Atmospheric corrosion resisting steel
Low temperature service steel
Heat-resisting steel
Hardfacing / STS / Cast iron
Special purpose

SAW

490MPa high tensile strength steel
High tensile strength steel (520~830MPa)
Heat-resisting steel
Low temperature service steel
STS & Nickel alloy
SAW & ESW for strip cladding
Hardfacing

FCAW

Mild & 490MPa high tensile strength steel
High tensile strength steel(520~1000MPa)
Self Shielded FCW
Electro Gas Welding (EGW)
Low temperature service steel
Corrosion resisting steel against sulfic acid
Heat-resisting steel
Atmospheric corrosion resisting steel
Hardfacing / STS

MIG/TIG

490~830MPa high tensile strength steel (TIG)
Heat-resisting steel (TIG)
Low temperature service steel (TIG)
STS (TIG&MIG)

Nonferrous

Ni alloy (Covered electrode)
Nickel alloy and copper alloy (TIG&MIG)

GMAW

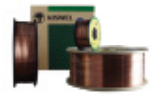
490MPa high tensile strength steel
High tensile strength steel (520~830MPa)
Heat-resisting steel
Low temperature service steel

Titanium Powder

Electronics
Military
Medical
Industrial parts

Aluminum

ER5183, ER5356, ER1100,
ER4043, ER4047 and ER5556
available in MIG and TIG
wires and rods



High Mn Steel Welding Consumables

For High Mn Cryogenic Steel
For High Mn Austenitic AR Steel
For High Mn Non-magnetic Steel

Oxy-Acetylene, gas welding

Mild steel

CERTIFICATIONS

- **Quality Management System**
  IATF 16949 : 2016
  ISO 9001 : 2015

- **Environmental Management System**
  ISO 14001 : 2015

- **Japanese Industrial Standards**

  JIS Z 3211
  JIS Z 3312
  JIS Z 3313
  JIS Z 3321
  JIS Z 3323
  JIS Z 3351
  JIS Z 3352

- **Korean Industrial Standards**

  KS D 7004
  KS D 7006
  KS D 7025
  KS D 7104

- **VdTUV, CE, DB**

CLASSIFICATION SOCIETIES

ABS	CCS 中国船级社	KR KOREAN REGISTER	DNV	LR
CWB	BUREAU VERITAS	RINA	NK	

RESEARCH & DEVELOPMENT

With its inception as a technology department in 1973, the KISWEL R&D Center has come a long way from being the first Korean company in the industry to be registered as an R&D center under the Ministry of Science & Technology.

Today, the KISWEL R&D Center is equipped with pilot production lines dedicated to producing and testing newly developed products in real time according to the needs of our partners, whether they are customers or other organizations.

Our R&D Center continues its research on specialized welding technologies in the sectors of energy (wind and solar), offshore plants, oil & gas drilling and subsea equipment.

As a proud sponsor of the IIW (International Institute of Welding), we contribute our passion and support to the welding society and strive to eventually lead the welding industry.

RESEARCH AREA

Welding metallurgy research

- Cryogenic toughness and CTOD characteristics
- Welding technology and optimized materials for LNG tanks
- -196°C Cryogenic STS metallurgical properties
- Welding material for high-alloy power generation boiler
- Research on high/low temperature crack generation factors
- Defect and fracture damage study

Development of high efficiency-high performance welding material

- High-strength EGW and ESW welding technology
- Super TIG “C-type” filler development and welding automation
- Welding material for super-strength automotive steel plate
- High-alloy surface hardening welding material
- Study of High strength & toughness on Self-shield FCAW
- Hybrid welding material for high speed welding

Eco-friendly welding material development

- Fume generation factor analysis and low fume welding material
- Slag-free high efficiency MCW materials
- Welding technology for low spatter generation
- Welding material for nuclear waste CASK container
- Welding material for non-preheating high strength-high toughness welding material
- Minimum generation of SAW Flux fine powder and improved recovery rate

Research on production technology and product surface control

- Study of Wire surface properties (Chemical / electroplating, oxide coating, electrical conductivity etc)
- Bright annealed heat treatment, surface roughness and residue control technology
- Development of surface coating control technology and coating additives
- Kink-free high-capacity packaging technology and eco-friendly Pack research
- Research on raw material properties such as flux, strip, wire rod and so on
- New material and wire processing technology

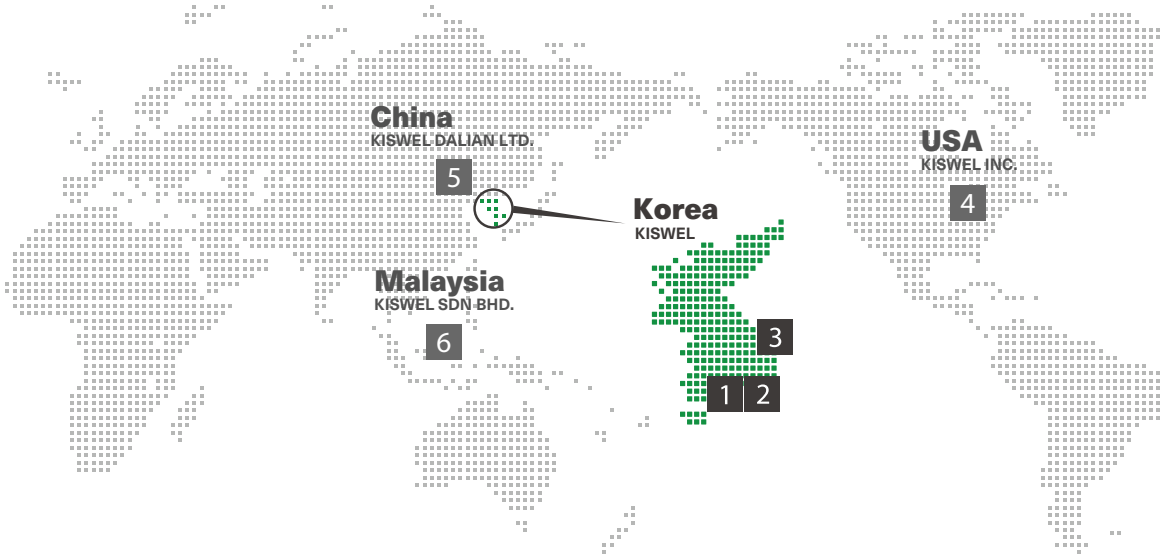
Industry-university-institute joint research

- Porosity-free galvanized steel welding material
- Welding material for corrosion-resistant sulfuric acid complex corrosion steel
- Welding material for bulletproof and wear resistant steel
- Fitting A860-70 SAW welding material

New material-new technology development

- 3D WAAM welding material and build-up technology
- Processing Lab. Optimization welding parameter research
- High-strangth aluminum and non-ferrous metals
- Development of high purity Ti, Ti-6Al-4V alloy powder

GLOBAL PLANT LOCATION



Korea

CHANGWON

GMAW
FCW
SAW wire & flux
MIG / TIG

BUSAN

SMAW

POHANG

FCW

POSWELDING

COMPOSITE WIRE
SAW Flux

USA

KENTUCKY

Premium FCW
- Mild steel
- MCW
- STS

China

DALIAN

FCW
- STS 400
- Self-shielded

Malaysia

JOHOR BAHRU

SMAW
GMAW
FCW
MIG

KISWEL INC.

Raising the bar & Advanced Forward

www.KISWELUSA.com

Key Product

Superior Out-of-position FCW Weldability (K-71T Plus, K-71TP)
Slag-free MCW (KX-706M)
Lightweight 2lb & 10lb Portable Self-Shielded FCW (K-NGS, K-NGS11)
Low-alloy FCW customized to NACE regulations (K-81TMJ)
STS MIG Wire with superior weldability (M-308LSi, M-309LSi)
Aluminum Filler Metals (M-4043, M-5356)
Availability of DDP (Disposable Drum Pack) - (550lb & 900lb)

Kentucky, USA

INTRODUCTION

Since our establishment in 2006, we are persevering in not only providing our customers with welding consumables of uncompromised quality but to also solidify KISWEL's next step in becoming a globally competitive player within the welding industry.

Based on our obsession about the quality of our products and through our production facility located in Kentucky along with our Houston office, we are developing daily by facing cut throat challenges every moment.

Looking forward not only 50 years but into the next century, each and every one of us are continuously trying to provide more.

In moving one step closer to achieving our goal in leading the North-American market, our top-notch facility and efficient production methods continuously enable us to thrive, not to mention, we refuse to use any other than the highly trusted CR Strip as our main source of raw material. We at KISWEL INC., with the aim to becoming a total solution provider, have recently expanded our range of products by adding Aluminum filler metals. Furthermore, in order to meet the needs of a wide variety of customers, our supply of light weight and portable 2lb/10lb spools of self-shielded FCW wires have been showing great success. Through countless trial tests and technical partnerships, we are currently at the final stages of developing our Slag-free MCW products where the demand is particularly significant in the Automobile manufacturing industry. With our current aim of supplying to Major EPC groups, we are currently in works with our headquarter's R&D center in perfecting our FCW wires, specialized for the construction of high-altitude and important structures using HSLA steel.

On top of this, we are also under the development of fine-tuning our products to be customized to the NACE regulations in order to meet the demanding requirements of the Oil & Gas sector.

Our brand is widely receiving recognition through various partnerships as we have been putting our main focus on listening and solving the difficulties of all aspects of welding. We have also been closely and aggressively involved with EWI (Edison Welding Institute) in testing the weldability of our product range with the purpose of providing our customers with nothing less than reliable data. With all this being said, as a supplier that complies to the AWS specification, we prioritize in supplying our customers with pristine value and have no doubt of becoming a trusted welding solution provider within the North American market.

We thank you for your support in enabling us to create a premium line of products to better suit your needs.

PREMIUM QUALITY

WHAT IS PREMIUM QUALITY PRODUCT?

PREMIUM QUALITY wires are flux cored wires manufactured from our top-notch facility located in Kentucky, USA. Through our high-end quality control system maintained from the start to end of production, quality deviation is minimized.

PREMIUM QUALITY wires proudly represent superior mechanical properties and weldability for all sectors including General, Oil & Gas, Off-shore and On-shore plants.

Main Product & AWS Specifications

K-71T Plus	A5.20 E71T-9C/9M H4	A5.36 E71T1-C1/M21A2-CS1 H4
KX-706M	A5.18 E70C-6M H4	A5.36 E70T15-M21A2-CS1 H4
K-71UT	A5.20 E71T-1CJ/9CJ H4	A5.36 E71T1/T9-C1A4-CS1 H4
K-71UTM	A5.20 E71T-1MJ/9MJ H4	A5.36 E71T1/T9-M21A4-CS1 H4
K-71TSR	A5.20 E71T-1CJ/9CJ/12CJ H4	A5.36 E71T1/T9/T12-C1A/P4-CS2 H4
K-71TSRM	A5.20 E71T-1MJ/9MJ/12MJ H4	A5.36 E71T1/T9/T12-M21A/P4-CS2 H4
K-81TMJ	A5.29 E81T-Ni1CJ/Ni1MJ H4	A5.36 E81T1/T9-C1/M21A4-Ni1 H4
K-NGSNi1	A5.29 E71T8-Ni1 H8	A5.36 E71T8-A2-Ni1 H8

Typical mechanical property of all weld-metal by product

Product	Spec/Type	Y·S(MPa)	T·S(MPa)	El.(%)	V-Notch Impact Values		As-Welded/ PWHT
					Temp.(°C)	Absorb energy(J)	
K-71T Plus	AWS Spec.	≥390	490-670	≥22	-30	≥27	As-Welded
	100%CO2	528	574	29	-30	49	
	Ar+25%CO2	558	607	28	-30	55	
KX-706M	AWS Spec.	≥400	≥480	≥22	-30	≥27	As-Welded
	Ar+25%CO2	463	577	28	-30	48	
K-71UT K-71UTM	AWS Spec.	≥390	490-670	≥22	-40	≥27	As-Welded
	100%CO2	540	600	27	-40	57	
	Ar+25%CO2	610	640	27	-40	125	
K-71TSR K-71TSRM	AWS Spec.	≥390	490-520	≥22	-40	≥27	PWHT (620°Cx2Hr)
	100%CO2	558	600	27	-40	52	
	Ar+25%CO2	560	600	27	-40	55	
K-81TMJ	AWS Spec.	≥470	550-690	≥19	-40	≥27	As-Welded
	100%CO2	510	560	29	-40	69	
	Ar+25%CO2	590	630	27	-40	73	
K-NGSNi1	AWS Spec.	≥400	490-620	≥20	-30	≥27	As-Welded
	N/A	440	544	22	-30	46	

Characteristics by products

Product	Core Characteristics
K-71T Plus	• Smooth arc formation and minimum spatter generation • Superior vertical-upward and Overhead weldability along with bead formation • Excellent weldability for both CO2 and Mix gases • Outstanding compatibility with steel grades from A to DH
KX-706M	• Slag-free MCW with H8 hydrogen diffusion guaranteed • Smooth arc generation, Minimum spatter generation • Ability to handle 500A and higher • Generally produced for the industry of steel structure and Construction machineries
K-71UT / K-71UTM	• Minimum spatter generation and smooth arc formation for all pipe girth welding positions • Guaranteed impact values for low temperature environments (-40°C) • Excellent compatibility with the shipbuilding Steel grade EH
K-71TSR / K-71TSRM	• Easy slag removal, low spatter generation • Designed for welding of 490MPa low temperature steels (NACE/API steel) • Superior impact value at low temperatures down to -40°C under PWHT conditions
K-81TMJ	• Excellent weldability in all positions • Superior porosity prevention properties due to well-designed alloy composition. • Excellent weldability for both CO2 and Mix gases • Compatible for large-diameter pipe girth welding requiring low-temperature impact values (shipbuilding & off-shore plants)
K-NGSNi1	• Excellent bead appearance formation for all positions • Guaranteed H8 hydrogen diffusion and impact values in low temperatures • Compatible for environments where the use of gas tanks are difficult • Ex) pipeline implementations

KISWEL DALIAN LTD.

Reducing the Gap & Enhancing the Competitive Edge

Key Product

Excellent weldability FCW (K-71T, K-71TLF)
Self-shielded wire to facilitate welding outdoors(K-NGS, K-NGS11)
FCW with superior low temperature impact values (K-71UT, K-81TK2)
FCW designed for mechanized fillet welding (KX-200H)
FCW designed for MAG welding of stainless steels of the Cr-Ti types and
Suitable for automotive exhaust fabrications such an front pipe, bellows, flange etc.(K-409TiT, K-439T)

Dalian , China

INTRODUCTION

To meet the increasing demand for automated welding processes, KISWEL DALIAN LTD. was established in 2003 with production starting in the subsequent year. Our Dalian entity boasts a track record of supplying to EPC contractors in the energy industry (Oil & Gas, Pipeline, Storage tank, construction, etc.) and major shipyards for offshore plants. With our competitive edge gained once again from KISWEL DALIAN LTD., we are once again thriving to expand our footprint in a global scale in supplying FCW.

Dalian is a major city and seaport in the southern part of Liaoning Province, China. It is the southernmost city of Northeast China and at the tip of the Liaodong Peninsula. Dalian is the province's second largest city and has a sub-provincial administrative status.
The Shandong Peninsula lies southwest across the Bohai Strait, Korea lies across the Yellow Sea to the east.

KISWEL DALIAN LTD. is located within the heart of the industrial zone of Dalian. With many benefits given to Dalian by the Chinese government, the title of "open-city" (1984) allows it to receive considerable foreign investment. The Development Zone was established in Jinzhou District, to which many Japanese companies, such as Canon, Mitsubishi Electric and Toshiba, followed by South Korean, American and European companies such as Pfizer. Dalian also houses auto-manufacturing plants for Chery, Dongfeng Nissan Passenger Vehicle Company.

In 2016, Dalian ranks 48th in the Global Financial Centers Index published by the Qatar Financial Centre Authority, the other Chinese cities on the list being Hong Kong, Shanghai, Shenzhen, Beijing and Qingdao.

The city has a continuous annual double-digit percentage increase in GDP since 1992. In 2014, the city's GDP registered a 5.8% increase, reaching RMB 756.56 billion, while per capita GDP hit RMB 109,939. According to a nationwide appraisal by the National Bureau of Statistics, Dalian ranks eighth among Chinese cities in terms of overall strength. The city's main industries include machine manufacturing, petrochemicals and oil refining and electronics.

We at KISWEL DALIAN LTD., aspire to contribute and follow the footsteps of Dalian city's development. We would like to take this opportunity to express our greatest appreciation to all our customers in helping us to support your welding needs better.

FACTORY INTRODUCTION

Our production facility located in Dalian is focused on representing KISWEL's half century experience of Manufacturing Flux Cored Wires. Comprised with top notch production facility and equipment, we produce our FCW with the basis of only using the finest Flux.We are always readily available to support our customers needs with not only quality and delivery, but also in terms of providing the welding solution needed.

Main Product & AWS Specifications

K-71T	A5.20 E71T-1C	A5.36 E71T1-C1A0-CS1 H8
K-71TB	A5.20 E71T-5C/5M	A5.36 E71T5-C1/M21A2-CS1-H8
K-71TLF	A5.20 E71T-1C/-1M	A5.36 E71T1-C1/M21A0-CS1 H4/H8
K-71UT	A5.20 E71T-1C/9CJ H4	A5.36 E71T1/T9-C1A4-CS1 H4
K-80TK2	A5.29 E80T1-K2C H4	A5.36 E80T1-C1A8-K2 H4
K-81TK2	A5.29 E81T1-K2C H4	A5.36 E81T1-C1A8-K2 H4
K-91TK2	A5.29 E91T1-K2C H4	A5.36 E91T1/T9-C1A4-K2 H4
KX-200H	A5.20 E70T-9C	A5.36 E70T1-C1A2-CS1 H8
K-NGS	A5.20 E71T-GS	A5.36 E71T14S-AZ-CS3
K-NGS11	A5.20 E71T-11	A5.36 E71T11-AZ-CS3
K-NGS308L	A5.22 E308LT0-3	
K-409TiT	A5.22 E409T0-G	
K-430LNb		
K-436T		
K-439T		

Typical mechanical property of all weld-metal by product

Product	Spec/Type	Y·S(MPa)	T·S(MPa)	El.(%)	V-Notch Impact Values		As-Welded/ PWHT
					Temp.(°C)	Absorb energy(J)	
K-71T	AWS Spec.	≥390	490-670	≥22	-20	≥27	As-Welded
	100%CO2	520	580	29	-20	55	
K-71TB	AWS Spec.	≥390	490-670	≥22	-20	≥27	
	100%CO2	550	610	30	-20	65	
K-71TLF	AWS Spec.	≥390	490-670	≥22	-20	≥27	
	100%CO2	520	570	28	-20	80	
	80% Ar+20% CO2	570	601	29	-20	104	
K-71UT	AWS Spec.	≥390	490-670	≥22	-40	≥27	
	100%CO2	540	600	27	-40	55	
K-80TK2	AWS Spec.	≥470	550-690	≥19	-30	≥27	
	100%CO2	550	640	25	-60	50	
K-81TK2	AWS Spec.	≥470	550-690	≥19	-30	≥27	
	100%CO2	528	574	29	-60	55	
K-91TK2	AWS Spec.	≥540	520-760	≥17	-40	≥27	
	100%CO2	550	640	25	-40	70	
KX-200H	AWS Spec.	≥390	490-670	≥22	-30	≥27	
	100%CO2	517	610	28	-30	45	
K-NGS	AWS Spec.	-	≥490	-	-	-	
	N/A	489	520	22	-	-	
K-NGS11	AWS Spec.	≥390	490-670	≥20	-	-	
	N/A	500	530	23	-	-	
K-NGS308L	AWS Spec.	-	≥520	≥35	-	-	
	N/A	440	620	39	-20	85	
K-409TiT	AWS Spec.	-	≥450	≥15	-	-	
	Ar+2%O2	460	520	25	-	-	
K-430LNb	AWS Spec.	-	≥450	≥13	-	-	
	Ar+2%O2	480	530	22	-	-	
K-436T	AWS Spec.	-	-	-	-	-	
	Ar+2%O2	385	490	23	-	-	
K-439T	AWS Spec.	-	-	-	-	-	
	Ar+2%O2	390	495	24	-	-	

Characteristics by products

Product	Core Characteristics
K-71T / K-71TLF	• Smooth arc formation and minimum spatter generation • Excellent mechanical properties, easy slag removal, low spatter generation, smooth bead shape, high X-ray safety • Superior vertical-upward and Overhead weldability along with bead formation • Outstanding compatibility with steel grades from A to DH
K-71UT	• Minimum spatter generation and smooth arc formation for all pipe girth welding positions • Guaranteed impact values for low temperature environments (-40°C) • Excellent compatibility with the shipbuilding steel grade EH
K-81TK2	• Excellent weldability in all positions • Superior porosity prevention properties due to well-designed alloy composition • Typical applications including offshore structures, LNG and LPG carriers and storage tanks
K-91TK2	• The weld metal contain about 1.5% Ni leading to superior impact value at low temperatures down to -60°C • Excellent properties for the semi-automatic and automatic welding of many higher strength steels
KX-200H	• Smooth arc formation and minimum spatter generation • Excellent bead appearance formation for flat and horizontal positions • Superior porosity prevention properties due to well-designed alloy composition
K-NGS / NGS11	• It is designed for welding of 490MPa high tensile steel and self-shielded wire to facilitate welding outdoors • Typical applications include general fabrication and structural work requiring no impact properties (ASTM A36 Gr.All:A109 Gr,All:A283 Gr.A,B,C,D:A284 C,D: A285 Gr. A,B,C: A288 Gr. 1: A372 type I:A500Gr. All: A501 Gr.All) • It has good arc stability, low spatter generation, high efficiency,good bead shape and slag removal • It has to use DECN(electrode negative)
K-NGS308L	• The weld metal contains low ferrite contents in their austenitic micro structures and provides excellent corrosion resistance, heat resistance properties • Easy slag removal, open transfer, low spatter generation, smooth bead surface and high X-ray safety
K-409TiT / K-439T	• It is Cr-Ti types developed to meet the needs of the automotive exhaust fabricators looking for metal cored wire for high speed welding on the plate as possible • It excels in the pulsed GMAW mode and additional applications include heat exchangers and recuperators, power plant reheater tubes etc • Slag quantity equal to solid wires with the deposition rate 20% higher than the solid wire
K-436T	• It is Cr-Mo types developed to meet the needs of the automotive exhaust fabricators looking for metal cored wire for high speed welding on the plate as possible, and the Mo component in weld metal improves good crack resistance and heat resistance • It excels in the pulsed GMAW mode and additional applications include heat exchangers and recuperators, power plant reheater tubes etc • Slag quantity equal to solid wires with the deposition rate 20% higher than the solid wire
K-430LNb	• It is Cr-Nb types developed to meet the needs of the automotive exhaust fabricators looking for metal cored wire for high speed welding on the plate as possible • It excels in the pulsed GMAW mode and additional applications include heat exchangers and recuperators, power plant reheater tubes etc • Slag quantity equal to solid wires with the deposition rate 20% higher than the solid wire

KISWEL SDN BHD.

Rising to the Occasion & Meeting Bigger Demands

Key Product

Optimum SMAW for pipe welding (MY-16R, MY-16, MY-18, K-7018NP)
SMAW emcompassing a wide application range for general steel structures (MY-13, KR-3000)
FCW with superior low temperature impact values (K-71UT, K-81TK2)
FCW with excellent mechanical properties under PWHT condition (K-71TSR)
Solid wire with smooth arc stability (KC-28, KC-28CF)

Johor Bahru, Malaysia

INTRODUCTION

As KISWEL's premier overseas plant, KISWEL SDN BHD - located in Johor, Malaysia - was established in 1997.

With an annual production capacity surpassing 60,000 MT, KISWEL SDN BHD has proudly become the largest welding consumables Manufacturer in Southeast Asia. Taking into account the large capacity and availability to deliver as requested, our Johor plant plays a key role as a frontier in penetrating the Middle-east and African market.

We are readily available to offer a wide range of welding consumables including electrodes of low hydrogen type and for low temperature use in addition to a wide range of FCW.

To meet the needs of the increasing demand for high-quality and premium facilities required within the energy industry,we have made substantial investments in upgrading and expanding our solid wire and electrode production line. With our newly implemented line operating since 2016, we have been supplying products of equal quality to our HQ by only using the finest wire rods and flux supplied directly from our HQ. Equipped with our current production and R&D capability, we are supplying as requested.

Starting from merely a supplier, we have developed to become a solution provider inspired to solve the welding needs of our customers today.
We would like to take this opportunity to thank you for using our products and always helping us to better serve your needs. In return, we promise to express our gratitude by providing you with products considering all aspects of QCD and an ever -improving solution marketing service package.

Johor, is one of the most developed Malaysian state, located in the southern part of Peninsular Malaysia. The state capital city of Johor is Johor Bahru.
Johor is surrounded by Pahang to the north, Melaka and Negeri Sembilan to the northwest, and the Straits of Johor to the south, which separates Johor and the Republic of Singapore. The state also shares a maritime border with the Riau Archipelago from the east and Riau mainland on the west by the South China Sea and the Strait of Malacca respectively, both of Indonesian territories.

Johor has the second-largest population in Malaysia at 3.2 mill. as of 2010, which has increased to 3.6 mill. in 2016. The state's ethnic composition consists of Malay 51.2%, Chinese 33.5%, Indian 10.7%, other ethnic groups 0.1% and non-citizens 4.5%.

Main Product & AWS Specifications

Overed Electrode	Flux Cored Wire	Solid wire (Cu Coated & Cu Free)
MY-13 AWS A5.1 E6013 EN ISO 2560-A : E 38 0 R 11	**K-71T** A5.20 E71T-1C EN ISO 17632-A : T 42 0 P C1 1 H10	**KC-25** A5.18 ER70S-3 EN ISO 14341-A : G 42 2 C1 2Si
MY-16R AWS A5.1 E7016 EN ISO 2560-A : E42 3 B 12 H10	**K-71TLF** A5.20 E71T-1C/1M EN ISO 17632-A:T42 2 PC1 1 H5/:T46 2 PM21 1 H10	**KC-26(CF)** A5.18 ER70S-G EN ISO 14341-A : G 46 2 C1 Z/ : G 46 2 M21 Z
MY-16 AWS A5.1 E7016 EN ISO 2560-A : E 42 3 B 12 H10	**K-71UT** A5.20 E71T-9CJ H4 EN ISO 17632-A : T 42 4 P C1 1 H5	**KC-27(CF)** A5.18 ER70S-G EN ISO 14341-A : G 46 2 M21 Z
MY-18 AWS A5.1 E7018 EN ISO 2560-A : E 42 3 B 32 H10	**K- 81TK2** A5.29 E81T1-K2C H4 EN ISO 17632-A : T 50 6 1.5Ni P C1 1 H5	**KC-28(CF)** A5.18 ER70S-6 EN ISO 14341-A : G 42 3 C1 3Si1/ : G 42 3 M21 3Si1
K-7018NP AWS A5.1 E7018-1 H4R EN ISO 2560-A : E 42 4 B 42 H5	**KX-200H** A5.20 E70T-9C EN ISO 17632-A : T 42 2 R C1 3 H10	**KC-29(CF)** A5.18 ER70S-6 EN ISO 14341-A : G 46 4 C1 4Si1/ : G 46 4 M21 4Si1

Typical mechanical property of all weld-metal by product

Product	Spec/Type	Y·S(MPa)	T·S(MPa)	El.(%)	V-Notch Impact Values		As-Welded/ PWHT
					Temp.(°C)	Absorb energy(J)	
MY-13	AWS Spec.	≥330	≥430	≥17	-	-	As-Welded
	AC or DC+	460	520	28	0	65	
MY-16R Root pass	AWS Spec.	≥400	≥490	≥22	-30	≥27	
	AC or DC+	540	630	29	-30	90	
MY-16	AWS Spec.	≥400	≥490	≥22	-30	≥27	
	AC or DC+	550	610	30	-30	140	
MY-18	AWS Spec.	≥400	≥490	≥22	-30	≥27	
	AC or DC+	550	610	30	-30	170	
KC-25	AWS Spec.	≥400	≥480	≤22	-20	≥27	
	Ar+20%CO2	430	520	33	-20	100	
KC-26(CF)	AWS Spec.	≥400	≥480	≥22	-	-	
	100%CO2	490	570	30	-20	110	
KC-27(CF)	AWS Spec.	≥400	≥480	≥22	-	-	
	Ar+20%CO2	490	560	31	-20	160	
KC-28(CF)	AWS Spec.	≥400	≥480	≥22	-20	≥27	
	100%CO2	450	550	30	-30	80	
KC-29(CF)	AWS Spec.	≥400	≥480	≥22	-30	≥27	
	100%CO2	510	620	27	-40	105	
K-71T	AWS Spec.	≥390	490-670	≥22	-20	≥27	
	100%CO2	520	580	29	-20	55	
K-71TLF	AWS Spec.	≥390	490-670	≥22	-20	≥27	
	100%CO2	520	570	28	-20	80	
K-71UT	AWS Spec.	≥390	490-670	≥22	-40	≥27	
	100%CO2	540	600	27	-40	55	
K-81TK2	AWS Spec.	≥470	550-690	≥19	-30	≥27	
	100%CO2	550	640	25	-60	55	
KX-200H	AWS Spec.	≥390	490-670	≥22	-30	≥27	
	100%CO2	517	610	28	-30	45	

Characteristics by products

Product	Core Characteristics
MY - 13	• Rutile type coated electrode • Especially developed for welding mild steel for light metallic constructions and thin sheet • Electrodes welds a stabile arc and excellent vertical-down weldability
MY-16R	• Basic type coated electrode • Especially developed for root pass welding of pipes • It is a covered, low hydrogen type electrode equivalent to AWS A5.1 E7016 • It offers superb notch toughness at -30°C
MY-16	• Basic type coated electrode • Especially suitable for butt and fillet welding of heavy structures • It is a covered, low hydrogen type electrode equivalent to AWS A5.1 E7016 • It offers superb excellent mechanical properties
MY-18	• Thick coated basic type electrode, with a stable arc and low spatter, the slag is easy to remove • It is used for welding heavy structural engineering applications include, boilers, tanks, chemical industry, pipes fabrication, bridges and shipbuilding
KC-25	• Suited for welds that are subject to enamelling or galvanising due to low Si-content • Good welding conductivity and wire feedability creates excellent weld beads • Stables arc performance in almost welding current • A wide range of use due to low spatter and all welding positions • Sheet metal to 380 – 485 Yield strength material - Automotive, Pressure vessels, Pipeline & Offshore
KC-26(CF)*	• This wire produces good weld quality when welded for most carbon steels with CO2 & mixture shielding gas in short circuit or globular transfer • Automotive, Pressure vessels, Pipeline & Offshore, Construction machinery
KC-27(CF)*	Same as above
KC-28(CF)*	• This wire produces good weld quality when welded for most carbon steels with CO2 shielding gas in short circuit or globular transfer • Automotive, Pressure vessels, Pipeline & Offshore, construction machinery • Good welding conductivity and wire feedability creates excellent weld beads • Stables arc performance in almost welding current • A wide range of use due to low spatter and all welding positions • Sheet metal to 380 – 485 Yield strength material - Automotive, Pressure vessels, Pipeline & Offshore
KC-29(CF)*	Same as above (it has better mechnical property)
(CF)*	(Copper Free) • Since it has no copper coating, Copper Free wire eliminates downtime for cleaning copper flakes out of guns, liners and tips Not only get more arc time, but also reduce replacement costs for the liners and tips • During welding, the copper on copper coated wire produces toxic copper fumes. Copper Free wire has no copper coating, which means toxic copper fumes are dramatically reduced. Therefore, Copper Free wire helps you contributes to a better welding environment
K-71T	• Smooth arc formation and minimum spatter generation • Excellent mechanical properties, easy slag removal, low spatter generation • Smooth bead shape, high X-ray safety • Superior vertical-upward and Overhead weldability along with bead formation • Outstanding compatibility with steel grades from A to DH
K-81TK2	• Excellent weldability in all positions • Superior porosity prevention properties due to well-designed alloy composition • Typical applications including offshore structures, LNG and LPG carriers and storage tanks

POSWELDING

KISWEL & POSCO _ Innovation through Collaboration

Key Product

Welding consumables for High Mn Cryogenic Steel
Welding consumables for Wear resistance Steel

KISWEL & POSCO

INTRODUCTION

Despite it's long history and position as a backbone industry often considered as an indicator of economic progress, the steel industry continues to evolve and release new materials and technological innovations everyday.

To cope accordingly to the continuing advancement in a systematic and responsive fashion, KISWEL and POSCO have come together to collaborate and form the joint venture POSWELDING in 2012.
POSWELDING is a proud synergistic representation of the collaboration between POSCO's widely recognized steel technology and KISWEL's formidablewelding technology.

Thus, a production facility operated by KISWEL and POSCO Soon after joining together, a production facility for SAW and FCW was established in Pohang, Korea in 2013.The joint collaboration of the R&D groups of both KISWEL and POSCO continuously work on developing the optimum welding solution according to the development of new steel types.

Ultimately, POSWELDING is dedicated to meeting the welding demands by being providing a total solution.

▶Video

POSWELDING & PRODUCT

POSWELDING is a joint venture between POSCO's steel technology and KISWEL's welding technology fine-tuned to develop & produce the optimum welding consumables for world premium[WP] steel types.
In addition to being recently applied in the construction of LNG tanks in carriers, welding consumables optimum for High Mn steel used for wear-resistant slurry pipes and nonmagnetic power generation facilities are as below :
[Recent applications : Exxon Mobil, Hyundai Mipo Dockyard]

Main Product by Base Material

High Mn Steel by Characteristic	Welding Process	Product
For High Mn Cryogenic Steel (T/S 660MPa)	FCAW	PT-400HM™
	SAW	PC-400HM / POS-CF1™
	GTAW	T-400HM™
For High Mn Cryogenic Steel (T/S 690MPa)	FCAW	PT-400HMS™
	SAW	PC-400HMS / POS-CF1™
	GTAW	T-400HMS™
For wear resistance Steel (Slurry pipes)	SAW	PC-400M / POS-CF1™
	GIRTH	FX-5™

Characteristics by products

Product	Core Characteristics
High Mn Cryogenic Steel & Welding Consumables	• Highly applicable for LNG tanks in carriers due to excellent low temperature properties • Comprised of FCW, SAW and TIG types according to the widely used methods in shipbuilding • Recently applied in the Hyundai Mipo Dockyard in constructing the world's largest LNG carrier
High Mn Austenitic AR Steel & Welding Consumables	• Possessing outstanding wear-resistant properties (especially used in slurry pipes) • Comprised of SAW & MCW types according to the most frequently used methods for pipe welding • Expected to be applied in the slurry pipes to be used by Exxon Mobil for oil sand slurry pipelines

SUCCESS THROUGH COLLABORATION

KISWEL PRESENCE

The world's leading companies rely on KISWEL's ability to provide optimum solutions with the persistence for uncompromised quality.

Korea's tallest skyscraper

Lotte World Tower
High Performance Constructional rolled steel
HSA800 Welding consumable

Lotte E&C X KISWEL

World's first Hybrid Cable-stayed Suspension Bridge

The 3rd Bosphorus Bridge in Turkey
High Performance Constructional rolled steel
HSB800 Welding consumable

SK E&C X KISWEL

Korea's first LNG-Fueled ship

Green Iris
High-Mn Steel Welding consumable

Hyundai Mipo Shipyard X KISWEL

World's first 20,000 TEU grade container ship

MOL Triumph

Steel for Low temperature service Welding consumable

Samsung Heavy Industries X KISWEL

Korea's first Bulletproof steel welding materials through Localization

K2 Black Panther

Bulletproof steel (HHA,RHA) Welding consumable

KOREA ARMY X KISWEL

World's Largest Excavator

PC 8000

High Deposition-Performance Welding consumable

KOMATSU X KISWEL

WORLD No.1 STEELMAKER

WHY POSCO COLLABORATES WITH KISWEL

Mr. Choo Se-Don, Ph.D

Vice president /
Head of POSCO Research & Development

Even good quality steel products cannot be used by customers if they are uneconomical, or inconvenient for consumption.
POSCO pursues Solution Marketing which provides not only hardware - "top performance steel products" -but also accompanying software- "application technology" and "commercial support," so that customer can use POSCO's products more easily and economically.

POSCO held the Global EVI Forum under the theme of "From Steel Supplier to Solution Partner," to explain solution marketing to more customers and strengthen the partnership between POSCO and its coustomers. At the event, we introduced Solution Maketing to over 1,200 participants from more than 500 client companies, including domestic automakers, shipbuilders and home appliance manufacturers, as well as global companies such as Volkswagen and Nissan.

Here, he delivered the message that POSCO will contribute to its coustomer's success and advancement by providing differentiated solutions. This event also provided an opportunity for POSCO to materialize the results of Solution Marketing by enabling the initiation of over a hundred technology cooperations and sales agreements with its customers.

In Solution Marketing, the application of welding technology is a crucial aspect. Therefore, KISWEL's R&D group has been of tremendous help to us in actually putting our Solution Marketing to pracice.

We would like to use this opportunity to truly express our appreciation to KISWEL.

POSCO OVERVIEW

POSCO(formerly Pohang Iron and Steel Company) is a multinational steel-making company headquartered in Pohang, South Korea. With the output of 43 million tonnes of crude steel in 2018, this made POSCO the world's fifth-largest steelmaker by this measure. In 2019, it was named as the 171st world's largest corporation by the Fortune global 500. POSCO has also been selected as the world's No.1 steelmaker for 10 consecutive years in 2019 by World Steel Dynamics Inc. (WSD), a global research institution for the steel industry.

POSCO on KISWEL

Following the establishment of KOREA SANGSA in 1945, KISWIRE and KISWEL were established in 1961and 1973, respectively. Ever since 1980 - a year after POSCO's estanlishment of their 1st wire-rod plant - KISWIRE and KISWEL has consistently covered the largest portion of POSCO's wire-rod products supply.

KISWEL's support of welding technologies for the appliction of steels in the major industries of Shipbuilding, Pipeline, Automobile and so on has been ongoing. Furthermore, POSCO's Welding & Joining Research Group and KISWEL's R&D team has been working closely in expanding to new market's through the development of welding consumables and processes for new types of steels.

KISWEL & POSCO

TOP CLASS HEAVY EQUIPMENT MANUFACTURER

WHY KOMATSU COLLABORATES WITH KISWEL

Mr.Akio Iwasaki

Former President, Casting Division
/ Production Division
Former President, Komatsu Castex Ltd

Although KISWEL and KOMATSU have been cooperating from long before, I personally formed a business relationship with KISWEL since my early days as a section chief at the Osaka Plant in 1997.

65 years since establishment, our Osaka plant has become a core foundation in the manufacturing of Excavators and Bulldozers for KOMATSU. Under deirect control from the HQ along with entailing our Manufacturing Engineering Development Center, we are taking on the key role of leading the 39 plants located globally by leading in the handling production, development and primary production.

In manufacturing Construction and mining equipment, welding is absolutely crucial. To maintain a uniform quality worldwide, our assembly plans and parts are the same regardless of location. In short, the welding consumables used in our Osaka plant can be used in any of our other manufacturing sites. Besides the widely considered variables of QCD, we are faced daily with high and unexpected demands from our customers which applies to our suppliers as well.

With such high requirements, I have come to realize that only a handful of welding consumables manufacturers can cope to the likes of KISWEL. Through my ever-growing trust towards KISWEL in assisting us to step up our compeititve edge, the KISWEL brand is definitely a brand to count on. Today, we at KOMATSU, continue to lead in the Construction Machinery sector with the help of KISWEL in not only Osaka but in Southeast Asia and Europe.

I would like to take this opportunity to sincerely thank KISWEL for their reliability and thus far failing to ever disappoint us.

Truly yours,

岩崎章夫

Akio Iwasaki

KOMATSU OVERVIEW

KOMATSU is a Japanese multinational corporation that manufactures construction, mining and utility equipment, as well as industrial equipment like press machines, lasers and thermoelectric modules. Its headquarters are in Minato-ku, Tokyo, Japan. The corporation was named after the city of Komatsu, Ishikawa prefecture, where the company was founded in 1921. Worldwide, the KOMATSU GROUP consists of KOMATSU LTD. and 181 other companies (143 consolidated subsidiaries and 38 companies accounted for by the equity method.) KOMATSU is the world's second largest manufacturer of construction equipment and mining equipment. However, in some areas KOMATSU has the largest sales. It has manufacturing operationsin Japan, Asia, Americas and Europe. KOMATSU manufacturing makes the largest bulldozers in the world, the D575 with KISWEL welding material solutions.

KOMATSU on KISWEL

Among foreign welding consumables manufacturing companies, KISWEL takes pride in being the first to acquire the JIS (Japanese Industrial Standards) Certification. With the help of KOMATSU being the first to open it's door to a foreign company, KISWEL has become globally competitive within the welding sector. KISWEL takes pride in having the world's largest producing Solid Wire factory located in Changwon, Korea. All this being said, we thank KOMATSU, for helping us to dominate in supplying to heavy equipment productions. In order to effectively cope with the evloving market of construction machinery, the R&D teams of KISWEL and KOMATSU's have regularly conducted technical exchange meetings since 2000. Through these cooperative meetings KISWEL has been able to provide according to the requests of KOMATSU.

KISWEL & KOMATSU

KISWEL PRODUCT LINE
Welding Consumables by Base Metal

Type	Industry	Specification	Base Material	Mechanical Properties				SMAW (AWS SPEC)	FCAW (AWS SPEC)	SAW (AWS SPEC)	SOLID (AWS SPEC)	TIG (AWS SPEC)
				Y.S	T.S	CVN Test						
				(Mpa)	(Mpa)	Test Temp. (°C)	Absorbed Energy (J)					
Normal Steel	Boiler & Pressure Vessels	KS D3560	SB450M/480M	Min.275	480-620	-	-	K-7016A1 A5.5 E7016-A1	K-81TA1 A5.29 E81T1-A1C A5.36 E81T1-C1PZ-A1	EF-200H x KD-60 A5.23 F8P0-EA3-A3	KC-80D2 A5.28 ER80S-D2	T-80D2 A5.28 ER80S-D2
		ASTM	A285 Gr A/B/C	Min.205	380-515	-	-	K-7018 A5.1 E7018	K-71T A5.20 E71T-1C A5.36 E71T1-C1A0-CS1-H8	EF-200V x KD-50 A5.17 F7A(P)6-EH14	KC-28 A5.18 ER70S-6	T-50 A5.18 ER70S-6
			A387 Gr 2/11/12	Min.275	450-585	-	-	K-8018B2 A5.5 E8018-B2	K-81TB2 A5.29 E81T1-B2C A5.36 E81T1-C1PZ-B2	EF-200H x KD-B2 A5.23 F8P0-EB2-B2	KC-80SB2 A5.28 ER80S-B2	T-80SB2 A5.28 ER80S-B2
			A387 Gr 21/22	Min.310	515-690	-	-	K-9018B3 A5.5 E9018-B3	A5.29 E91T1-B3C A5.36 E91T1-C1PZ-B3	EF-200H x KD-B3 A5.23 F9P0-EB3-B3	KC-90SB3 A5.28 ER90S-B3	T-90SB3 A5.28 ER90S-B3
			A387 Gr 5	Min.310	515-690	-	-	K-8016B6 A5.5 E8016-B6	K-81TB6 A5.29 E81T1-B6M A5.36 E81T1-M21PZ-B6	-	-	-
			A387 Gr 91	Min.415	585-760	-	-	K-9015B9 A5.5 E9015-B9 H4R	K-91TB9 A5.29 E91T1-B9M A5.36 E91T1-M21PZ-B9	EF-200HC x KD-B9 A5.23 F10PZ-EB9-B9	KC-90SB9 A5.28 ER90S-B9	T-90SB9 A5.28 ER90S-B9
			A516 Gr 60/70	Min.260	485-620	-46	20	K-7018N A5.1 E7018-1	K-71TSR A5.20 E71T-12CJ H4 A5.36 E71T12-C1A/P4-CS2-H4	EF-200V x KD-50 A5.17 F7A(P)6-EH14	KC-80SNi1 A5.28 ER80S-Ni1	T-80SNi1 A5.28 ER80S-Ni1
			A537 Cl.1/2/3	Min.380	550-690	-	-	KK-55 A5.5 E8016-G	K-81TSR A5.29 E81T1-K2C H4 A5.36 E81T1-C1G8-K2-H4	EF-100H x KD-60 A5.23 F8A(P)4-EA3-G	ZO-60 A5.28 ER80S-G	T-80D2 A5.28 ER80S-D2
	Linepipe	API	2H Gr.50	Min.345	483-620	-40	41	K-7018N A5.1 E7018-1	K-71TSR A5.20 E71T-12CJ H4 A5.36 E71T12-C1A/P4-CS2-H4	EF-200V x KD-50 A5.17 F7A(P)6-EH14	KC-80SNi1 A5.28 ER80S-Ni1	T-80SNi1 A5.28 ER80S-Ni1
			2W Gr.50	345-517	Min.448	-40	41	K-7018N A5.1 E7018-1	K-71TSR A5.20 E71T-12CJ H4 A5.36 E71T12-C1A/P4-CS2-H4	EF-200V x KD-50 A5.17 F7A(P)6-EH14	KC-80SNi1 A5.28 ER80S-Ni1	T-80SNi1 A5.28 ER80S-Ni1
			5L B/X42/X46/X52/ X60/X65/X70	483-621	565-758	0	27	KK-55 A5.5 E8016-G	K-81TSR A5.29 E81T1-K2C H4 A5.36 E81T1-C1G8-K2-H4	EF-100H x KD-60 A5.23 F8A(P)4-EA3-G	ZO-60 A5.28 ER80S-G	T-80D2 A5.28 ER80S-D2
			5L X80	555-705	625-825	0	68	KK-60 A5.5 E9016-G	K-91TSR A5.29 E91T1-Ni2CJ H4 A5.36 E91T1-C1A6-Ni2 H4	EF-200V x KD-100 A5.17 F10A(P)4-EM2-G	ZO-90 A5.28 ER90S-G	T-100 E5.28 ER100S-1
			5L X90	625-775	695-915	0	81	K-10018M A5.5 E10018-M	K-110TK3 A5.29 E111T1-K3C A5.36 E111T1-C1A4-K3-H4	EF-200V x KD-100 A5.17 F10A(P)4-EM2-G	ZH-100 A5.28 ER120S-G	T-100 E5.28 ER100S-1
			5L X100	690-840	760-990	0	95	K-11018M A5.5 E11018-M	K-110TK3 A5.29 E111T1-K3C A5.36 E111T1-C1A4-K3-H4	EF-200UV x KD-120 A5.23 F11A6-EG-G	ZH-120 A5.28 ER120S-G	T-120 E5.28 ER120S-1
			5L X120	830-1050	915-1145	0	108	K-12018M A5.5 E12018-M	K-145TM A5.36 E130T5-M21AY-G-H4	-	-	-

Type	Industry	Specification	Base Material	Mechanical Properties				SMAW (AWS SPEC)	FCAW (AWS SPEC)	SAW (AWS SPEC)	SOLID (AWS SPEC)	TIG (AWS SPEC)
				Y.S	T.S	CVN Test						
				(Mpa)	(Mpa)	Test Temp. (°C)	Absorbed Energy (J)					
Normal Steel	Offshore	API	2H Gr.50	Min.345	483-620	-40	41	K-7018N A5.1 E7018-1	K-81TK2 A5.29 E81T1-K2C H4 A5.36 E81T1-C1A8-K2-H4	EF-200V x KD-50 A5.17 F7A(P)6-EH14	KC-80SNi1 A5.28 ER80S-Ni1	T-80SNi1 A5.28 ER80S-Ni1
			2W Gr.50	345-517	Min.448	-40	41	K-7018N A5.1 E7018-1	K-81TK2 A5.29 E81T1-K2C H4 A5.36 E81T1-C1A8-K2-H4	EF-200V x KD-50 A5.17 F7A(P)6-EH14	KC-80SNi1 A5.28 ER80S-Ni1	T-80SNi1 A5.28 ER80S-Ni1
		EN 10025	S355J/J0/J2/K2/N/M	Min.345	470-636	-20	40	K-7018 A5.1 E7018	K-71UT A5.20 E71T-9CJ H4 A5.36 E71T12-C1A4- CS1-H4	EF-100H x KD-50 A5.17 F7A(P)2-EH14	KC-28 A5.18 ER70S-6	T-50 A5.18 ER70S-6
			S355NL/ML	Min.345	470-630	-50	27	K-7018NP A5.1 E7018-1 H4R	K-81TK2 A5.29 E81T1-K2C H4 A5.36 E81T1-C1A8-K2-H4	EF-200LT x KD-50 A5.17 F7A(P)8-EH14	KC-80SNi1 A5.28 ER80S-Ni1	T-80SNi1 A5.28 ER80S-Ni1
			S420N/M	Min.420	520-680	-20	40	K-55 A5.5 E8016-G	K-81TK2 A5.29 E81T1-K2C H4 A5.36 E81T1-C1A8-K2-H4	EF-100H x KD-60 A5.23 F8A(P)4-EA3-G	ZO-60 A5.28 ER80S-G	T-80D2 A5.28 ER80S-D2
			S420NL/ML	Min.420	520-680	-50	27	K-8016C1 A5.5 E8016-C1	K-81TK2 A5.29 E81T1-K2C H4 A5.36 E81T1-C1A8-K2-H4	EF-200LT x KD-50 A5.17 F7A(P)8-EH14	KC-80SNi1 A5.28 ER80S-Ni1	T-80SNi1 A5.28 ER80S-Ni1
			S460N/M	Min.460	540-720	-20	40	KK-55 A5.5 E8016-G	K-81TK2 Plus A5.29 E81T1-K2C H4 A5.36 E81T1-C1A8-K2-H4	EF-100H x KD-60 A5.23 F8A(P)4-EA3-G	ZO-60 A5.28 ER80S-G	T-80D2 A5.28 ER80S-D2
			S460NL/ML	Min.460	540-720	-50	27	K-8016C1 A5.5 E8016-C1	K-81TK2 Plus A5.29 E81T1-K2C H4 A5.36 E81T1-C1A8-K2-H4	EF-200LT x KD-60 A5.23 F9A8-EA3-G	KC-80SNi1 A5.28 ER80S-Ni1	T-80SNi1 A5.28 ER80S-Ni1
		DIN OS B101	A420/D420	Min.420	530-680	-20	28	KK-55 A5.5 E8016-G	K-81T A5.29 E81T1-Ni1C A5.36 E81T1-C1A2-Ni1-H4	EF-100H x KD-60 A5.23 F8A(P)4-EA3-G	ZO-60 A5.28 ER80S-G	T-80D2 A5.28 ER80S-D2
			E420	Min.420	530-680	-40	28	K-8018C3 A5.5 E8018-C3	K-81TK2 A5.29 E81T1-K2C H4 A5.36 E81T1-C1A8-K2-H4	EF-200LT x KD-50 A5.17 F7A(P)8-EH14	KC-80SNi1 A5.28 ER80S-Ni1	T-80SNi1 A5.28 ER80S-Ni1
		NORSOK M-120	Y05	Min.355	470-630	-	-	K-7018 A5.1 E7018	K-71T A5.20 E71T-1C A5.36 E71T1-C1A0-CS1-H8	EF-100H x KD-50 A5.17 F7A(P)2-EH14	KC-28 A5.18 ER70S-6	T-50 A5.18 ER70S-6
			Y20	Min.355	470-630	-	-	K-7018 A5.1 E7018	K-71T A5.20 E71T-1C A5.36 E71T1-C1A0-CS1-H8	EF-100H x KD-50 A5.17 F7A(P)2-EH14	KC-28 A5.18 ER70S-6	T-50 A5.18 ER70S-6
			Y30	Min.420	500-660	-	-	KK-55 A5.5 E8016-G	K-81T A5.29 E81T1-Ni1C A5.36 E81T1-C1A2-Ni1-H4	EF-100H x KD-60 A5.23 F8A(P)4-EA3-G	ZO-60 A5.28 ER80S-G	T-80D2 A5.28 ER80S-D2
			Y40	Min.460	540-700	-	-	KK-55 A5.5 E8016-G	K-81T A5.29 E81T1-Ni1C A5.36 E81T1-C1A2-Ni1-H4	EF-100H x KD-60 A5.23 F8A(P)4-EA3-G	ZO-60 A5.28 ER80S-G	T-80D2 A5.28 ER80S-D2
		NORSOK M-120	Y50	Min.500	610-770	-	-	KK-60 A5.5 E9016-G	-	-	-	-

KISWEL PRODUCT LINE
Welding Consumables by Base Metal

Type	Industry	Specification	Base Material	Mechanical Properties				SMAW (AWS SPEC)	FCAW (AWS SPEC)	SAW (AWS SPEC)	SOLID (AWS SPEC)	TIG (AWS SPEC)
				Y.S	T.S	CVN Test						
				(Mpa)	(Mpa)	Test Temp. (°C)	Absorbed Energy (J)					
Normal Steel	Bridge Construction	KS D3868	HSB500	Min.380	Min.500	-5	47	KK-55 A5.5 E8016-G	K-55T A5.29 E81T1-GC A5.36 E81T1-C1A0-CS1-H8	EF-100H x KD-50 A5.17 F7A(P)2-EH14	ZO-55 A5.18 ER70S-G	T-80D2 A5.28 ER80S-D2
			HSB500W	Min.380	Min.500	-5	47	KW-50G A5.5 E7016-G	K-71TW A5.29 E71T1-W2C A5.36 E71T1-C1A2-W2-H8	-	-	-
			HSB600	Min.450	Min.600	-5	47	KK-60 A5.5 E9016-G	K-91T A5.29 E91T1-G A5.36 E91T1-C1A/P4-Ni1	EF-200V x KD-100 A5.17 F10A(P)4-EM2-G	ZO-90 A5.28 ER90S-G	T-80D2 A5.28 ER80S-D2
			HSB600W	Min.450	Min.600	-5	47	K-8018W A5.5 E8018-W2	K-81TW A5.29 E81T1-W2C A5.36 E81T1-C1A2-W2-H8	-	-	-
			HSB800	Min.690	Min.800	-20	47	K-12018M A5.5 E8016-M	K-120TG A5.29 E121T1-G A5.36 E121T1-C1A4-G	EF-200UV x KD-120 A5.23 F11A6-EG-G	ZH-120 A5.28 ER120S-G	T-120 E5.28 ER120S-1
			HSB800W	Min.690	Min.800	-20	47	-	-	-	-	-
	Steel Structure	JIS G3101	SS400/490	Min.275	490-610	-	-	K-7018 A5.1 E7018	K-71T A5.20 E71T-1C A5.36 E71T1-C1A0-CS1-H8	EF-100H x KD-50 A5.17 F7A(P)2-EH14	KC-28 A5.18 ER70S-6	T-50 A5.18 ER70S-6
			SS540	Min.400	Min.540	-	-	KK-55 A5.5 E8016-G	K-81T A5.29 E81T1-Ni1C A5.36 E81T1-C1A2-Ni1-H4	EF-100H x KD-60 A5.23 F8A(P)4-EA3-G	ZO-60 A5.28 ER80S-G	T-80D2 A5.28 ER80S-D2
		ASTM	A36	Min.250	400-550	-	-	K-7018 A5.1 E7018	K-71T A5.20 E71T-1C A5.36 E71T1-C1A0-CS1-H8	EF-100H x KD-50 A5.17 F7A(P)2-EH14	KC-28 A5.18 ER70S-6	T-50 A5.18 ER70S-6
	Wind Tower	JIS G3106	SM400A/B/C	Min.245	400-510	0	47	K-7018 A5.1 E7018	K-71T A5.20 E71T-1C A5.36 E71T1-C1A0-CS1-H8	EF-100H x KD-50 A5.17 F7A(P)2-EH14	KC-28 A5.18 ER70S-6	T-50 A5.18 ER70S-6
			SM490A/B/C	Min.325	490-610	0	47	K-7018 A5.1 E7018	K-71T A5.20 E71T-1C A5.36 E71T1-C1A0-CS1-H8	EF-100H x KD-50 A5.17 F7A(P)2-EH14	KC-28 A5.18 ER70S-6	T-50 A5.18 ER70S-6
			SM520B/C	Min.365	520-640	0	47	KK-55 A5.5 E8016-G	K-81T A5.29 E81T1-Ni1C A5.36 E81T1-C1A2-Ni1-H4	EF-100H x KD-60 A5.23 F8A(P)4-EA3-G	ZO-60 A5.28 ER80S-G	T-80D2 A5.28 ER80S-D2
			SM570	Min.460	570-720	-5	47	KK-55 A5.5 E8016-G	K-81T A5.29 E81T1-Ni1C A5.36 E81T1-C1A2-Ni1-H4	EF-100H x KD-60 A5.23 F8A(P)4-EA3-G	ZO-60 A5.28 ER80S-G	T-80D2 A5.28 ER80S-D2

Type	Industry	Specification	Base Material	Mechanical Properties				SMAW (AWS SPEC)	FCAW (AWS SPEC)	SAW (AWS SPEC)	SOLID (AWS SPEC)	TIG (AWS SPEC)
				Y.S	T.S	CVN Test						
				(Mpa)	(Mpa)	Test Temp. (°C)	Absorbed Energy (J)					
Normal Steel	Wind Tower	EN 10025	S275J/J0/H2/N/M	Min.275	410-560	-20	40	K-7018 A5.1 E7018	K-71TLF A5.20 E71T-1C/1M A5.36 E71T1-C1A0- CS1-H4 A5.36 E71T1-M21A0- CS1-H8	EF-100H x KD-50 A5.17 F7A(P)2-EH14	KC-28 A5.18 ER70S-6	T-50 A5.18 ER70S-6
			S275NL/ML	Min.275	410-560	-50	27	K-7018NP A5.1 E7018-1 H4R	K-71TNi2 A5.29 E71T1-GC A5.36 E71T12-C1A8-G-H4	EF-200LT x KD-50 A5.17 F7A(P)8-EH14	KC-29 A5.18 ER70S-6	T-80SNi1 A5.28 ER80S-Ni1
			S355J/J0/J2/K2/N/M	Min.345	470-636	-20	40	K-7018 A5.1 E7018	K-71UT A5.20 E71T-9CJ H4 A5.36 E71T12-C1A4- CS1-H4	EF-100H x KD-50 A5.17 F7A(P)2-EH14	KC-28 A5.18 ER70S-6	T-50 A5.18 ER70S-6
			S355NL/ML	Min.345	470-630	-50	27	K-7018NP A5.1 E7018-1 H4R	K-81TK2 A5.29 E81T1-K2C H4 A5.36 E81T1-C1A8-K2-H4	EF-200LT x KD-50 A5.17 F7A(P)8-EH14	KC-80SNi1 A5.28 ER80S-Ni1	T-80SNi1 A5.28 ER80S-Ni1
			S420N/M	Min.420	520-680	-20	40	KK-55 A5.5 E8016-G	K-81TK2 A5.29 E81T1-K2C H4 A5.36 E81T1-C1A8-K2-H4	EF-100H x KD-60 A5.23 F8A(P)4-EA3-G	ZO-60 A5.28 ER80S-G	T-80D2 A5.28 ER80S-D2
			S240NL/ML	Min.420	520-680	-50	27	K-8016C1 A5.5 E8016-C1	K-81TK2 A5.29 E81T1-K2C H4 A5.36 E81T1-C1A8-K2-H4	EF-200LT x KD-50 A5.17 F7A(P)8-EH14	KC-80SNi1 A5.28 ER80S-Ni1	T-80SNi1 A5.28 ER80S-Ni1
			S460N/M	Min.460	540-720	-20	40	KK-55 A5.5 E8016-G	K-81TK2 Plus A5.29 E81T1-K2C H4 A5.36 E81T1-C1A8-K2-H4	EF-100H x KD-60 A5.23 F8A(P)4-EA3-G	ZO-60 A5.28 ER80S-G	T-80D2 A5.28 ER80S-D2
			S460NL/ML	Min.460	540-720	-50	27	K-8016C1 A5.5 E8016-C1	K-81TK2 Plus A5.29 E81T1-K2C H4 A5.36 E81T1-C1A8-K2-H4	EF-200LT x KD-60 A5.23 F9A8-EA3-G	KC-80SNi1 A5.28 ER80S-Ni1	T-80SNi1 A5.28 ER80S-Ni1
		ASTM	A283 Gr A/B/C	Min.205	380-515	-	-	K-7018 A5.1 E7018	K-71T A5.20 E71T-1C A5.36 E71T1-C1A0-CS1-H8	EF-100H x KD-50 A5.17 F7A(P)2-EH14	KC-25 A5.18 ER70S-3	T-53 A5.18 ER70S-3
			A283 Gr D	Min.230	415-550	-	-	K-7018 A5.1 E7018	K-71T A5.20 E71T-1C A5.36 E71T1-C1A0-CS1-H8	EF-100H x KD-50 A5.17 F7A(P)2-EH14	KC-25 A5.18 ER70S-3	T-53 A5.18 ER70S-3
			A573 Gr 58/65	Min.290	485-620	-	-	K-7018 A5.1 E7018	K-71T A5.20 E71T-1C A5.36 E71T1-C1A0-CS1-H8	EF-100H x KD-50 A5.17 F7A(P)2-EH14	KC-28 A5.18 ER70S-6	T-50 A5.18 ER70S-6
	Construction	JIS G3136	SN400A/B/C	235-355	400-510	0	27	K-7018 A5.1 E7018	K-71T A5.20 E71T-1C A5.36 E71T1-C1A0-CS1-H8	EF-100H x KD-50 A5.17 F7A(P)2-EH14	KC-28 A5.18 ER70S-6	T-50 A5.18 ER70S-6
			SN490B/C	325-445	490-610	0	27	K-7018 A5.1 E7018	K-71T A5.20 E71T-1C A5.36 E71T1-C1A0-CS1-H8	EF-100H x KD-50 A5.17 F7A(P)2-EH14	KC-28 A5.18 ER70S-6	T-50 A5.18 ER70S-6
		KS D5994	HSA800	650-900	800-900	-5	14	K-12018M A5.5 E12018-M	K-120TG A5.29 E121T1-G A5.36 E121T1-C1A4-G	EF-200UV x KD-120 A5.23 F11A6-EG-G	ZH-120 A5.28 ER120S-G	T-120 E5.28 ER120S-1

KISWEL PRODUCT LINE
Welding Consumables by Base Metal

Type	Industry	Specification	Base Material	Mechanical Properties				SMAW (AWS SPEC)	FCAW (AWS SPEC)	SAW (AWS SPEC)	SOLID (AWS SPEC)	TIG (AWS SPEC)
				Y.S	T.S	CVN Test						
				(Mpa)	(Mpa)	Test Temp. (°C)	Absorbed Energy (J)					
Normal Steel	Ship Building	DNV	A-DH36	Min.355	490-630	-20	55	K-7018 A5.1 E7018	K-71T A5.20 E71T-1C A5.36 E71T1-C1A0-CS1-H8	EF-200V x KD-50 A5.17 F7A(P)6-EH14	KC-28 A5.18 ER70S-6	T-50 A5.18 ER70S-6
			AH/DH40	Min.390	510-650	-20	55	KK-55 A5.5 E8016-G	K-71UT A5.20 E71T-9CJ H4 A5.36 E71T12-C1A4- CS1-H4	EF-200V x KD-50 A5.17 F7A(P)6-EH14	ZO-60 A5.28 ER80S-G	T-80D2 A5.28 ER80S-D2
			E-EH36	Min.355	490-630	-40	55	KK-50N A5.5 E7016-G	K-71UT A5.20 E71T-9CJ H4 A5.36 E71T12-C1A4-CS1-H4	EF-200LT x KD-50 A5.17 F7A(P)8-EH14	KC-80SNi1 A5.28 ER80S-Ni1	T-80SNi1 A5.28 ER80S-Ni1
			EH40	Min.390	510-660	-40	55	K-8018C3 A5.5 E8018-C3	K-81TK2 A5.29 E81T1-K2C H4 A5.36 E81T1-C1A8-K2-H4	EF-200LT x KD-50 A5.17 F7A(P)8-EH14	KC-80SNi1 A5.28 ER80S-Ni1	T-80SNi1 A5.28 ER80S-Ni1
			A420/D420	Min.420	530-680	-20	28	KK-55 A5.5 E8016-G	K-81TK2 A5.29 E81T1-K2C H4 A5.36 E81T1-C1A8-K2-H4	EF-100H x KD-50 A5.17 F7A(P)2-EH14	ZO-60 A5.28 ER80S-G	T-80D2 A5.28 ER80S-D2
			A460/D460	Min.460	570-720	-20	31	KK-55 A5.5 E8016-G	K-81TK2 A5.29 E81T1-K2C H4 A5.36 E81T1-C1A8-K2-H4	EF-100H x KD-60 A5.23 F8A(P)4-EA3-G	ZO-60 A5.28 ER80S-G	T-80D2 A5.28 ER80S-D2
			E420	Min.420	530-680	-40	42	K-8018C3 A5.5 E8018-C3	K-81TK2 A5.29 E81T1-K2C H4 A5.36 E81T1-C1A8-K2-H4	EF-200LT x KD-60 A5.23 F9A8-EA3-G	KC-80SNi1 A5.28 ER80S-Ni1	T-80SNi1 A5.28 ER80S-Ni1
			E460	Min.460	570-720	-40	46	K-8018C3 A5.5 E8018-C3	K-81TK2 Plus A5.29 E81T1-K2C H4 A5.36 E81T1-C1A8-K2-H4	EF-200LT x KD-60 A5.23 F9A8-EA3-G	KC-80SNi1 A5.28 ER80S-Ni1	T-80SNi1 A5.28 ER80S-Ni1
			F32/F36	Min.355	490-630	-60	50	K-8016C1 A5.5 E8016-C1	K-71TNi2 A5.29 E71T1-GC A5.36 E71T12-C1A8-G-H4	EF-200LT x KD-50 A5.17 F7A(P)8-EH14	KC-80SNi2 A5.28 ER80S-Ni2	T-80SNi2 A5.28 ER80S-Ni2
			F40	Min.390	510-660	-60	55	K-8016C1 A5.5 E8016-C1	K-81TK2 A5.29 E81T1-K2C H4 A5.36 E81T1-C1A8-K2-H4	EF-200LT x KD-50 A5.17 F7A(P)8-EH14	KC-80SNi2 A5.28 ER80S-Ni2	T-80SNi2 A5.28 ER80S-Ni2
			F420	Min.420	530-680	-60	42	K-8016C1 A5.5 E8016-C1	K-81TK2 A5.29 E81T1-K2C H4 A5.36 E81T1-C1A8-K2-H4	EF-200LT x KD-50 A5.17 F7A(P)8-EH14	KC-80SNi2 A5.28 ER80S-Ni2	T-80SNi2 A5.28 ER80S-Ni2
			F460	Min.460	570-720	-60	46	K-8016C1 A5.5 E8016-C1	K-81TK2 Plus A5.29 E81T1-K2C H4 A5.36 E81T1-C1A8-K2-H4	EF-200LT x KD-60 A5.23 F9A8-EA3-G	KC-80SNi2 A5.28 ER80S-Ni2	T-80SNi2 A5.28 ER80S-Ni2
	Weather -Proof Steel	JIS G3114	SMA400AW/490AW	Min.365	490-610	-	-	KW-50G A5.5 E7016-G	K-71TW A5.29 E71T1-W2C A5.36 E71T1-C1A2-W2-H8	-	-	-
			SMA400AP/490AP	Min.365	490-610	-	-	KW-50G A5.5 E7016-G	K-71TW A5.29 E71T1-W2C A5.36 E71T1-C1A2-W2-H8	-	-	-
			SMA570W/P	Min.460	570-720	-5	47	K-8018W A5.5 E8018-W2	K-81TW A5.29 E81T1-W2C A5.36 E81T1-C1A2-W2-H8	-	-	-

Type	Industry	Specification	Base Material	Mechanical Properties				SMAW (AWS SPEC)	FCAW (AWS SPEC)	SAW (AWS SPEC)	SOLID (AWS SPEC)	TIG (AWS SPEC)
				Y.S	T.S	CVN Test						
				(Mpa)	(Mpa)	Test Temp. (°C)	Absorbed Energy (J)					
Normal Steel	Low Temperature Vessel	JIS G3127	SLN2N255	Min.255	450-590	-70	21	K-8016C2 A5.5 E8016-C2	K-71TNi2 A5.29 E71T1-GC A5.36 E71T12-C1A8-G-H4	-	-	-
			SLN3N255/275	Min.275	480-620	-101	21	-	-	-	-	-
			SLN3N440	Min.440	540-690	-110	27	-	-	-	-	-
			SLN5N590	Min.590	690-830	-130	41	-	-	-	-	-
			SLN9N520	Min.520	690-830	-196	34	-	-	-	-	-
			SLN9N590	Min.590	690-830	-196	41	-	-	-	-	-
		ASTM	A203 Gr D/E	Min.275	485-620	-101	20	-	-	-	-	-
Specialty Steel	Specialty Steel	Corrosion Resisting Steel	S-TEN1	Min.245	400-510	-	-	KA-50G A5.5 E7016-G	K-71TSS A5.36 E71T1-C1A0-CS1 H8	-	-	-
		Dew Point Corrosion Resisting Steel	S-TEN2	Min.325	490-610	-	-	-	-	-	-	-
		Hard Facing	HARDOX400/450/500/550/600	HBW : 570-640				KM-700	K-700HT	-	-	-
		Weather -Proof Steel	COR-TEN490	Min.355	490-610	-	-	K-8018W A5.5 E8018-W2	K-71TW A5.29 E81T1-W2C A5.36 E71T1-C1A2-W2-H8	-	-	-
			COR-TEN570	Min.460	570-720	-	-	K-8018W A5.5 E8018-W2	K-81TW A5.29 E81T1-W2C A5.36 E81T1-C1A2-W2-H8	-	-	-
	ALLOY	MONEL	MONEL 400/402	276-517	517-655	-	-	KW-A60 A5.11 ENiCu-7	-	-	KW-M60 A5.14 ERNiCu-7	KW-T60 A5.14 ERNiCu-7
		INCONEL	INCONEL 600/601	240-450	580-760	-	-	KNCF-3 A5.11 ENiCrFe-3	-	-	KW-M82 A5.14 ERNiCr-3	KW-T82 A5.14 ERNiCr-3
			INCONEL 617	Min.319	Min.769	-	-	KW-A617 A5.11 ENiCrCoMo-1(mod)	-	-	KW-M617 A5.14 ERNiCrCoMo-1	KW-T617 A5.14 ERNiCrCoMo-1
			INCONEL 625	414-758	827-1103	-	-	KW-A625 A5.11 ENiCrMo-3	-	EF-600N x KW-M625	KW-M625 A5.14 ERNiCrMo-3	KW-T625 A5.14 ERNiCrMo-3

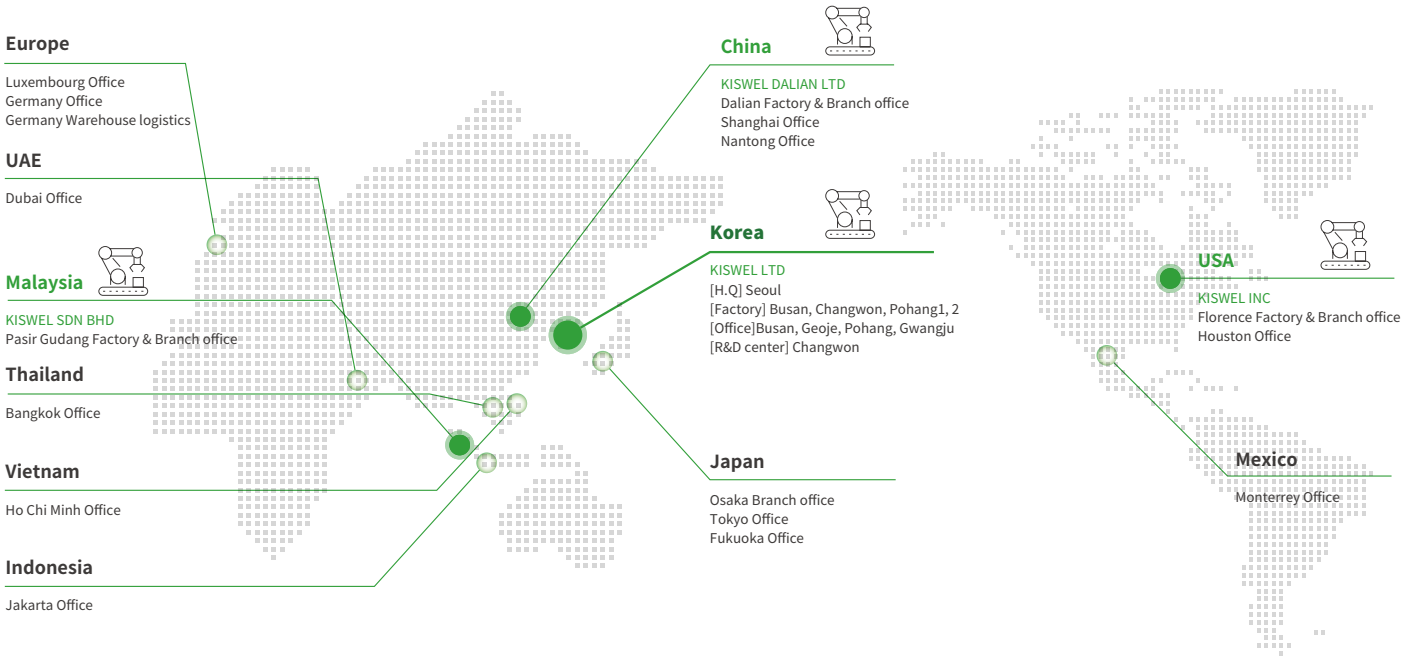
KISWEL PRODUCT LINE
Welding Consumables by Base Metal

Type	Industry	Specification	Base Material	Mechanical Properties				SMAW (AWS SPEC)	FCAW (AWS SPEC)	SAW (AWS SPEC)	SOLID (AWS SPEC)	TIG (AWS SPEC)
				Y.S	T.S	CVN Test						
				(Mpa)	(Mpa)	Test Temp. (°C)	Absorbed Energy (J)					
Specialty Steel	ALLOY	INCONEL	INCONEL 690	Min.283	Min.714	-	-	KW-A690 A5.11 ENiCrFe-7	-	-	KW-M690A A5.14 ERNiFeCr-7A	KW-T690A A5.14 ERNiFeCr-7A
			INCONEL 718/X-750	Min.1035	Min.1242	-	-	-	-	-	KW-M718 A5.14 ERNiFeCr-2	KW-T718 A5.14 ERNiFeCr-2
		INCOLOY	INCOLOY 800/800H(T)	Min.779	Min.786	-	-	KW-A82 A5.11 ENiCrFe-3	-	-	KW-M82 A5.14 ERNiCr-3	KW-T82 A5.14 ERNiCr-3
			INCOLOY 825	Min.338	Min.662	-	-	KW-A625 A5.11 ENiCrMo-3	-	-	KW-M625 A5.14 ERNiCrMo-3	KW-T625 A5.14 ERNiCrMo-3
		HASTELLOY	HASTELLOY C22	Min.405	Min.800	-	-	-	-	-	-	-
			HASTELLOY C276	Min.324	Min.690	-	-	KW-A276 A5.11 ENiCrMo-4	-	-	KW-M276 A5.14 ERNiCrMo-4	KW-T276 A5.14 ERNiCrMo-4
		CUPRONICKEL	CUPRONICKEL 90/10	-	Min.300	-	-	-	-	-	KW-MCuNi9	KW-TCuNi9
			CUPRONICKEL 70/30	-	Min.330	-	-	-	-	-	KW-MCuNi A5.7 ERCuNi	KW-TCuNi A5.7 ERCuNi
Stainless Steel	Austenite	JIS	STS-304/304L	Min.175	Min.480	-	-	KST-308L A5.4 E308L-16	K-308LT A5.22 E308LT1-1/4	EF-300N x M-308L	M-308L A5.9 ER308L	T-308L A5.9 ER308L
			STS310S	Min.205	Min.520	-	-	KST-310 A5.4 E310-16	-	-	M-310 A5.9 ER310	T-310 A5.9 ER310
			STS316/316L	Min.175	Min.480	-	-	KST-316L A5.4 E316L-16	K-316LT A5.22 E316LT1-1/4	EF-300N x M-316L	M-316L A5.9 ER316L	T-316L A5.9 ER316L
			SUS317	Min.205	Min.520	-	-	KST-317L A5.4 E317L-16	K-317LT A5.22 E317LT1-1	-	M-317L A5.9 ER317L	T-317L A5.9 ER317L
			SUS347	Min.205	Min.520	-	-	KST-347 A5.4 E347-16	K-347T A5.22 E347T1-1	EF-300N x M-347	M-347 A5.9 ER347	T-347 A5.9 ER347
	Ferrite	JIS	SUS430	Min.205	Min.450	-	-	KST-430 A5.4 E430-16	K-430T A5.22 E430T0-G	-	M-430 A5.9 ER430	T-430 A5.9 ER430
			SUS436L	Min.415	Min.520	-	-	-	K-436T	-	-	-
	Martensite	JIS	SUS410	Min.345	Min.540	-	-	KST-410 A5.4 E410-16	K-410T A5.22 E410T0-1/4	-	M-410 A5.9 ER410	T-410 A5.9 ER410
	Duplex	JIS	SUS329J1	Min.390	Min.590	-	-	KST-2209 A5.4 E2209-16	K-329T A5.22 E2209T1-1/4	EF-300N x M-2209	M-2209 A5.9 ER2209	T-2209 A5.9 ER2209

Type	Industry	Specification	Base Material	Mechanical Properties				SMAW (AWS SPEC)	FCAW (AWS SPEC)	SAW (AWS SPEC)	SOLID (AWS SPEC)	TIG (AWS SPEC)
				Y.S	T.S	CVN Test						
				(Mpa)	(Mpa)	Test Temp. (ºC)	Absorbed Energy (J)					
Stainless Steel	Duplex	UNS	S31803	Min.390	Min.590	-	-	KST-2209 A5.4 E2209-16	K-329T A5.22 E2209T1-1/4	EF-300N x M-2209	M-2209 A5.9 ER2209	T-2209 A5.9 ER2209
			S32750	Min.448	Min.621	-	-	KST-2594 A5.4 E2594-16	K-325TP A5.22 E2594T1-1	EF-300N x M-2594	M-2594 A5.9 ER2594	T-2594 A5.9 ER2594
			S32760	Min.552	Min.800	-	-	KST-2594 A5.4 E2594-16	K-325TP A5.22 E2594T1-1	EF-300N x M-2594	M-2594 A5.9 ER2594	T-2594 A5.9 ER2594
			S32550	Min.550	Min.760	-	-	KST-2594 A5.4 E2594-16	K-325TP A5.22 E2594T1-1	EF-300N x M-2594	M-2594 A5.9 ER2594	T-2594 A5.9 ER2594
			S31260	Min.450	Min.690	-	-	KST-2594 A5.4 E2594-16	K-325TP A5.22 E2594T1-1	EF-300N x M-2594	M-2594 A5.9 ER2594	T-2594 A5.9 ER2594

Global Presence

Our Global Network Available Wherever you are



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