

KOBELCO

THE WORLDWIDE MANUFACTURER

GLOBAL MANUFACTURING AND SALES BASES

ASIA

JAPAN:
KOBELCO STEEL, LTD., Welding Business
Marketing Dept., International Sales & Marketing Sec.
Tel. (81) 3 5739 6331 Fax. (81) 3 5739 6960

KOREA:
KOBELCO WELDING OF KOREA CO., LTD.
Tel. (82) 55 292 6886 Fax. (82) 55 292 7786

KOBELCO WELDING MARKETING OF KOREA CO., LTD.
Tel. (82) 51 329 8950 to 8952 Fax. (82) 51 329 8949

CHINA:
KOBELCO WELDING OF SHANGHAI CO., LTD.
Tel. (86) 21 6191 7850 Fax. (86) 21 6191 7851

KOBELCO WELDING OF TANGSHAN CO., LTD.
Tel. (86) 315 385 2806 Fax. (86) 315 385 2829

KOBELCO WELDING OF QINGDAO CO., LTD.
Tel. (86) 532 8098 5005 Fax. (86) 532 8098 5008

SINGAPORE:
KOBELCO WELDING ASIA PACIFIC PTE. LTD.
Tel. (65) 6268 2711 Fax. (65) 6264 1751

THAILAND:
THAI-KOBELCO WELDING CO., LTD.
Tel. (66) 2 636 8650 to 8652 Fax. (66) 2 636 8653

KOBELCO MIG WIRE (THAILAND) CO., LTD.
Tel. (66) 2 324 0588 to 0591 Fax. (66) 2 324 0797

MALAYSIA:
KOBELCO WELDING (MALAYSIA) SDN. BHD.
Tel. (60) 4 3905792 Fax. (60) 4 3905827

INDONESIA:
P.T. INTAN PERTIWI INDUSTRI
(Technically Collaborated Company)
Tel. (62) 21 639 2608 Fax. (62) 21 649 6081

INDIA:
KOBELCO WELDING INDIA PVT. LTD.
Tel. (91) 124 4010063 Fax. (91) 124 4010068

EUROPE

NETHERLANDS:
KOBELCO WELDING OF EUROPE B.V.
Tel. (31) 45 547 1111 Fax. (31) 45 547 1100

AMERICA

USA:
KOBELCO WELDING OF AMERICA INC.
Tel. (1) 281 240 5600 Fax. (1) 281 240 5625

KOBELCO

THE GUARANTEE: **QTQ** QUALITY PRODUCTS
TECHNICAL SUPPORT
QUICK DELIVERY

International slogan of KOBELCO STEEL Welding Group

KOBELCO WELDING TODAY

Vol.17
2014 No.2

KOBELCO Puts the Customer First with All-in-One Product and Service

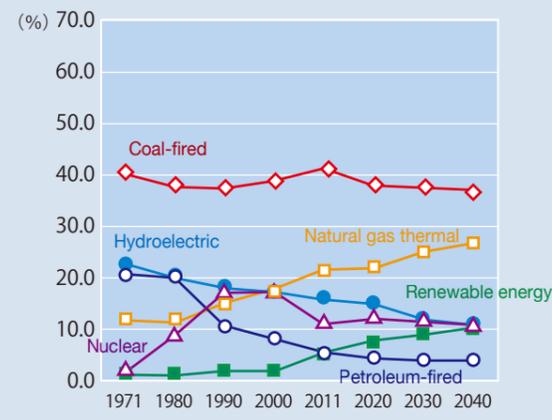
KOBELCO

Welding consumables for power boilers that match with AWS standards



In October 2013, the Institute of Energy Economics, Japan, released its forecast of global energy demand as shown in Figure 1. According to the institute, global energy demand will continue to grow through 2040, and the amount of power generated by power boilers - either coal-fired, which are relatively low in cost, or natural gas-fired - will account for 60% or more of the worldwide total and 70% or more in Asia.

Figure 1: Forecast trends in worldwide power generation



Clearly, demand for and production of power boilers will increase.

However, new power boilers are going to require increased operating efficiency in order to reduce carbon emissions and prevent global warming in the very near future. This means they will have to be able to operate for longer periods at more elevated temperatures, which will necessitate the development of heat-resistant steels as well as welding consumables necessary to meet such requirements.

A wide range of welding consumables that correspond to AWS standards and that can be applied to welding heat-resistant steels used for power boilers are available from Kobe Steel and can be selected according to the application.

For more details, please refer to Kobelco Welding Today: Special Edition 2014: "Kobelco Welding Consumables for Heat-Resistant Low Alloy Steel."

Table 1 lists the Kobelco welding consumables for power boilers and matches them with AWS standards.

Table 1: Welding consumables for power boilers that match with AWS standards

Welding process	AWS classification	Product Name	Polarity	Typical chemistries of undiluted metal or wire rod (mass%)									
				C	Si	Mn	Cr	Mo	V	Nb	Others		
SMAW	E8013-B1	CM-B86	DCEP	0.07	0.48	0.79	0.48	0.48	—	—	—		
	E7015-B2L	CM-B95		0.03	0.87	0.71	1.20	0.49	—	—	—		
	E8016-B2	CM-A96MBD		0.06	0.49	0.79	1.30	0.56	—	—	—		
	E8015-B3L	CM-B105		0.03	0.85	0.87	2.14	0.95	—	—	—		
	E9015-B3	CM-A105D		0.10	0.30	0.74	2.42	1.03	—	—	Ni:0.14		
	E9015-B3	CM-B105D		0.06	0.66	0.73	2.24	0.95	—	—	—		
	E9016-B3	CM-A106ND		0.11	0.42	0.84	2.42	1.03	—	—	Ni:0.14		
	E9015-B9	CM-95B9		0.10	0.22	0.84	8.94	1.02	0.23	0.04	Ni:0.51		
	E7016-A1	CM-A76		DCEP/AC	0.06	0.49	0.79	—	0.49	—	—	—	
	E7016-A1	CM-B76			0.07	0.46	0.77	—	0.53	—	—	—	
	E8016-B2	CM-A96			0.06	0.38	0.72	1.31	0.54	—	—	—	
	E8018-B2	CM-B98			0.07	0.68	0.75	1.29	0.52	—	—	—	
	E9018-B3	CM-B108			0.07	0.68	0.70	2.14	0.95	—	—	—	
	E9016-B9	CM-96B9			0.10	0.19	0.85	9.01	1.05	0.24	0.04	Ni:0.52	
	E8016-B2	CM-A96MB			AC	0.06	0.45	0.74	1.30	0.54	—	—	—
E9016-B3	CM-A106N	0.11	0.27			0.79	2.42	1.03	—	—	Ni:0.19		
GMAW	ER70S-A1	MG-S70SA1	DCEP		0.04	0.51	0.99	—	0.49	—	—	—	
	ER80S-B2	MG-S80B2F			0.09	0.51	0.59	1.32	0.52	—	—	Cu:0.26	
	ER90S-B9	MG-S90B9			0.13	0.23	0.71	8.34	0.93	0.25	—	—	
GTAW	ER70S-A1	TG-S70SA1	DCEN		0.07	0.58	1.08	—	0.56	0.30	—	Cu:0.13	
	ER80S-B2	TG-S80B2			0.11	0.50	0.67	1.40	0.55	—	—	Cu:0.15	
	ER90S-B3	TG-S90B3			0.11	0.64	0.67	2.44	1.09	—	—	Cu:0.14	
	ER90S-B9	TG-S90B9		0.11	0.24	0.69	8.91	0.94	0.23	0.05	Ni:0.53		
SAW	F8P2-EG-B2	PF-200D/US-511ND	DCEP	0.08	0.21	0.82	1.39	0.56	—	—	Ni:0.15 Cu:0.09		
	F9PZ-EB9-B9	PF-90B9/US-90B9		0.10	0.21	0.92	9.00	0.97	0.21	0.04	Ni:0.50		
	F7PZ-EB2-B2	G-80/US-B2	DCEP/AC	0.06	0.45	0.83	1.29	0.54	—	—	Cu:0.12		
	F7PZ-EG-B2	MF-29A/US-511		0.09	0.25	0.78	1.32	0.52	—	—	—		
	F8P6-EA3-A3	MF-38/US-40		0.08	0.34	1.58	—	0.52	—	—	Cu:0.12		
	F8P6-EA4-A4	MF-38/US-A4	AC	0.10	0.39	1.35	—	0.52	—	—	Cu:0.11		
	F8P6-EG-A4	MF-38/US-49		0.10	0.37	1.35	—	0.53	—	—	Cu:0.09		
	F8P2-EG-B2	PF-200/US-511N		0.08	0.20	0.88	1.39	0.55	—	—	Ni:0.15 Cu:0.11		

The challenge of realizing efficient and economical welding while securing stable quality

How have you been, dear KWT readers? My name is Toshihiro Nakamura, the General Manager of the Marketing Department in the Welding Business. I would like to express my special thanks for your continuous support for and patronage of the welding products supplied by the Kobelco Group companies.

At the welding exhibitions held in Japan in April and China in June, we displayed and promoted a range of welding consumables and procedures as well as welding robots and equipment for total welding solutions in such diverse fields as ships, energy, automobiles, construction machineries, steelworks and bridges.

I believe our main challenge now is realizing efficient and economical welding while securing stable quality. We are confident that our proposals based on our diverse product range as well as our years of experience will help you grow your business and, therefore, would like you to consider them carefully.

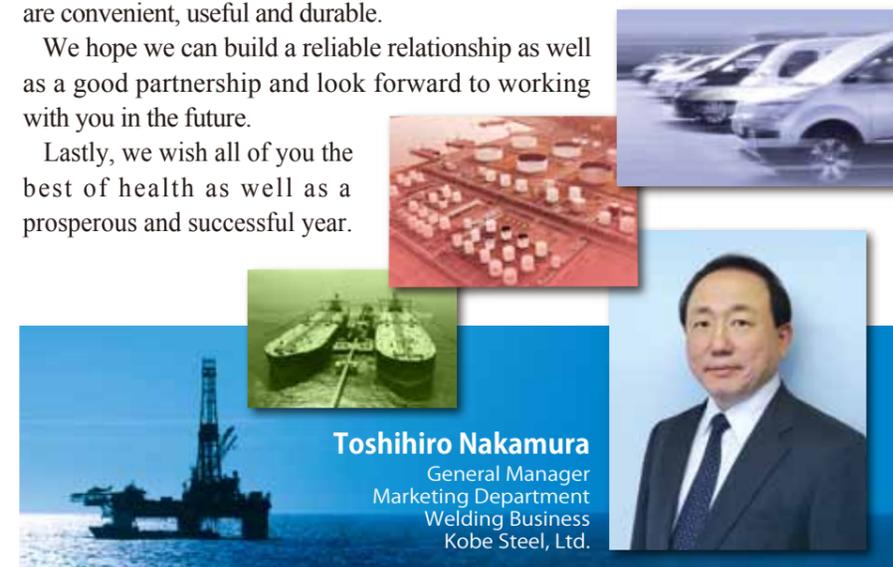
Energy is an issue facing many worldwide. To secure sufficient resources, more large-scale structures, oil refining bases as well as oil/gas carriers are being built in deeper waters to explore for natural gas or oil on the seabed; onshore, the construction of oil/gas pipelines and storage tanks is growing as well. Kobelco welding products have achieved an excellent reputation for welding those structures that operate under severe conditions and strict regulations.

In car production, while the use of galvanized steel improves durability, pore defects occur when zinc gas is generated during welding. In response, we developed J-Solution™ Zn. For mid-thick plate welding, we offer the Ultra High Current MAG Welding Process, a new robotic welding system for large current welding. It features a unique single torch that is exclusively combined with a metal type flux cored wire and newly-designed power sources. This process contributes to more efficient welding of large-scale construction machines.

Another global issue facing many nations such as Japan, where natural disasters often occur, is the need to develop more desirable but safer living spaces, communities and transportation systems. With much experience in these areas, I believe the Japanese people have much to teach the world about creating things that are convenient, useful and durable.

We hope we can build a reliable relationship as well as a good partnership and look forward to working with you in the future.

Lastly, we wish all of you the best of health as well as a prosperous and successful year.



KOBELCO WELDING TODAY No.2 2014

CONTENTS

page 1		Welding consumables for power boilers that match with AWS standards
page 3		Submerged arc welding consumables produced exclusively for use with direct current
page 7		Announcements from the Welding Business of Kobe Steel
page 8		Unforgettable beer at Holland's oldest brewery in Limburg
page 9		Japan International Welding Show 2014: the most attendees, ever!
page 10		KWQ's contributions to Chinese shipbuilding with flux cored wires

KOBELCO WELDING TODAY is published by Marketing Department Welding Business, Kobe Steel, Ltd. URL: <http://www.kobelco.co.jp/english> Email: ISMS@kobelco.com

Submerged arc welding consumables produced exclusively for use with direct current



1 Preface

Submerged Arc Welding (SAW) is one of the principal arc welding processes. It accounts for about 10 % of all arc welding. By country, China consumes more than 50% of SAW consumables and is followed by Europe, North America, Russia and Japan. As for industries, SAW is used primarily in the fabrication of steel pipes, steel structures, bridges, ships and chemical plants due to the long straight welding lines that are common in these structures.

In Japan, the SAW consumption ratio by industry is nearly the same as that for the world except for steel pipe, which accounts for a much lower share of SAW consumption.

Table 1: Types and features of SAW fluxes

Flux type	Notch toughness at low temperature	Moisture absorption resistance	Diffusible hydrogen content	Flux consumption ratio	Efficiency	Kind of electric power
Fused	Average	Best	Low	Average	Average	AC
Bonded	Good	Average	Lowest	Low	Best	AC / DC
Agglomerated	Good	Good	Low	Low	Good	DC

Table 1 shows the characteristics of the three types of SAW fluxes: fused, bonded and agglomerated. In the Japanese market, SAW fluxes suitable for alternating current (AC) have been favored because of the relatively lower cost of AC power sources in comparison with direct current (DC) ones. Bonded fluxes, designed for both AC and DC, were also developed in Japan. However, while these fluxes were mainly used for large heat-input



welding, the agglomerated fluxes, applied for general-high speed welding with DC, were in demand in the overseas markets.

To respond to the needs of global markets, Kobe Steel has been pursuing the development of SAW consumables designed for use exclusively with DC and is now pleased to announce the availability of agglomerated flux. Naming its first SAW flux of this type “AF,” Kobe Steel has now officially launched FAMILIARC™ AF-490E and FAMILIARC™ AF-490AS.

This article introduces the benefits and features of using AF-490E in combination with US-29 SAW wire and AF-490AS with US-36.

2 FAMILIARC™ US-29 FAMILIARC™ AF-490E

US-29/AF-490E is a solid wire/flux combination for welding mild steels as well as 490 MPa class high tensile strength (HT490 class) steels. AF-490E, an aluminate-basic agglomerated flux, exhibits excellent notch toughness down to -20°C as well as weldability in combination with US-29 SAW wire. Table 2 shows the details of US-29 x AF-490E.

Table 2: Description of US-29/AF-490E

Classification	AWS A5.17 F7A2-EM12K; F6P4-EM12K
Features	Butt welding and horizontal fillet welding of medium and heavy plate Excellent notch toughness at low temperature down to -20°C
Polarity	DCEP
Boniszewski basicity	1.4
Shipping approval	ABS, DNV, LR, GL, BV

2-1. Properties of all weld metal

The chemistries and mechanical properties of the all weld metal are shown in Tables 3 and 4, respectively, and the bead appearance, in Figure 1. Even without the addition of any special elements, stable notch toughness can be obtained even at temperatures as low as -20°C.

Table 3: Chemical composition of all weld metal (mass %)

	C	Si	Mn	P	S
US-29 / AF-490E	0.05	0.41	1.60	0.016	0.005

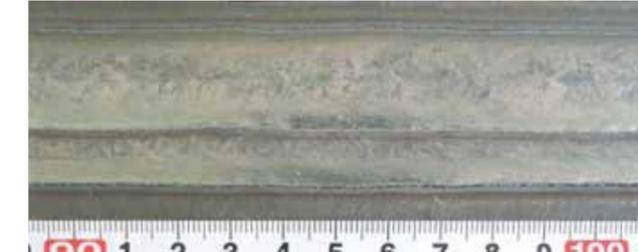
Note: Welding conditions: 550A-30V-42cpm; Ext=30mm

Table 4: Mechanical properties of all weld metal

		0.2%OS (MPa)	TS (MPa)	EI (%)	IV at -40°C (J)	IV at -20°C (J)
US-29/ AF-490E	AW*1	464	562	30	—	Avg 119 (125, 113, 118)
	PWHT (620°C x 1hr)	380	494	35	Avg 129 (142, 124, 122)	Avg 150 (154, 153, 143)
AWS spec. (AW*1 only)		350 min	490 min	22 min	—	35 min

Note: Welding conditions: 550A-30V-42cpm; Ext=30mm
*1: As-welded condition

Figure 1: Bead appearance



2-2. Two-run welding of butt joint

Butt joint welding was carried out using JIS G3106 SM400B plates with a maximum thickness of 16 mm. The electrode arrangement is shown in Figure 2. The welding conditions are shown in Table 5.

Figure 2: Electrode arrangement

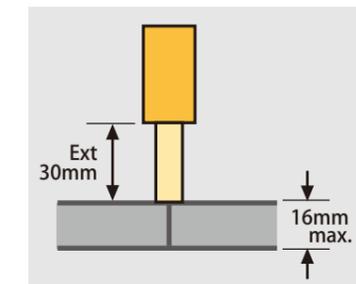


Figure 3: Macrostructure

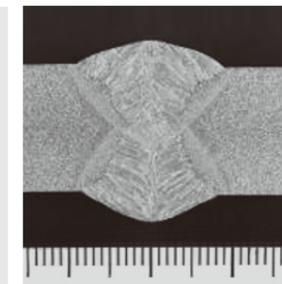


Table 5: Welding conditions of two-run welding

Welding sequence	Wire diameter (mm)	Welding conditions	Preheating and interpass temperature
1st	4.0	750A-32V-60cpm Ext 30mm	Room temperature
2nd		700A-32V-55cpm Ext 30mm	

Figures 3 and 4 show the macrostructure and the bead appearance, respectively, and Table 6, the mechanical properties of the butt joint weld metal.

Figure 4: Bead appearance

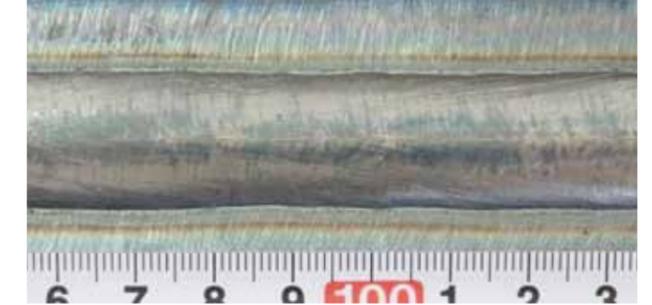


Table 6: Mechanical properties of weld metal by two-run welding

0.2%OS (MPa)	TS (MPa)	EI (%)	IV at -20°C (J)	IV at 0°C (J)
419	532	34	Avg 116 (131, 121, 96)	Avg 147 (148, 146, 146)

2-3. Horizontal fillet welding

The electrode arrangement used in horizontal fillet welding is shown in Figure 5 and the macrostructure and bead appearance, in Figure 6 and 7.

Figure 5: Electrode arrangement

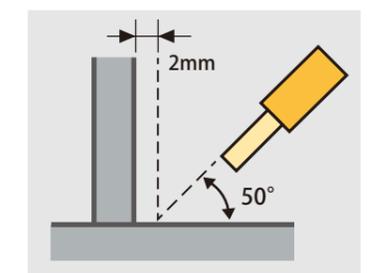


Figure 6: macrostructure

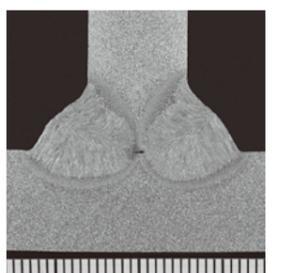
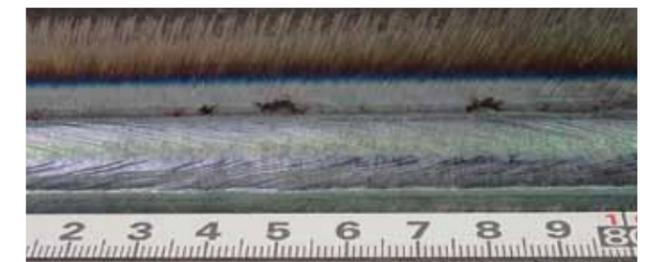


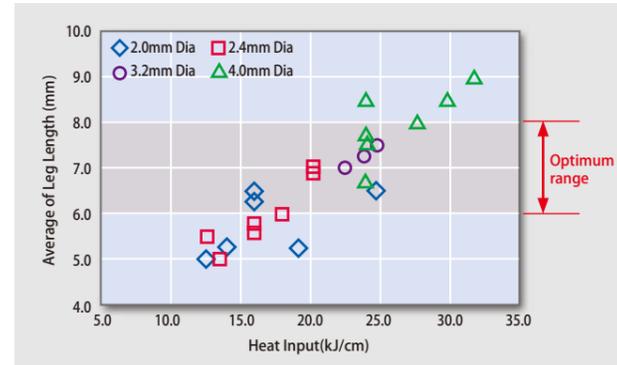
Figure 7: Bead appearance



Note: Welding conditions: 450A-30V-40cpm; Ext=25mm; Wire dia.=2.4mm φ

The relationship between welding heat input and leg length is shown in Figure 8, in all available electrode diameters. In laboratory tests, leg lengths from 4 to 9 mm were obtained; however, users are recommended to aim for leg lengths of 6-8 mm, in consideration of groove accuracy as well as the stability of welding at actual work sites.

Figure 8: Relationship between welding heat input and leg length



2-4. Diffusible hydrogen content of weld metal

The diffusible hydrogen content as measured by gas chromatography as per AWS A4.3 is shown in Table 7. One may note the extremely low level of 2.5 ml/100g and almost no fluctuation.

Table 7: Diffusible hydrogen content

	Diffusible hydrogen content (ml/100g)					Classification of shipping approval
	N=1	N=2	N=3	N=4	Avg	
US-29/AF-490E	2.5	2.6	2.7	2.7	2.6	H5

Note: (1) Welding conditions: 550A-30V-42cpm; Ext=30mm
(2) Test method: Gas chromatography (as per AWS A4.3)

3 FAMILIARC™ US-36 FAMILIARC™ AF-490AS

US-36/AF-490AS is a solid wire/flux combination for welding mild steels as well as HT490 class steels. AF-490AS, a fluoride-basic agglomerated flux, shows superb and stable notch toughness down to -40°C as well as good usability in combination with US-36 SAW wire. Details related to US-36 x AF-490E are shown in Table 8.

Table 8: Description of US-36/AF-490AS

Classification	AWS A5.17 F7A6-EH14; F7P6-EH14
Features	Butt welding of medium and heavy plate Multi-pass welding only Excellent notch toughness at low temperature down to -40°C
Polarity	DCEP
Boniszewski basicity	2.6
Shipping approval	ABS, DNV, LR, GL, BV

3-1. Properties of all weld metal

The chemistries and mechanical properties of the all weld metal are shown in Tables 9 and 10, respectively. Impact test results in the as-welded condition as well as after Postweld Heat Treatment (PWHT) are shown in Figures 9 and 10 by the transition curves, respectively.

Designed for optimum flux basicity, AF-490AS can obtain stable and excellent notch toughness at temperatures as low as -40°C even though no special elements have been added. The bead appearance is shown in Figure 11.

Table 9: Chemical composition of all weld metal (mass %)

	C	Si	Mn	P	S
US-36 / AF-490AS	0.07	0.39	1.62	0.014	0.004

Note: Welding conditions: 550A-30V-42cpm; Ext=30mm

Table 10: Mechanical properties of all weld metal

	0.2%OS (MPa)	TS (MPa)	EI (%)
US-36/AF-490AS As-welded	516	598	32
PWHT (620°C x 1hr)	547	565	32
AWS spec. (As-welded & PWHT)	375 min	490-660	22 min

Note: Welding conditions: 550A-30V-42cpm; Ext=30mm

Figure 9: Transition curve of notch toughness in as-welded condition

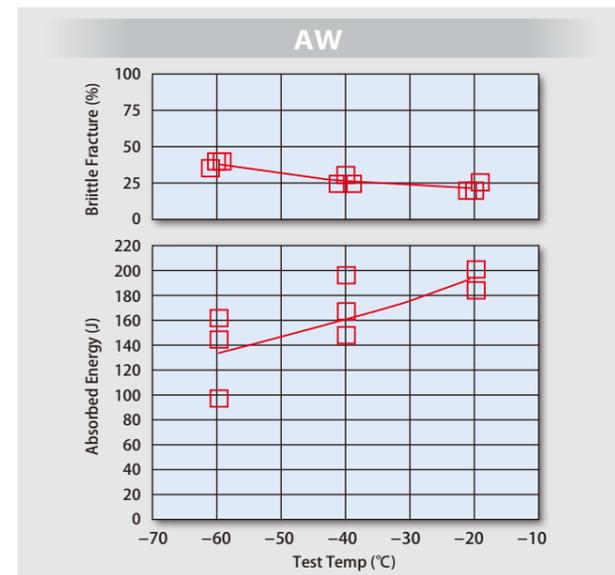


Figure 10: Transition curve of notch toughness after PWHT

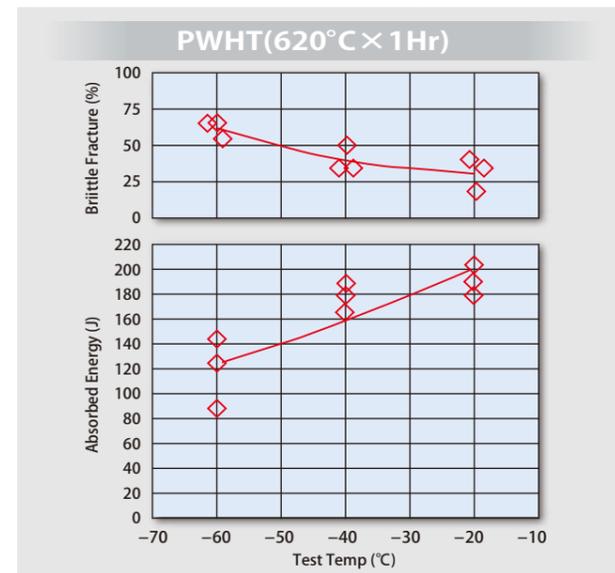
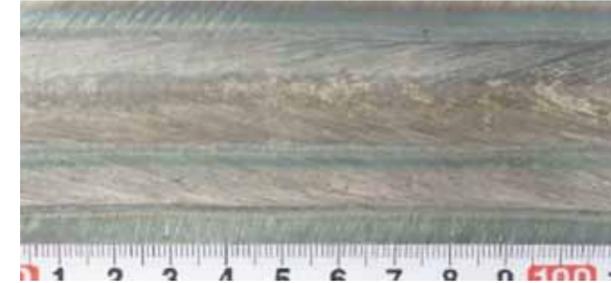


Figure 11: Bead appearance



3-2. Multi pass both side welding of butt joint

Butt joint welding was carried out using EH36 grade plates with a thickness of 20 mm. Figure 12 shows the groove configuration and pass sequence. Table 11 shows the welding conditions, Table 12, the chemistries and Table 13, the mechanical properties of the butt joint obtained via both side welding.

Figure 12: Groove configuration and pass sequence

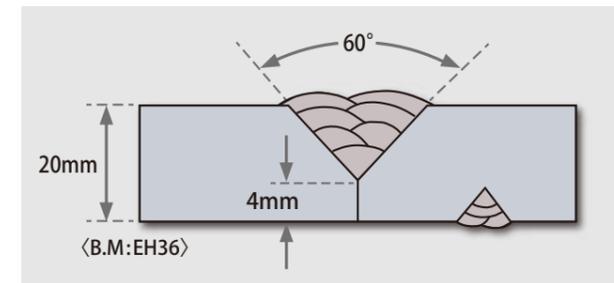


Table 11: Welding conditions

Side	Wire diameter (mm)	Pass	Welding parameters	Extension (mm)
Face	4.0	1	450A-30V-42cpm	30
		2-6	550A-30V-42cpm	
Back		1	450A-30V-42cpm	
		2-4	550A-30V-42cpm	

Note: Preheating & interpass temperature: 100-150°C

Table 12: Chemistries of butt joint of both side welding (mass %)

C	Si	Mn	P	S
0.09	0.39	1.55	0.014	0.004

Table 13: Mechanical properties of butt joint of both side welding

TS (MPa)	IV at -40C (J)	Bend test *2
559 *1	Avg 84 (81, 87, 83)	Face : Good Reverse : Good

Note: *1: Fractured position=Base metal
*2: Bend test: According to Shipping Classification Rule

3-3. Diffusible hydrogen content of weld metal

The diffusible hydrogen content as measured by gas chromatography as per AWS A4.3 is shown in Table 14. The extremely low level of 2.0 ml/100g and little fluctuation is notable.

Table 14: Diffusible hydrogen content

	Diffusible hydrogen content (ml/100g)					Classification of shipping approval
	N=1	N=2	N=3	N=4	Avg	
US-36/AF-490AS	2.2	2.3	2.1	2.3	2.2	H5

Note: (1) Welding conditions: 550A-30V-42cpm; Ext=30mm
(2) Test method: Gas chromatography (as per AWS A4.3)

4 Package specifications

The package specifications of US-29 and US-36 SAW wires and the AF-490E and AF-490AS SAW fluxes are shown in Tables 15 and 16, respectively.

Table 15: Package specifications for new SAW wires

Diameter (mm)	Type	Weight (kg)
1.6	Spool	10, 20
2.0		
2.4	Coil	25
3.2		
4.0		
4.8		

Table 16: Package specifications for new SAW flux

Mesh size	Type	Weight (kg)
12 x 65	Bag (Aluminum laminated)	20

5 Redrying condition

The redrying condition for AF-490E and AF-490AS are shown in Table 17.

Table 17: Redrying condition for new SAW fluxes

	Redrying temperature	Redrying time
AF-490E	300-350°C	1-2 hour(s)
AF-490AS		

6 Postscript

This article has described Kobe Steel's two newly-developed agglomerated fluxes: AF-490E and AF-490AS. Used in combination with US-29 or US-36, they feature stable weld metal properties and extremely low diffusible hydrogen content. It is expected that they will be applied to offshore structures as well as shipbuilding, both of which require sound and reliable welded joints.

Announcements from the Welding Business of Kobe Steel

Dear KWT readers! We at the Welding Business are pleased to make announcements regarding the following issues: the maintenance of Welding Business websites, the publication of a revised Kobelco Welding Handbook as well as the issuing of a revised Kobelco Welding Today (KWT), Special Edition for Heat-Resistant Steels.

1 The maintenance of the Welding Business websites

Currently the Welding Business operates two websites. One can be accessed through the Kobe Steel Head Office website and is available in both English and Chinese, while the other is maintained by the Welding Business and is available in English, Russian, Portuguese as well as Spanish.

The Kobe Steel Head Office website focuses on providing the product catalogs, the Kobelco Welding Today (KWT) magazine issues as well as information and news related to exhibitions. By contrast, the Welding Business website, which has been up since April, 2012, includes technical and commercial documents, and news related to welding is provided in English, Russian, Portuguese as well as Spanish and is updated every month.

Kobe Steel Head Office site:
<http://www.kobelco.co.jp/english/welding/index.html>



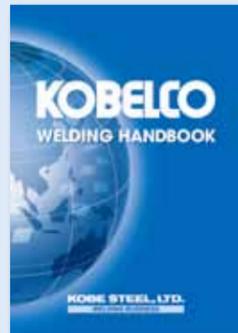
Welding Business site:
<http://www.kobelco-welding.jp/>



2 Kobelco Welding Handbook

This blue-colored edition serves as the catalog for Kobelco welding consumables as well as a guide book in English. The revised Kobelco Welding Handbook will be published some time in 2014.

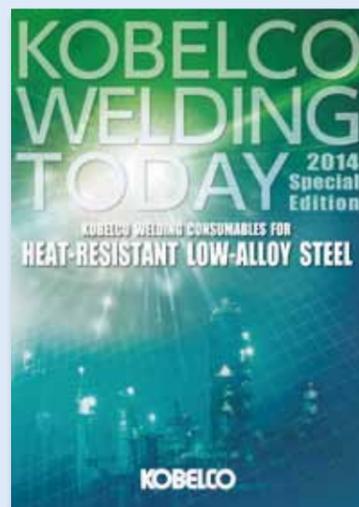
- The following revisions are planned:
- (1) partial revision of the page arrangement
 - (2) weight reduction of 30% by reducing paper thickness for portable use
 - (3) front cover change



3 KWT: Special Edition for Heat-Resistant Steels

A revised version of KWT: Special Edition for Heat-Resistant Steels will be issued sometime in the first half of this year.

It will include an additional selection guide to welding consumables for easier understanding. The addition of more welding consumables that match AWS standards is planned as well.



Reported by Naoto Terachi
 Marketing Planning Section of the Marketing Department

Unforgettable beer at Holland's oldest brewery in Limburg

Dear KWE readers! My name is Naohide Furukawa, Welding Engineer and Product Manager at Kobelco Welding of Europe B.V. (KWE), located in Limburg Province, the southernmost tip of the Netherlands. We function as the basis of flux cored wire production as well as sales in all European markets including Russia and Turkey. Since I was assigned to KWE in April, 2013 from the Technical Development Department in Japan, I have been supporting our customers' welding from the technical side.



Through my meetings with engineers at diverse steel structural fabricators, I've been able to learn about how welding is applied in their particular industries, which I had not done before. I am working hard, therefore, to be accepted by them as a professional welding engineer by promptly solving their problems and/or providing them with fruitful technical advice.

I have recently found a new pleasure during my frequent business trips: tasting local beers at the end of the workday. I was surprised to learn how many excellent local beers there are in Europe, and also how common it is to enjoy one or two drinks after work. I am sure that I have improved my communication skill, overcoming language or culture barriers by means of drinking beer during dinner,

By the way, let me introduce one of the excellent local beers that are available near KWE in Limburg Province.

It is called "Brand" beer and is brewed in the town of Wijlre (pronounced wiel-ree) about 13 km away from our office. You may know *Heineken* or *Grolsch* as the most famous Dutch beers. The Brand beer brewery, however, was established in 1340 and must be the oldest in the Netherlands. It produces standard Pilsner, Weizen (white colored, wheat beer), Oud bruin (brown beer) that is a little sweet and full-bodied, as well as seasonal beers of various types.

Among a wide range of beers, Weizen beer is my favorite and also what I recommend you to try if you have not experienced yet. A glass of Weizen that I enjoyed on a sunny, hot summer's day sometime after I arrived last year gave me an unforgettable refreshing feeling, and since then it has become one of my most favorite beers.

Dear readers! If you have a chance to visit here, let's spend a pleasant time together, toasting with many different kinds of beers in the oldest Dutch brewery. And I would also very much appreciate it if you could recommend your favorite beer when I see you during my future business trips!



Excellent local beers are available in Limburg Province.



Mr Furukawa (left) tasting a local beer at the oldest Dutch brewery

Japan International Welding Show 2014: the most attendees, ever!

The location of the Japan International Welding Show alternates every year between Tokyo and Osaka. This year, the 23rd exhibition was held at Tokyo Big Sight from April 23 - 26, and Kobe Steel participated wholeheartedly, as usual.

Reflecting the importance of the growing market in Asia, the show's theme was "Think future, Act Now! Gateway to a Great Success in Asia." Even though the overall size of the exhibition (17,020m²) and number of exhibitors (214) was slightly lower than the last time, more participants than ever attended: 95,873 according to the management office.

The Kobelco booth attracted many visitors, who were drawn by the live demonstrations of the robotic welding system for steel frames in which REGARC™ process is installed and also the welding robot offline teaching system. Other displays included FAMILIARC™ MX-Z200MP, a flux cored wire for steel works and bridges; FAMILIARC™ SE-50FS, a solid wire for automobiles; TRUSTARC™ DW-A80L, a FCW for offshore structures; J-Solution™ Zn for welding galvanized steels; as well as Ultra High Current MAG Welding Process.

The visitors to KOBELCO's booth came mainly from Asian countries such as China, Korea and the ASEAN countries, though quite a number came from the U.S., Canada and Russia as well.



In the evening of the second exhibition day, we enjoyed a KOBELCO Partners Get-Together party with the overseas business partners who represent Kobelco products at a hotel near Tokyo Big Sight. Though it was the first time to hold such a party in Japan, it was a great success, thanks to everyone who joined and participated so energetically. 49 agents and 118 participants attended.

Mr Kasuya, the Head of the Welding Business and the Senior Managing Director of Kobe Steel, Ltd., proposed a toast and spoke on developments in the Kobelco Group's overseas business and future progress, after I, Koichi (Jay) Sugiyama, proposed a toast. All the participants at the party were able to share in having the same goal and future vision as that of the Kobelco Group, i.e. becoming the most reliable welding solution company in the world. By taking this opportunity, I would like to express my warmest thanks to the all overseas business partners who joined the party.



Reported by **Koichi(Jay)Sugiyama**
General Manager
International Sales & Marketing Section
Marketing Department Welding Business Kobe Steel, Ltd.

KWQ's contributions to Chinese shipbuilding with flux cored wires

Dear KWT readers! My name is Nobuyuki Watanabe, General Manager of Kobe Welding of Qingdao Co., Ltd. (KWQ). I have been working at KWQ since April, 2013, when I was transferred here from the Tokyo Head Office after a six-year assignment in another overseas business.

Qingdao city is quite famous in China as a sightseeing spot as well as a resort. However, KWQ is located in the Huangdao District, an "economic development zone" about one and a half hour's drive from the city. Because Huangdao is a relatively new economic development zone, it features peaceful landscapes. Farmlands and cemeteries still exist in many neighborhoods around the zone. Over time, however, it is expected that many companies will be established in this zone in keeping with China's economic growth.

Established in 2008, KWQ manufactures and sells flux cored wires (FCWs) for mild steels, mainly to Chinese shipbuilders. China has recently become the largest shipbuilding nation in the world, which is why competition among welding consumable makers is so intense. At KWQ, our final goal is to contribute to the development of Chinese shipbuilding by promoting the efficient use of Kobelco's high technology. Our one hundred employees in three departments (production, administration and sales) are unified in achieving the final goal.



In addition, we work everyday to maintain the quality of our FCWs so that they are equal to or better than the ones made in the other three bases - Japan, Korea or the Netherlands - that produce the same or similar FCWs.

Why don't you check out the quality of our KWQ-made-FCWs yourself and adopt them in your applications as well?

Last of all, I would like to insist that the most famous local specialty in Qingdao is Qingdao beer! You may not wish to follow my example, but I love drinking it literally like water because of how wonderful Qingdao beer feels going down the throat as well as its price (cheap!).

Please visit us and taste the fresh Qingdao beer with us whenever you may have a chance.



A sport meet, held on a beach



Mr Watanabe, at his office