

KOBELCO

JANUARY 1998

Vol.1 (No.1)

WELDING TODAY



Preface



"Innovation Creates Vitality"

The world is now clearly stepping into the 21st century. The USA, EU and China seem to have an outlook on the world, and to be sure of their future. On the other hand, the Asian economies seem to be unsure of themselves, and we in Japan also seem to have lost confidence in our own way. I believe, however, our efforts and struggles over the next two years will once again create years of Asian economic growth.

Welding consumables are indispensable, fundamental material for constructing steel structures. Consumption of welding consumables, therefore, will never be zero even with wide fluctuations in the economy. KOBELCO's policy is "Business Established on the Basis of Technology." Therefore, we wish to be your partner with respect to welding consumables based on the world's best welding technology.

Customer demands, however, are various, and sometimes change. In order to take correct measures in advance to cope with possible alterations, we believe it is most important to be innovative in technology, business systems and information management; we should never hesitate. KOBELCO will continue to innovate by following our slogan, "Q. T. Q"(Quality products. Technical support, and Quick delivery).

Wishing to grow and develop together with you.

Mr. Hiroo Shimada

Managing Director,
Welding Div.

Kobe Steel, Ltd., Japan

Greeting at Publishing



To our worldwide users and sales agents of KOBELCO welding consumables, we would like to express sincere thanks for your constant patronage of our products and services.

KOBELCO welding consumables are now produced in Thailand, Singapore, Malaysia, Indonesia, the Philippines, Korea, the Netherlands and Japan, and are used by throughout the world. Especially for the vast North American market, our sales company in Texas 100%-owned by Kobe Steel, supplies KOBELCO welding consumables.

Progress in the development of welding consumables has been following the technical innovations in steel structures and steel materials. In order to inform you as fast as possible of development in advanced technology and products, and to help you understand activities in the KOBELCO-welding-group companies, we have decided to publish "KOBELCO WELDING TODAY."

Because the world of welding is so wide, including, as it does, technology, and a variety of product types and procedures, we might not be able to include all that we want within the limited space of the bulletin. We believe, however, this type of bulletin, even in a minor way, will be useful for you.

Please do not hesitate to ask any questions or provide comments on the contents of this bulletin. We also welcome submissions to be published in future editions of this bulletin.

Mr. Tetsuo Konohira

General Manager,

International Operations Dept.

Welding Div.

Kobe Steel, Ltd., Japan

Letter From The Editor

Dear Readers: It is a pleasure for us to have a new medium for communication: "KOBELCO WELDING TODAY": This bulletin is intended to help you know more of KOBELCO and its products and services.

Each edition of this quarterly will include the following:

- Technical Report: an easy-to-read technical report on welding consumables and processes that we have traditionally produced and supplied or recently developed or improved
- KOBELCO Group News: a report on Kobe Steel and its subsidiary and licensee companies overseas
- Feature Article: a report on hot and big events around the world that involved KOBELCO group companies
- Reader's Column: a message of news, events, comments, ideas and advice from KOBELCO sales agents and users.

We welcome any comments on the contents of this bulletin in order to make it more attractive to you.

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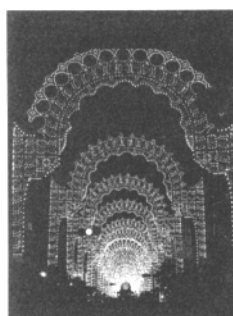
- KOBE STEEL. LTD., Welding Division (KSL), Japan
- THAI-KOBE WELDING CO., LTD. (TKW), Thailand
- KOBE WELDING (SINGAPORE) PTE. LTD. (KWS), Singapore
- P. T. INTAN PERTIWI INDUSTRI (INTIWI), Indonesia
- KOBE MIG WIRE (THAILAND) CO., LTD. (KMWT), Thailand
- KOBELCO WELDING OF AMERICA INC. (KWA1), USA
- ST KOBE WELDING (MALAYSIA) SDN. BHD. (KWM), Malaysia
- KOBELCO WELDING OF EUROPE B. V. (KWE), The Netherlands
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Cover Picture

A sculpture of lights, shining brightly in late 1995, to commemorate the rebirth of Kobe city in Japan following the devastating earthquake at the beginning of the year.

- Produced by: Mr. V. Festi (Italy)
- Photographed by: Mr. A. Misono'o (Japanese adv-photographer)

DW-100 (AWS A5.20 E71T-1)



The Traditional and Advanced Flux-Cored Wire, "DW-100 (AWS A5.20 E71T-1)," for Mild Steel and 490N/mm² High Tensile Steel

DW-100 is an epoch-making flux-cored wire which was developed for welding mild steel and 400N/mm² high tensile steel and launched into the world of arc-welding nearly twenty years ago. The brand name, DW, was coined from the words. Dual Wire, because the wire consists of steel sheath and cored flux.

The most remarkable features of DW-100 when used with CO₂ gas shielding are:

- (1) No need to change welding current in out-of-position welding
- (2) Much less spattering and almost no postweld clean up
- (3) Self-peeling slag which assures glossy bead appearance

Since DW-100 was launched into the market, production of flux-core wires remarkably increased as shown in Figure-1. This is because of ever increasing consumption of flux-cored wires in various industries throughout the world. Nowadays annual production of flux-cored wires in Japan has reached over 90,000 metric tons. Among flux-cored wires, DW-100 is one of the leaders.

Nowadays DW-100 is used in various applications in such industries as shipbuilding, steel structures, machinery, and bridges. Due to excellent usability, DW-100 can be used by even inexperienced welders. This usability includes stable wire feeding and tracking onto the welding line. DW-100 continually earns a high reputation from users in worldwide markets because of:

- (1) Quality product.
- (2) Technical support.
- (3) Quick delivery.

During these two decades, DW-100 has seen its features refined, and applications expanded. In order to maintain the outstanding features of DW-100, the quality control in production is the very matter Kobe Steel stresses. DW-100 is a traditional flux-cured wire, but, at the same time, highly advanced in that the quality of DW-100 has been maintained through advanced research and production engineering.

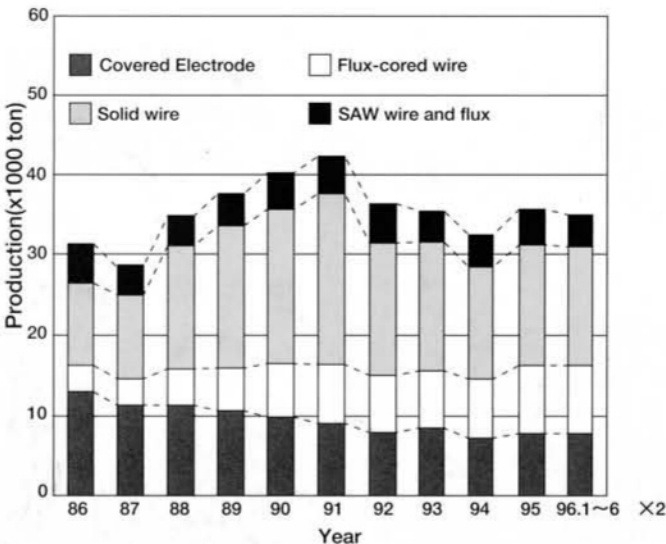
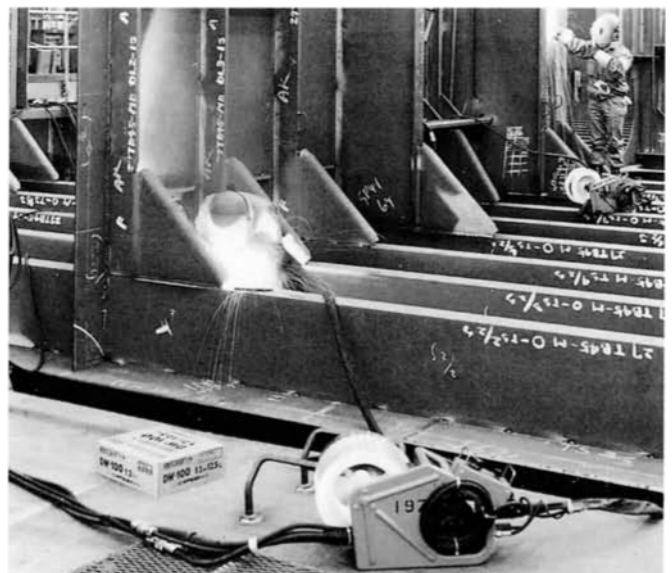


Fig. 1 Annual Production of Welding Consumables





RB-26 (AWS A5.1 E6013)

The Traditional and Advanced Covered Electrode," RB-26 (AWS A5.1 E6013)," for Mild Steel

RB-26 is a high titania type covered electrode for welding mild steel, which was developed in 1951. The R in RB stands for rutile, which is the major ingredient in the coating flux, while B symbolizes a slag-shield covered electrode. 26 represents the 26th year of the Showa era of Japan, corresponding to 1951 when it was developed.

You may believe that RB-26 is old-fashioned. RB-26, however, is commonly used worldwide for welding light sheet metal and light-gauge formed steel in light-duty steel structures, and surfacing to improve rough surfaces (Surface Dressing) of thick-section welds. The consumption of RB-26 differs country by country. In Southeast Asia and the Middle East, RB-26 is one of the most commonly-used electrodes.

RB-26 persistently earns a good reputation among users due to the following outstanding features in out-of-position welding including the vertical-down position:

- (1) Smoother arc transfer
- (2) Less spatters
- (3) Self-peeling slag removal as shown in Figure-1
- (4) Smoother bead surface with a fine ripple

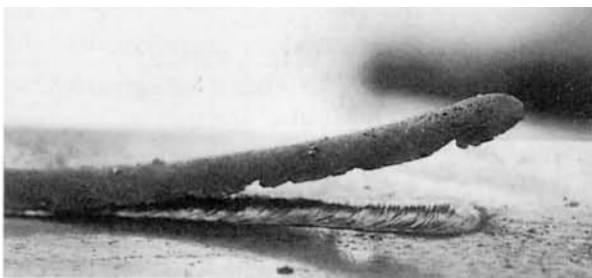
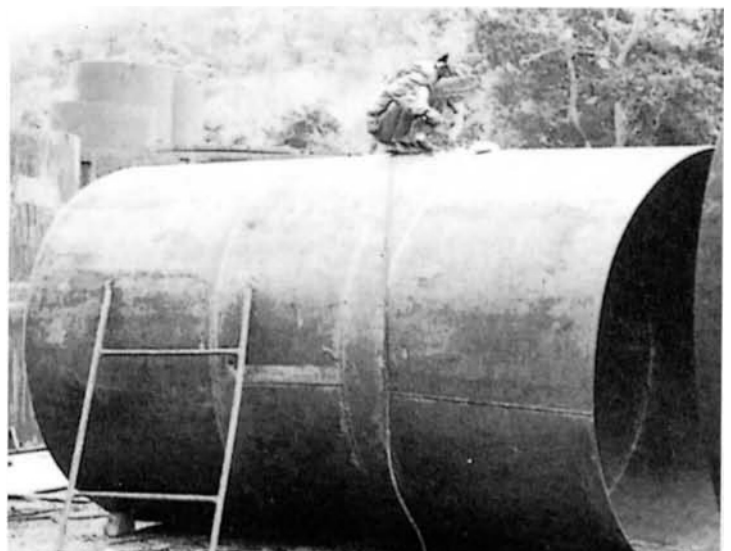


Fig. 1 Self-peeling slag removal

Kobe Steel has established a worldwide production and sales network in order to assure better delivery and technical services matching local demands for RB-26. RB-26 is now mainly produced by Thai-Kobe Welding Co., Ltd. in Thailand, and is sold not only in the Thai domestic market, but also exported to Saudi Arabia, Vietnam, and Singapore. RB-26, among all the various brands classified as AWS E6013, has persistently earned high reputation in these international markets.

Since its inception, RB-26 has seen its features refined and its markets expanded. Kobe Steel pursues keen quality control in order to maintain the outstanding features of RB-26 produced in Japan and overseas. RB-26 is a traditional covered electrode, but, at the same time, highly advanced in that the quality of RB-26 has been maintained through advanced research and production engineering. Kobe Steel hopes RB-26 will be an indispensable electrode for your workshops.



DW Stainless Series



The Traditional and Advanced Flux-Cored Wires, "DW Stainless Series," for Various Types of Stainless Steel

"DW Stainless Series" are the various types of flux-cored wires for welding various types of stainless steel used in elevated, cryogenic and room temperatures.

Kobe Steel developed and launched a DW stainless flux-cored wire about 20 years ago. Since then, Kobe Steel has researched, developed, and launched new

brands of DW stainless wires in order to cope with the great demand in the chemical, oil, food processing, electrical power, rolling stock and auto industries. This research and development built up a series of DW stainless wires. Table-1 shows the major brands of the DW stainless series for each application.

Table-1 A Series of DW Stainless Flux-Cored Wires for Various Applications

Welding position	Steel type		Key note in application	Shielding gas	DW stainless wire	AWS classification
	ASTM	JIS				
Flat and H-Fil.	304	304	General	CO ₂ or Ar+ 20%CO ₂	DW-308	E308T0-1, -4
	304L	304L	Low carbon: 0.04% max.		DW-308L	E308LT0-1, -4
	304L	304L	Extra-low carbon: 0.03% max		DW-308EL	E308LT0-1, -4
	304L	304L	High-temp. PWHT		DW-308LH	E308LT0-1, -4
	304H	—	High temperatures		DW-308H	E308HT0-1, -4
	304	304	Cryogenic temperatures		DW-308LT	E308LT0-1, -4
	304N2	304N2	General		DW-308N2	—
	—	—	Dissimilar metal		DW-309	E309T0-1, -4
	—	—	Dissimilar metal		DW-309L	E309LT0-1, -4
	—	—	Dissimilar metal		DW-309MoL	E309LMoT0-1, -4
	316	316	General		DW-316	E316T0-1, -4
	316L	316L	Low carbon: 0.04% max.		DW-316L	E316LT0-1, -4
	316L	316L	Extra-low carbon: 0.03% max		DW-316EL	E316LT0-1, -4
	316LN	316LN	Low carbon: 0.04% max.		DW-317L	E317LT0-1, -4
	317L	317L	Low carbon: 0.04% max.		DW-317L	E317LT0-1, -4
	347	347	General		DW-347	E347T0-1, -4
	321	321	General		DW-347	E347T0-1, -4
	310S	310S	General		DW-310	—
	—	329J3L	Duplex stainless		DW-329A	E2209T0-1, -4
	405	405	Overlaying in cladding		DW-410Cb	—
405	405	Underlaying in cladding	DW-430CbS	—		
	—	—	13%Cr-Ni base stainless	Ar+ 10~20%CO ₂	MXA-135N	—
	—	—	13%Cr-Ni base stainless		MXA-410NM	—
	430	430	Car exhaust system		MXA-430M	—
	409	409	Car exhaust system		MXA-430M	—
	410L	410L	Car exhaust system		MXA-430M	—
All positions	304	304	General	CO ₂ or Ar+20%CO ₂	DW-308LP	E308LT1-1, -4
	304L	304L	Low carbon: 0.04% max.		DW-308LP	E308LT1-1, -4
	—	—	Dissimilar metal		DW-309LP	E309LT1-1, -4
	316	316	General		DW-309LP	E316LT1-1, -4
	316L	316L	Low carbon: 0.04% max.		DW-316LP	E316LT1-1, -4
	—	—	Dissimilar metal		DW-309MoLP	E309LMoT1-1, -4
	316LN	316LN	Low carbon: 0.04% max.		DW-317LP	E317LT1-1, -4
—	329J3L	Duplex stainless	DW-329AP	E2209T0-1, -4		

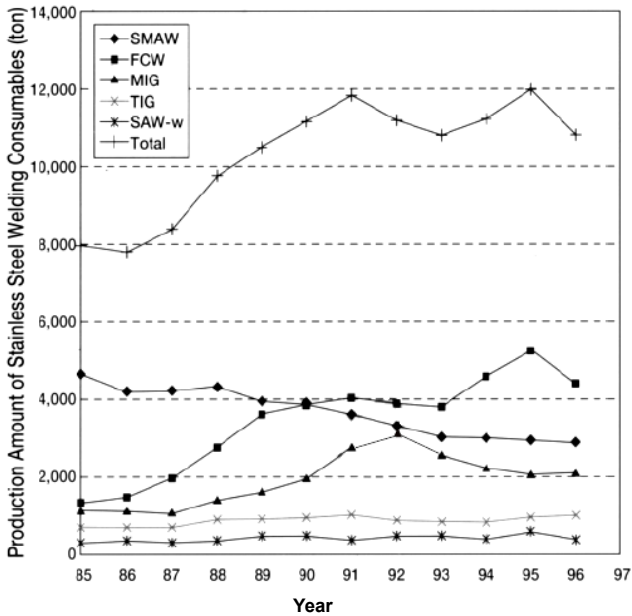


Fig. 1 Annual Production of Stainless Steel Welding Consumables in Japan

As shown in Figure-1, the production of stainless flux-cored wires in Japan has increased, replacing covered electrodes. Because of better usability and higher efficiency, flux-cored wires have succeeded, despite their comparatively higher unit prices over covered electrodes. The decrease in production of flux-cored wires in 1996 as shown in Figure-1, is thought to be due to the shift in production from Kobe Steel, Japan to KOBELCO Welding of Europe B. V.

If you have had a chance to use a DW stainless flux-cored wire, no words may need to explain the following outstanding features:

- (1) Smoother arc in a wide range of welding currents and voltages
- (2) Less spatters, eliminating postweld chipping and grinding work
- (3) Self-peeling, hence easier slag removal
- (4) Smoother bead surfaces with a fine ripple.

If you are wondering about the economic merits of DW stainless flux-core wires, you may notice that

- (1) The deposition rate can be, at least, three times that of covered electrodes, which means you can weld three times faster

- (2) The deposition rate can be approximately 1.2 times that of a solid wire, and money can be saved for expensive argon gas for arc shielding
- (3) The deposition efficiency can be approximately 1.6 times that of covered electrodes, which means you can consume approximately 60% less welding consumables for a certain length of welding line.

If you have examined the technical merits of DW stainless wires, you may know that

- (1) DW stainless wires can cover almost all the varieties of your applications, including various types of steel and welding positions
- (2) DW stainless wires persistently provide you with excellent usability and well controlled chemical and mechanical properties lot by lot.

Kobe Steel has established a production and sales base in Europe in order to assure better delivery and technical services, matching its increasing worldwide demand for DW stainless series. From the beginning, Kobe Steel has refined the outstanding features of the DW stainless wires so as to fulfill customer's requirements for various applications. Kobe Steel is sure DW stainless series will lead to better productivity in your welding workshops.



Welding Division

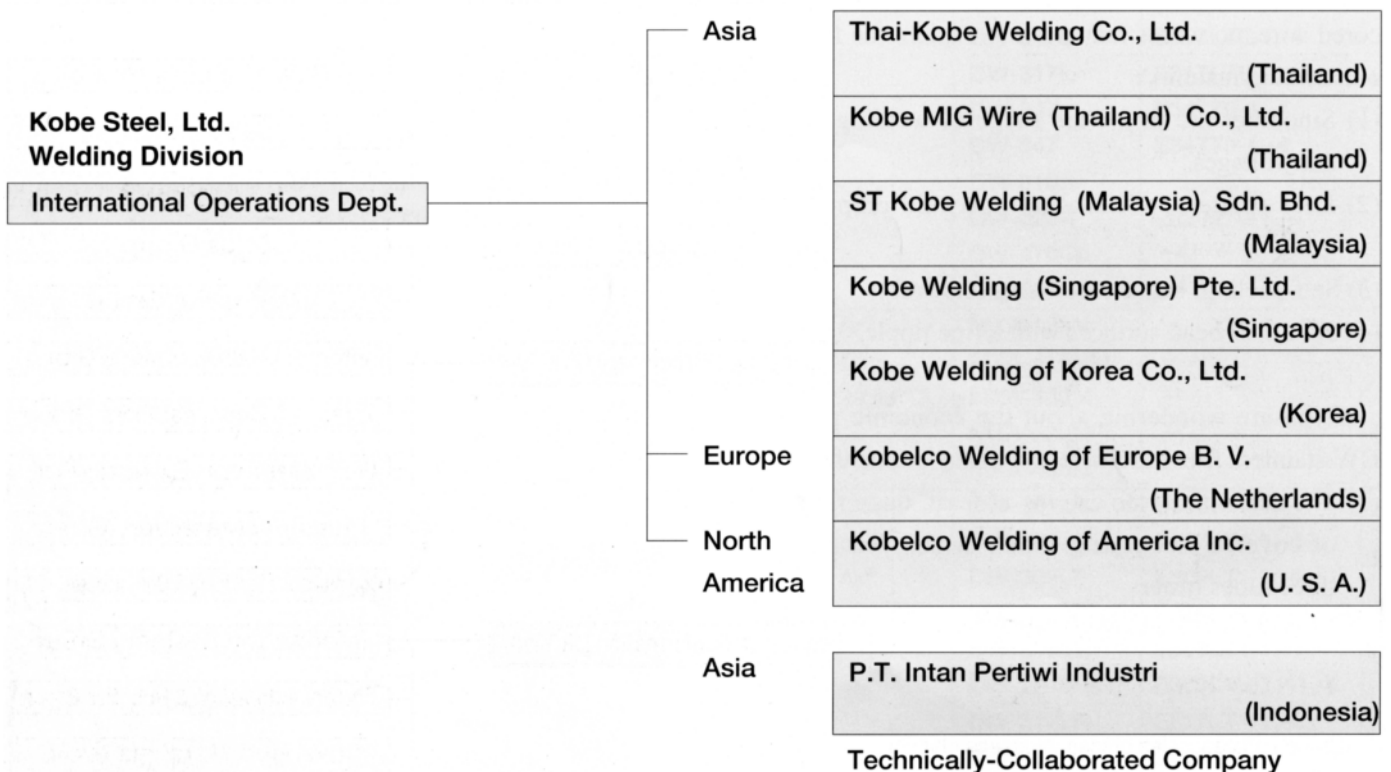
Led by a composite form of management in which the materials and engineering fields are combined, the Welding Division of Kobe Steel has had a reputation for reliability for more than half a century. This reputation stems from the production and supply of outstanding welding materials together with the development of unique welding procedures.

The Welding Division of Kobe Steel has always been the leading producer of welding consumables in Japan.

Globalization has been actively pursued since the establishment of Thai-Kobe Welding Co., Ltd. in Thailand in 1968. Today, in cooperation with the International Operations Department and the Technical Department of the Welding Division, six manufacturing subsidiaries, one technically-collaborated production base and one sales company work for customers all over the world who need quality welding consumables made with the best welding technology.

Wherever you go, KOBELCO welding consumables and technical services are always at hand.

Overseas Business Formation of KOBELCO Welding Consumables



Profile and activities of KOBELCO STEEL, LTD., Welding Division (KSL)

Corporate Profile:

Kobe Steel is a diversified corporation with head offices in Tokyo and Kobe. It is a leading producer of ferrous and nonferrous metal products, welding supplies, industrial and construction machinery, and cutting tools. It also supplies comprehensive engineering services. The company is diversifying into new businesses, including information and electronics, factory automation and robotics, and advanced materials. Kobe Steel is becoming a global enterprise engaged in a wide range of

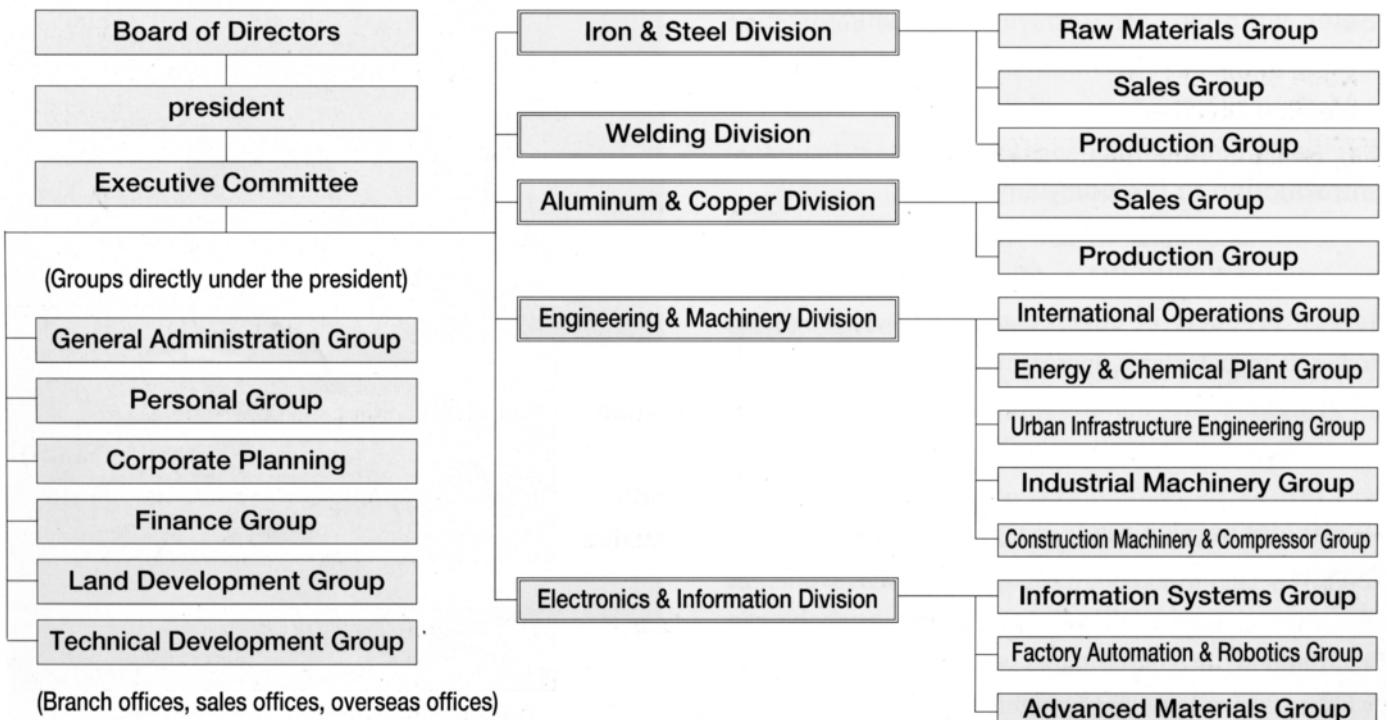
activities in North America, Europe and Asia. The Company's strategy of diversification and globalization is supported by its tripolar R & D network, which links researchers in Japan, the United States and Europe.

KOBELCO is the corporate mark used by Kobe Steel on a variety of products and is found in the names of a number of subsidiaries. Behind the KOBELCO mark is the Company's commitment to excellence and quality.



Outline of Organization

Company name : Kobe Steel, Ltd.
 Japanese name : Kabushiki Kaisha Kobe Seikosho
 Founded : September 1, 1905
 Incorporated : June 28, 1911
 Capital : ¥ 213,639,993,065 (as of March 31, 1997)
 (US\$ 2,136,399,930-)
 President : Mr. Masahiro Kumamoto
 Number of employees : 13,437 (as of March 31, 1997)



Profile and Activities of **THAI-KOBE WELDING CO., LTD. (TKW)**

Main Office: Thai-Kobe Welding Co., Ltd.

Establishment: 1968

Address:

500, Soi 1, Bangpoo Industrial Estate, Sukhumvit Road, Praeksa, Samutprakarn 10280, Thailand.

Factory office:

Tel: 02-324-0588 (Country code: 66)

Fax: 02-324-0797 (Country code: 66)

Bangkok office:

Tel: 02-676-5538, 5539, 5540 (Country code: 66)

Fax: 02-676-5541 (Country code: 66)

Number of employees (Japanese/National staff):
100(6/94)

Languages: Thai, English, Japanese

Range of products:

- (1) Welding electrodes for mild steel: RB-26 (E6013) B-14 (E6019).
- (2) Welding electrodes for 490 N/mm² high tensile steel: LB-52 (E7016), LB-52-18 (E7018), LB-52U (E7016).
- (3) Welding electrodes for stainless steel:
NC-38(E308-16), NC-38UE308L-16
NC-39(E309-16), NC-39L(E309L-16)
NC-36(E316-16), NC-36UE316L-16
- (4) A wide range of Kobe Steel-made welding consumables

Sales window: Mr. Toshiyuki Okuzumi/Marketing Director (Sales) Mr. Keiichi Suzuki/Manager (Thai Marketing Dept.)

Introduction to the company:

TKW was established in 1968 as the first overseas producer of KOBELCO welding electrodes; it is the largest producer of covered electrodes in Thailand today. It manufactures approximately 2,000 metric tons of electrodes a month. The products are supplied to overseas markets as well as the Thai domestic market.

Technical service system:

TKW's Thai Marketing Department (TMD) works for the promotion of KOBELCO welding consumables in Thailand with sophisticated and customer-oriented welding technology and farsighted marketing plans. To

ensure customer satisfaction. TMD provides technical assistance including training programs for customers in Thailand and neighboring countries. They are always on call, and a highly-experienced Japanese engineer is also ready to support the activities.

High quality products and "Thai Shinyokai":

The high quality of TKW's products is maintained by a highly-trained staff working in modern production facilities and following a strict quality control program supervised by Kobe Steel. The top-quality KOBELCO welding consumables are distributed to customers in Thailand through an integrated distribution network, called "Thai Shinyokai" which is organized by the sales agents authorized by TKW.



Profile and Activities of
KOBE WELDING (SINGAPORE) PTE. LTD. (KWS)



Main office: Kobe Welding (Singapore) Pte. Ltd.

Establishment: 1979

Address:

20, Pandan Avenue, Jurong, Singapore 609387

Tel: 2682711 (Country code: 65)

Fax: 2641751 (Country code: 65)

Number of employees (Japanese/National staff):

52(2/50)

Languages:

English, Chinese, Malay, Japanese

Range of products:

(1) Welding electrodes for mild steel:

RB-26 (E6013), B-14 (E6019), B-33 (E6013)

(2) Welding electrodes for 490 N/mm² high tensile steel:

LB-52 (E7016), LB-52-18 (E7018)

LB-52U (E7016), LBM-52 (E7016)

(3) A wide range of Kobe Steel-made welding consumables

Sales window:

Mr. Noboru Kawabe/Managing Director

Mr. Fumito Yoshino/Technical Advisor

(ASEAN Marketing Dept.)

Mr. Alex Ong/Regional Marketing Manager

(ASEAN Marketing Dept.)

Introduction to the company:

KWS was established in 1979 and started production of electrodes in the following year. It is one of the Japanese manufacturers who early came to Singapore,

and has greatly contributed to the industrial sectors in Singapore which is said to be one of the four great Asian dragons today. The coverage of marketing by KWS extends to the markets in neighboring countries as well as the Singaporean domestic market. It produces approximately 1,000 metric tons of covered electrode a month, and supplies the products through three major distributors in Singapore, and also has established the sales channels to Hong Kong and the Philippines.

Technical service system:

KWS's Asean Marketing Department (AMD) was established in 1987 to provide the market-oriented technical services in the Southeast Asian markets as well as the Singaporean domestic market. Any kind of technical welding inquiries can be handled by the welding engineers of AMD. A highly experienced Japanese engineer is also ready to support the activities.

Quick delivery service:

KOBELCO welding consumables produced and supplied by KWS are highly reputed by customers in Singapore due to their superior quality and quick delivery. Customers can take delivery of KOBELCO products within 24 hours upon an order. As the sole manufacturer of welding electrodes in Singapore, KWS takes pride in contributing to customers who need KOBELCO welding consumables.

Profile and Activities of

P.T. INTAN PERTIWI INDUSTRI (INTIWI)



Main office: P. T. Intan Pertiwi Industri

Establishment: 1977

Address:

Jalan P. Jayakarta 45, Block A/27, Jakarta 11110,
Indonesia.

Tel: (0)21-639-2608 (Country code: 62)

Fax: 021-649-6081 (Country code: 62)

Number of employees (Japanese/National staff):

250 (0/250)

Languages: Indonesian, English, Chinese

Range of products:

- (1) Welding electrodes for mild steel:
RB-26 (E6013), B-10 (E6019), B-14 (E6019)
B-17 (E6019), LB-26 (E7016)
- (2) Welding electrodes for 490 N/mm² high tensile steel:
LB-52 (E7016), LB-52-18 (E7018),
LB-52U (E7016)
- (3) High cellulose type electrodes:
KOBELCO-6010 (E6010)
- (4) Welding electrodes for stainless steel:
NC-38 (E308-16), NC-38L (E308L-16)
NC-39 (E309-16), NC-39L (E309L-16)
NC-36 (E316-16), NC-36L (E316L-16)

(5) Welding electrodes for cast iron:

CIA-1 (ENi-CI), CIA-2 (ENiFe-CI),
CIA-3 (ESt)

(6) Welding electrodes for hardfacing:

HF-350 (JIS DF2A-400-B)
HF-500 (JIS DF2B-500-B)
HF-600 (JIS DF2B-600-B)

(7) A wide range of Kobe Steel-made welding consumables

Sales window:

Mr. Hainur Gunawan/Marketing Manager

Introduction to the company:

INTIWI started production of welding electrodes under the technical collaboration with Kobe Steel, Japan in 1977. Today it produces and supplies various types of KOBELCO welding electrodes, which always maintain top share of the domestic market. In Indonesia any inquiry on KOBELCO welding consumables can be handled by INTIWI.

Technical service system:

INTIWI's Indonesian Marketing Department (IMD) was organized in 1994. IMD is continually improving the quality of technical service following the rapid development of fabrication and construction industries and aggressive investment by foreign-owned companies in Indonesia. Highly experienced engineers from KWS visit regularly to upgrade welding skills and technical knowledge at INTIWI and to help support customers.

The top-ranking manufacturer in Indonesia:

The INTIWI is the top-ranking manufacturer of welding electrodes in Indonesia. In order to cope with the rapid expansion of the Indonesian market, it has recently installed a new production line to increase its production. It is capable of producing 20,000 metric tons per year.

Profile and Activities of **KOBE MIG WIRE (THAILAND) CO., LTD. (KMWT)**

Main Office: Kobe MIG Wire (Thailand) Co., Ltd.

Establishment: 1988

Address:

491, Soi 1, Bangpoo Industrial Estate, Sukhumvit Road, Praeksa, Samutprakarn 10280, Thailand.

Factory office:

Tel: 02-324-0588 (Country code: 66)

Fax: 02-324-0797 (Country code: 66)

Bangkok office:

Tel: 02-676-5538, 5539, 5540 (Country code: 66)

Fax: 02-676-5541 (Country code: 66)

Number of employees:

(Japanese/National staff): 100(1/99)

Languages: Thai, English, Japanese

Range of products:

(1) Gas metal arc welding wires (solid wires):

MG-51T(ER70S-6), MG-50T(JIS YGW12)

(2) Gas tungsten arc welding rods (TIG filler wires):

TGS-50 (ER70S-G)

Sales window:

Mr. Toshiyuki Okuzumi/Marketing Director (Sales)

Mr. Keiichi Suzuki/Manager (Thai Marketing Dept.)

Introduction to the company:

KMWT was founded in 1988 as a subsidiary company of Kobe Steel, Japan.

It is the leading producer of solid wires for gas metal arc welding in Thailand, producing approximately 750 metric tons of solid wires a month. The products are supplied to foreign markets as well as the Thai domestic market.

Technical service system:

TKW's Thai Marketing Department (TMD) cultivates the market and supports customers who use KMWT products. The TMD's technical services are carried out so often at the request of customers for training their workers and engineers in welding skills and technical knowledge.

High quality products and integrated sales network:

The high quality of KMWT's products is the result of a highly-trained staff working in advanced manufacturing facilities, following a strict quality control program under the supervision of Kobe Steel. KMWT's welding wires are distributed to customers in Thailand through an integrated distribution network, called "Thai Shinyokai" which is organized by the sales agents authorized by TKW.



Profile and Activities of **KOBELCO WELDING OF AMERICA INC. (KWAI)**



Main Office: KOBELCO Welding of America Inc.

Establishment: 1990

Address: 7478 Harwin Drive, Houston, Texas 77036

Tel: 713-974-5774 (Country code: 1)

Fax: 713-974-6543 (Country code: 1)

Number of employees (Japanese/National staff):

10 (2/8)

Languages: English, Japanese

Range of products:

- (1) Flux-cored wires for stainless steel DW stainless series)
- (2) Flux-cored wires for mild steel and 490 N/mm² high tensile steel:
FRONTIARC-711 (E71T-1), DWA-50 (E71T-1M)
- (3) Solid wires for mild steel and 490N/mm² high tensile steel: MG-51T (ER70S-6)

Sales window:

Mr. Yasunori "Yantz" Nakai/Assistant to President

Mr. Dan Johnson/National Marketing Director

Introduction to the company:

In 1990 KWAI was incorporated, as a sales subsidiary of Kobe Steel's Welding Division, in Houston, USA in order to cover the North American market. Products distributed by KWAI are imported from Thailand, the Netherlands, Korea and Japan,

where KOBELCO welding consumables were originally developed. Today, the name of KOBELCO is firmly established in the welding industry and is chosen by customers who know what the quality welding consumables should be.

Technical service system:

KWAI can provide technical documents and tips for welding which are fully supported by Kobe Steel's Welding Division. Its sales engineers can give technical seminars and provide for the training of welders.

Under the slogan of "Q. T. Q."

KOBELCO's slogan of "Q. T. Q." was originated in KWAI's marketing and business strategy. Currently KWAI has warehouses in three locations: Houston for the south, Cincinnati for the Midwest and Salt Lake City for the west. KWAI is ready for next-day delivery upon receiving an order. It is the base for the KOBELCO Welding Association with more than 250 distributors from all over the USA and Canada. Its products meet the requirements of the AWS and ASME codes and are certified by the CWB. Product information on packages distributed in North America is indicated in inches and lbs as well as mms and kgs.

Profile and Activities of

ST KOBE WELDING (MALAYSIA) SDN. BHD. (KWM)



Main office:

ST Kobe Welding (Malaysia) SDN. BHD.

Establishment: 1993

Address:

Plot 502, Jalan Perusahaan Baru, Kawasan
Perusahaan Prai, 13600 Malaysia

Tel: 04-3905792 (Country code: 60)

Fax: 04-3905827 (Country code: 60)

Number of employees (Japanese/National staff):

34 (0/34)

Languages: Malay, Chinese, English

Range of products:

Welding electrodes for mild steel: RB-26 (E6013)

Sales window: Mr. Saw Khai Chin/Director

Introduction to the company:

KWM is the first producer, in Malaysia, affiliated with Kobe Steel's Welding Division. In particular, Kobe Steel provides technical support in production engineering for covered electrode. It is located in Penang in the northern part of the Malay Peninsula. It produces KOBELCO RB-26 and some other electrodes. KOBELCO RB-26 is the most well known and highly-reputed brand in the market in Southeast Asia. KWM's products are supplied to the domestic market only.



Profile and Activities of

KOBELCO WELDING OF EUROPE B.V. (KWE)



Main office: KOBELCO Welding of Europe B.V.

Establishment: 1994

Address:

Eisterweg 8, 6422 Pn Heerlen, The Netherlands.

Tel: 045-547-1111 (Country code: 31)

Fax: 045-547-1100 (Country code: 31)

Number of employees (Japanese/National staff):

31 (3/28)

Languages:

English, Dutch, German, French, Japanese

Range of products:

(1) Flux-cored wires for stainless steel (DW stainless series)

(2) A wide range of Kobe Steel-made welding consumables

Sales window: Mr. Masami Tsuji/Managing Director

Introduction to the company:

KWE is the first production unit for KOBELCO welding consumables in Europe. It manufactures approximately 70 metric tons of flux-cored wire for stainless steel a month. The company's excellent location in the Netherlands allows customers anywhere in Europe to take delivery of products within 48 hours.

It also distributes a wide range of KOBELCO welding consumables made by Kobe Steel, Japan for the European market.

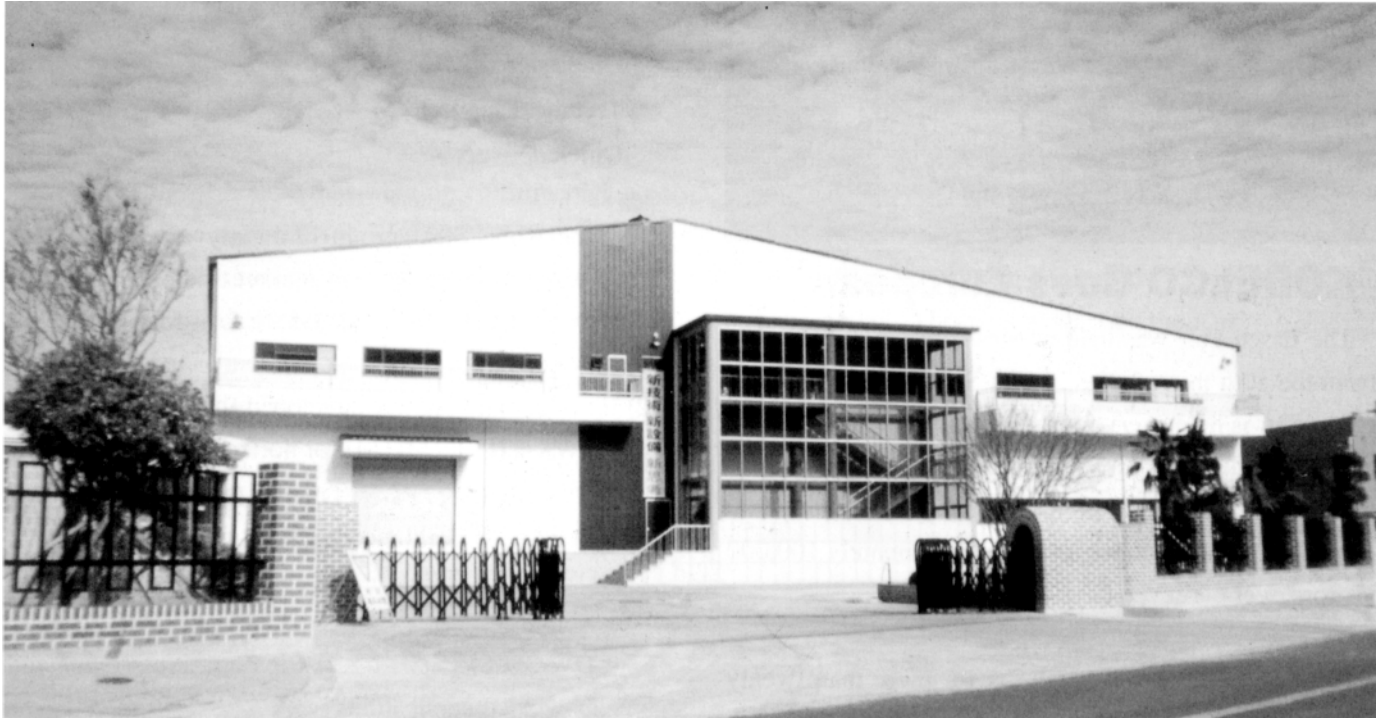
Technical service system:

KWE regularly sends staff to Kobe Steel, Japan for training in the latest welding technology. KWE can provide customers with sophisticated technical services developed through the training sessions. Quality products and customer satisfaction are two important factors in KWE's mission.

Modern manufacturing facilities:

The manufacturing facilities at the KWE are very modern. These facilities are from Kobe Steel, a worldwide leader in the field of welding consumables and a producer of high-quality industrial machinery. Kobe Steel's plant engineering know-how has also contributed to fully integrated, highly efficient operations through the following manufacturing processes: the forming and drawing of steel strips, the mixing of fluxes, and finally the weighing and packing of finished products of flux-cored wire.

Profile and Activities of **KOBE WELDING OF KOREA CO., LTD. (KWK)**



Main office:

Kobe Welding of Korea Co., Ltd.

Establishment: 1995

Address: 21-14, Palryong-Dong, Changwon,
Kyongnam, Republic of Korea.

Tel: 0551-92-6886 (Country code: 82)

Fax: 0551-92-7786 (Country code: 82)

Number of employees (Japanese/National staff):

50 (1/49)

Languages: Korean, Japanese, English

Range of products:

Flux-cored wires for mild steel and 490 N/mm²
high tensile steel

Sales Window: Mr. Norimichi Kubo/Vice President

Introduction to the company:

KWK was established in Changwon city, which is the capital of Kyongnam district, in 1995. It is Kobe Steel's first affiliated producer in Korea. It manufactures flux-cored welding wires, which are mainly used by shipbuilders and steel fabricators. The production capacity is up to 600 metric tons a month. KOBELCO flux-cored wires, packaged and printed in Korean, helps its customers perform a variety of welding operations.





"KOBELCO Goes European"

The Essen Fair was held at Messe Essen in Germany from the 10th through the 16th of September, 1997. The Essen Fair is held every four years and is regarded as the biggest trade fair for welding engineering, joining, cutting and surfacing in the world. There were 900 exhibitors from 48 countries and approximately 100,000 visitors over the seven days.

Kobe Steel has been exhibiting for more than twenty years at the Essen Fair, and this time Kobe Steel took part jointly with KOBELCO Welding of Europe B.V.(KWE). KWE is one of Kobe Steel's subsidiary companies and has been manufacturing flux-cored wires for stainless steel since 1995 in Heerlen, the Netherlands. KWE has gained more than 50% share of the European market in the field of flux-cored wire for stainless steel.

In addition to the products made by KWE, Kobe Steel is also marketing flux-cored wires for mild steel in Europe and has a market share of more than 10%. Kobe Steel is aiming to expand its market share in Continental Europe in collaboration with its European partners.

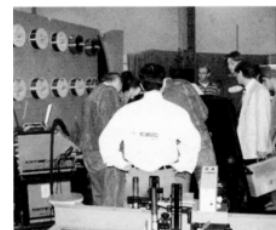
Mr. Hiroo Shimada, Director of Kobe Steel, Mr. Tetsuo Konohira, General Manager of the Welding Division's International Operations Department, and Mr. Masami Tsuji, Director of KWE attended the fair.

Our main slogan for this Essen Fair was "KOBELCO Goes European," which appealed to the notion that KOBELCO is now an insider with its local production in Europe. All the attendants at the KOBELCO booth put on white shirts with the logo "KOBELCO Goes European" on the back. At the same

time the international slogan of Welding Division of Kobe Steel, "QTQ," was introduced.

QTQ stands for:

- "Quality products"
- "Technical support"
- "Quick delivery"



As the Kobe Steel group is mainly marketing flux-cored wires in the European market, the exhibits at the booth were related to flux-cored wires as follows:

- (1) Introduction to KWE
- (2) Introduction to newly developed flux-cored wires:
 - DWA-52F (E71T-1M) for horizontal fillet welding
 - DW-100B (E71T-5), DWA-100B (E71T-5M) for welding thin and medium thickness plate
 - DW-50 (E71T-1), a Gr. 3 wire for all-position welding
 - DW-55LSR (E80T1-K2) for both stress-relief and as-welded applications
 - DW-309MoLP (E309LMoT1-1, -4) for all-position welding
 - DW-329A (E2209T0-1, -4), DW-329AP (E2209T0-1, -4) for duplex stainless steel

These wires were introduced together with various types of weld bead samples welded in various positions.

- (3) Environmental program

- Less-fume-type wires
- Fume extractor

- (4) Welding demonstration (at 2 places)

"Globalization of the Kobe Steel Group" was also emphasized by showing pictures of all the worldwide subsidiary companies of the Welding Division of Kobe Steel.

The Kobe Steel group received 4,000 visitors from all over the world during the seven days. Approximately 40% of the visitors were from European countries, and the rest, from outside Europe. Many visitors showed interest in the slogans, "Q. T. Q" and "KOBELCO Goes European". A huge number of inquiries and a large number of technical and commercial discussions were held at the table continuously during the Essen Fair. The next Essen Fair is scheduled to be held in 2001 (12th to 18th of September).

Editorial Postscript

Many readers, who are already familiar with the welding consumables introduced in this bulletin, may be disappointed at not seeing anything new technically. We think, therefore, we should explain our intentions in this editorial.

It is a matter of course that welding consumables are an indispensable material for joining metals today. It has been more than 100 years since a welding consumable was invented, though it was just a bare steel rod at that time. Since then welding consumables

have progressed greatly through research and development. If you look back at this very long history, you may notice DW-100, RB-26 and DW Stainless Series are very new in that they are star players today and they will step into the 21st century.

To those readers who may question the above-mentioned defence, may we suggest that DW-100, RB-26 and DW Stainless Series are indispensable welding consumables for joining us together for our mutual business today? This is why we took them as the basis for articles in this first issue.

Reader's Column

We are looking forward to any frank messages from the readers. Please contact a KOBELCO office most convenient to you. This column will be used for your messages from the next issue onwards.

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WELDING CONSUMABLE

KOBELCO

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INTERNATIONAL SLOGAN KOBELCO WELDING GROUP

Q T Q

Quality Products Technical Support Quick Delivery