



Cast steel products -
Cast iron products -
Lost wax castings -
Aluminum die castings -
Rolled steel material -

KAWAKIN HOLDINGS GROUP

Introduction of Material Division

Tomorrow's Technology, Today.
Kawakin Holdings Group

Kawakin Holdings Co., Ltd.

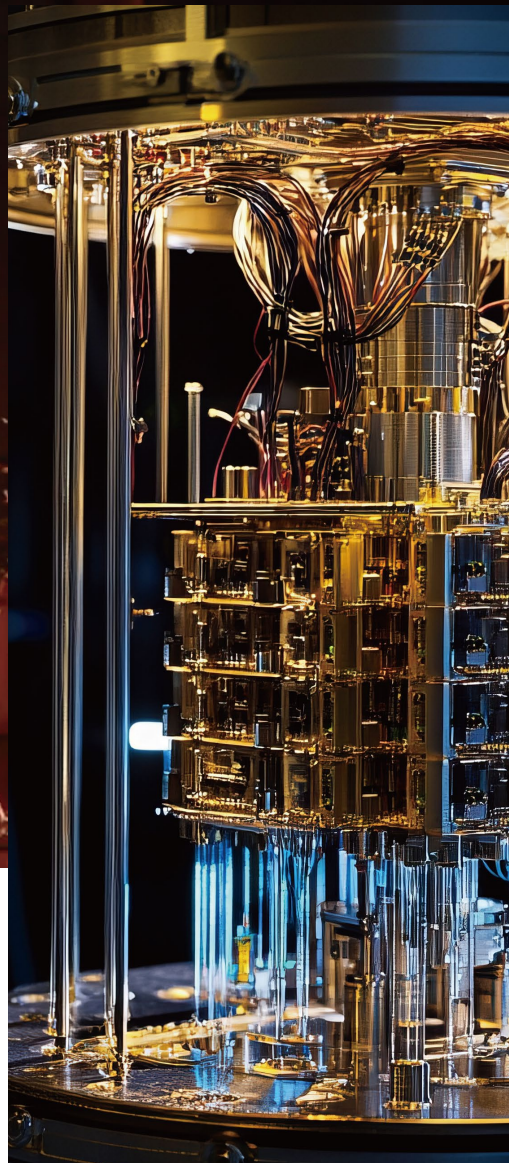
2-2-7 Kawaguchi, Kawaguchi City, Saitama 332-0015, Japan
TEL +81- 48-259-1111 FAX +81- 48-254-2622
www.kawakinhd.co.jp



Tomorrow's Technology, Today



KAWAKIN MATERIAL DIVISION



Opening up the future of the global ever-changing industries, with our group's collective strengths and advanced materials technologies.

Based on its corporate philosophy—We provide high-grade technologies that resolve social issues and help create a safe, reliable, and pleasant way of life and social infrastructure—the Kawakin Holdings Group, centering around the Material, Civil Engineering Construction Equipment, and Industrial Machinery Divisions, has been providing domestic and international industrial fields with high-quality technological products.

The Material Division, serving as the foundation of those technological products, has been addressing various customer needs, including small-size to large-size productions, high-mix low-volume to mass productions, forging and hot rolling, general materials to special materials, stainless steel and aluminum, and low-expansion materials, as well as processes ranging from raw material development, prototyping proposal, and design and manufacturing to processing, assembly, and centralized process management. We are providing customers with high qualities and best economical solutions.

Today, the environment surrounding the world is becoming complicated as exemplified by the decrease of the working population, natural disasters, regional conflicts, infection disease catastrophe, and decarbonization. While technologies are advancing at an accelerated pace, material products are also required to have more radical quality and offer more economic efficiency. By promptly identifying those needs and creating new valuable products and services, we will promote Japanese manufacturing that leads the world's industries including energy, space engineering, medical, defense, and industrial machinery sections by leveraging our technological capabilities in which all the available resources and efforts of the group are combined.



Kawaguchi Metal Industries Co., Ltd.



Tokusyu Metal Co., Ltd.



ISOBE IRON WORKS Co., Ltd.



Hayashi Lost-Wax Industries Co., Ltd.



Kawakin Die Casting Industries Co., Ltd.



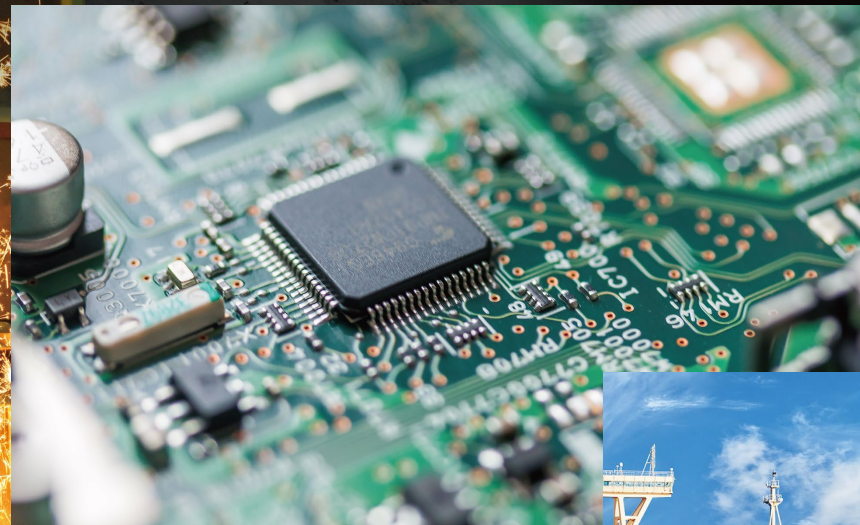
Kawaguchi Metal Material Co., Ltd.

Kawakin Holdings
President and CEO

Shinkichi Suzuki



01 Realizing the future of the materials, from general to special ones, with technologies supported by history.



Semiconductor manufacturing equipment



Marine parts



Offshore wind power generation

Processing method

Sand mold casting Processing and assembly

Material

- Cast iron
- Special cast iron
- Cast steel

Check Point

- Excelling at complicated shapes, we can address mid- to large-size high-mix low-volume production.
- With ni-resist cast iron, we produce materials that exhibit characteristics of low thermal expandability, corrosion resistance, heat resistance, and non-magnetism.
- (Koriyama Works) Capable of flexibly conducting processes up to processing to assembly.

Based on the track record spanning over 75 years, we have established casting technologies that use various special materials. Kawaguchi Metal Industries satisfies the various shape and physical property demands and offers optimum cost-effectiveness.

Capable of processing special materials including ni-resist, low nickel, and high silicon materials.



We can process various special materials. We will address various needs including low thermal expandability, corrosion resistance, heat resistance, and non-magnetism.

Examples of special cast iron

Ni-resist cast iron :

- [Function] low thermal expandability, corrosion resistance, heat resistance, non-magnetism
[Application] semiconductor manufacturing equipment, machine tools, seawater pump parts, etc.

Low-nickel cast iron :

- [Function] Corrosion resistance
[Application] Pump parts

High-silicon cast iron :

- [Function] Heat resistance
[Application] Gas turbine parts, parts related to high-temperature furnace

Extensive track record in highly-difficult and high-quality productions.



Swivel

- Only classification certification for highly difficult material in Japan
- Parts for manufacturing equipment of complicated-shape semicondutor

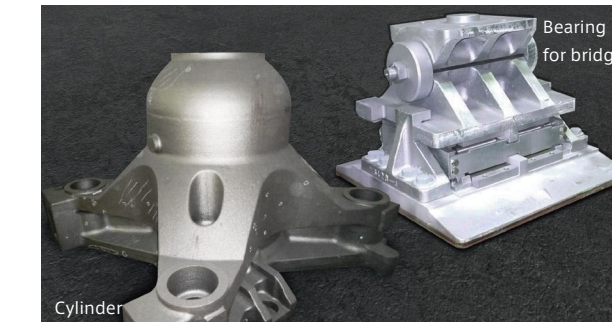
Size

Cast iron, special cast iron: up to approx. 5 t
Cast steel: up to approx. 3 t

Plants certified by classification societies in various countries

Cast iron: ABS, BV, DNV, LR, NK
Cast steel: ABS, BV, DNV, LR, NK, CCS, KR, CR

Excelling at high-mix low-volume production with the least production quantity of one piece.



Cylinder

Bearing for bridge

- We basically use wooden molds, but we are capable of using foamed material mold for single-piece manufacturing use.
- We will achieve one-stop manufacturing from prototyping to machining.

Processing and assembly (Koriyama Works)

SUS304, SUS316, SUS630, hastelloy, high-chrome cast iron, etc.
Maximum processing range: 3,000 × 2,000 × 450



General view of Koriyama Works

Five-face milling machine

To make an inquiry about products/technologies introduced on this page, contact us via the following.



Kawaguchi Metal Industries Co., Ltd.
www.kawakin.co.jp

Headquarters/plant: 18-19 Miyacho, Kawaguchi-shi, Saitama 332-0028
Koriyama Works: 1-1 Kamiizushima, Koriyama-shi, Fukushima 963-1311

TEL : +81-48-259-1112
FAX : +81-48-255-1125



02 Excellent corrosion resistant, non-magnetic and low-expansion nickel special cast steel, with advanced technologies.



Automatic molding machine



Melting furnace



Pouring/cooling line



Automatic pouring machine

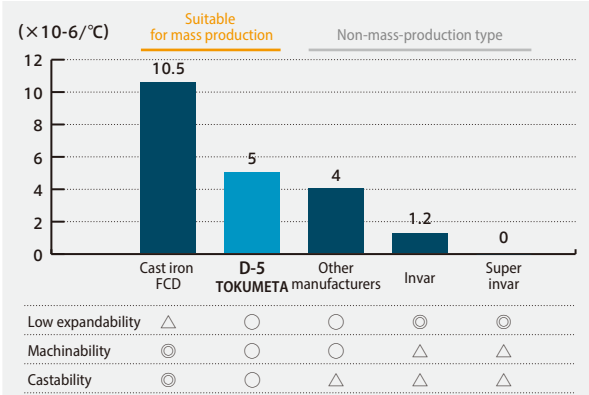
Processing method
Cast iron

Material
• Austenite cast iron product (ni-resist)

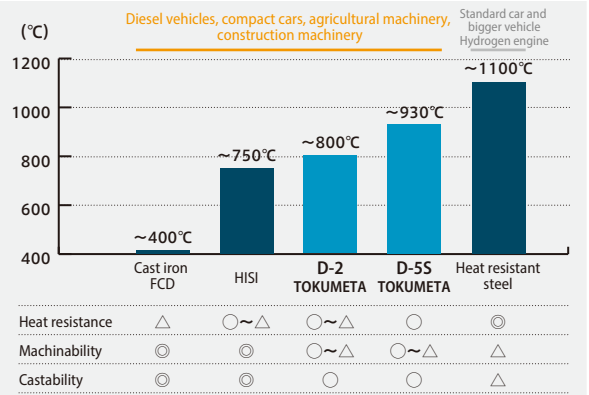
Check Point
• For devices and parts that require corrosion resistance, non-magnetism, low expandability, and heat resistance
• For large-lot and mass production of the above products

Austenite cast iron has a high nickel content. Tokushu Metal is specialized in austenite cast iron and offers products with excellent corrosion resistance, non-magnetism, low expandability, and heat resistance by leveraging ones based on Japan’s most advanced technologies.

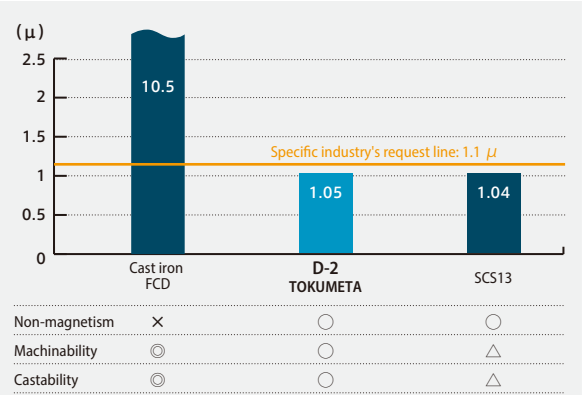
[Thermal expansion]
Balances low expandability and mass productivity.



[Heat resistance]
Balances heat resistance and mass productivity.



[Magnetic permeability]
Balances excellent performance and mass productivity.



[Corrosion resistance] Balances excellent corrosion resistance and mass productivity.

Material	Corrosion resistance	Castability	Mechanical properties	Market price (reference)
Cast iron FCD	△	◎	◎	◎
D-2 TOKUMETA	○~◎	○	◎	△
SCS13	○~◎	△	◎	△
Gold/ platinum (reference)	◎	◎	△	×

[Material comparison]
Provides optimum material in accordance with application and required performance.

Material symbol	Material-based main applications	Low expandability	Non-magnetism	Corrosion resistance	Heat resistance
D-2	Valve, compressor, supercharger turbine housing, air intake/discharge manifold, super low temperature freezer, parts averse to magnetism	△ Not suitable	◎ Magnetic permeability of 1.1 or below	◎ Excellent in alkali environment	○ Over 700°C
D-3	Pumps, valves, compressors, supercharger turbine housing, air intake/discharge manifolds, filter parts	△ Not suitable	— Magnetized	◎ Excellent	○ Resistant to thermal shock
D-5	Semiconductor manufacturing equipment parts, molds for CFRP (carbon fiber reinforced plastic), optical parts, machine tool parts	◎ (20~200°C)	— Magnetized	○	○
D-5S	Gas turbine, supercharger turbine housing, industrial furnace parts, other ultra high temperature applications, air intake/discharge manifolds	△ Not suitable	— Magnetized	○	◎ Over 900°C

To make an inquiry about products/technologies introduced on this page, contact us via the following.



Tokusyu Metal Co., Ltd.
www.tokumeta.co.jp

Headquarters: 1 Kuguriishi, Hodota, Soma-shi, Fukushima 976-0035
Sales Department: 18-19 Miyacho, Kawaguchi-shi, Saitama 332-0028

TEL : +81-244-36-1311
FAX : +81-244-36-1313

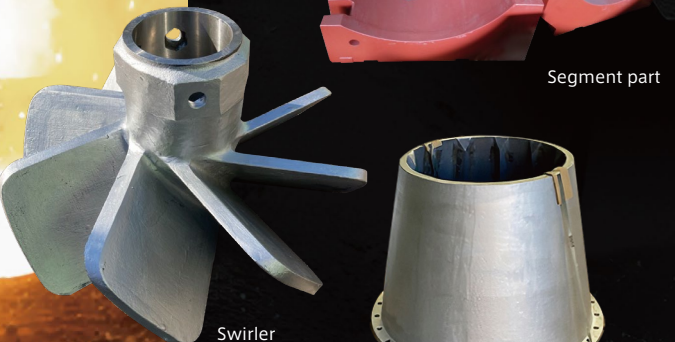


03 Ultra-wear-resistant and ultra-heat-resistant castings, realized by our unique high chromium cast iron, "Isochrome".

Electric power industry



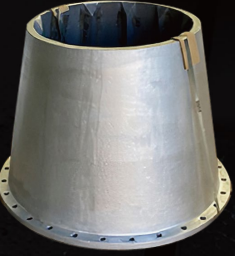
Roller tire



Segment part



Swirler

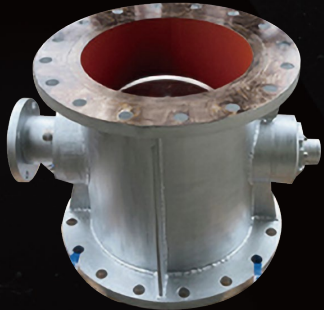


Burner nozzle

Steel industry



Claw of wheel for coarse ore

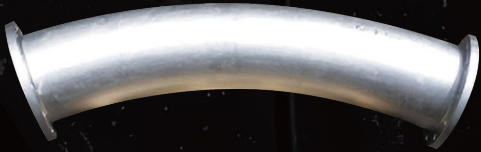


Set of water level control parts for blast furnace

Cement industry



Roller boss protection ring



Bend pipe

Processing method

Cast iron/cast steel

Material

- Wear-resistant cast iron
- Heat-resistant cast steel

Check Point

- Suitable for durable raw material such as ultra-wear-resistant and ultra-heat-resistant castings
- We manufacture big products with a weight up to 6 t.

Isochrome is a special cast product that boasts a track record and reliability spanning 100 years and keeps contributing to wider industries. Isobe Iron Works achieves longer service lives and management cost reduction by using our own high-chrome durable raw material, such as ultra-wear-resistant and ultra-heat-resistant castings.

Material symbol		Hs hardness	Features	Main applications	Size
IC Series	IC-1	65 or more	• Standard model with wear resistance	Pulverized coal pipes, ash transport tubes, mill liners, ash processing parts, burner parts, blast furnace wearing parts, various wear resistant liners, wearing plates, etc.	W3000 × 3000 × H2000 10 kg to 6 t
	IC-1H	75 or more	• IC-1 type with high hardness		
	IC-2	55~65	• IC-1 type with improved toughness		
	IC-3A	40 or more	• Shock resistance, wear resistance, heat resistance (800 to 1000°C)		
Super IC Series	SIC-X	85~90	• High wear resistance • Exhibits better wear resistance than competing Cr-Mo alloy based materials.	Roller tires for mills, segments, various liners, ash processing parts, etc.	
Cast steel base	ICMO	50 or more	• High-hardness shock-resistant type	Collision plates, striking plates, CDQ liners, etc.	W1500 × 1500 × H1000 10kg to 1t
	ILCR	40 or more	• High-toughness cast steel type		
Heat resistant cast steel	ICH Series	—	• Heat-resistant cast steel type	Burner nozzles, screw blades, heat-resistant/wearing parts inside incinerators, etc.	W700 × 700 × H500 10kg to 150kg

For the coming 100 years.
We will walk with and promote the development of new industries with our reliable technological capabilities.

Since our establishment in 1914, we have always walked with the development of the Japanese industries. The performance of the Isochrome Series, which we developed in industry-university collaboration in the reconstruction period immediately after the World War II, has been enhanced as the Japanese economy has kept growing. In order to make contributions to wider key industries, in addition to the electric power industry, we will keep taking on the challenges of technological innovations.



To make an inquiry about products/technologies introduced on this page, contact us via the following.



ISOBE IRON WORKS Co., Ltd.
www.iso-be-tekko.co.jp

Headquarters: 1-15 Chofu-oogimachi, Shimonoseki-shi, Yamaguchi 752-0927
Kokura Works: 1-2-11 Higashi-minato, Kokura-kita-ku, Kitakyushu-shi, Fukuoka 803-0802
Tokyo Sales Office: Shinbashi Place Building 7F, 1-12-9 Shinbashi, Minato-ku, Tokyo 105-0004

TEL : +81-93-571-7171
FAX : +81-93-571-7174



04 Crystallization of high-accuracy and high-quality precision casting technology, enabling success on the frontlines in the world.



Processing method

Lost-wax method Casting

Material

- We conduct blending in accordance with a desired standard, such as stainless-steel based, iron-based, and aluminum-based blending.

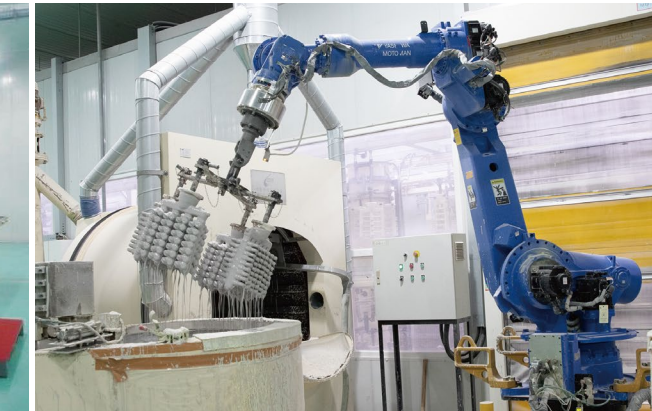
Check Point

- Low price and guaranteed high quality: we select optimum materials from various materials and blend them.
- We offer great degrees of freedom in product size, production lot, material difference, and others.

The lost-wax method boasts high degrees of freedom in material and shape selection and is suitable for the mass production of complicated-shape products. Hayashi Lost-Wax Industries develops its know-hows that have been accumulated in Japan as a dedicated lost-wax manufacturer to a wholly owned plant in Dalian, China. We achieve high quality at a low price and a short delivery time.



Our automated precision casting plant is capable of producing several thousand to several hundred thousand products per month.



Automatic coating equipment that has achieved high productivity with a small number of required workers through a drastic reduction in the drying time.



Finished products produced by our processing equipment that are to go through quick and full-fledged inspection.

Our capabilities as general part manufacturer allow us to conduct processes from casting through processing and surface treatment to assembly.

Our detailed and integrated services ranging from consultation to development, design, prototyping, casting, post-processing, and assembly allow high-quality products to be delivered through a one-stop process and significantly reduce the labor, cost, and lead time. Our plants have ISO 9001, 14001, and IATF 16949 certifications to provide high quality and reliability.



To make an inquiry about products/technologies introduced on this page, contact us via the following.



Hayashi Lost-Wax Industries Co., Ltd.
www.hlw.co.jp

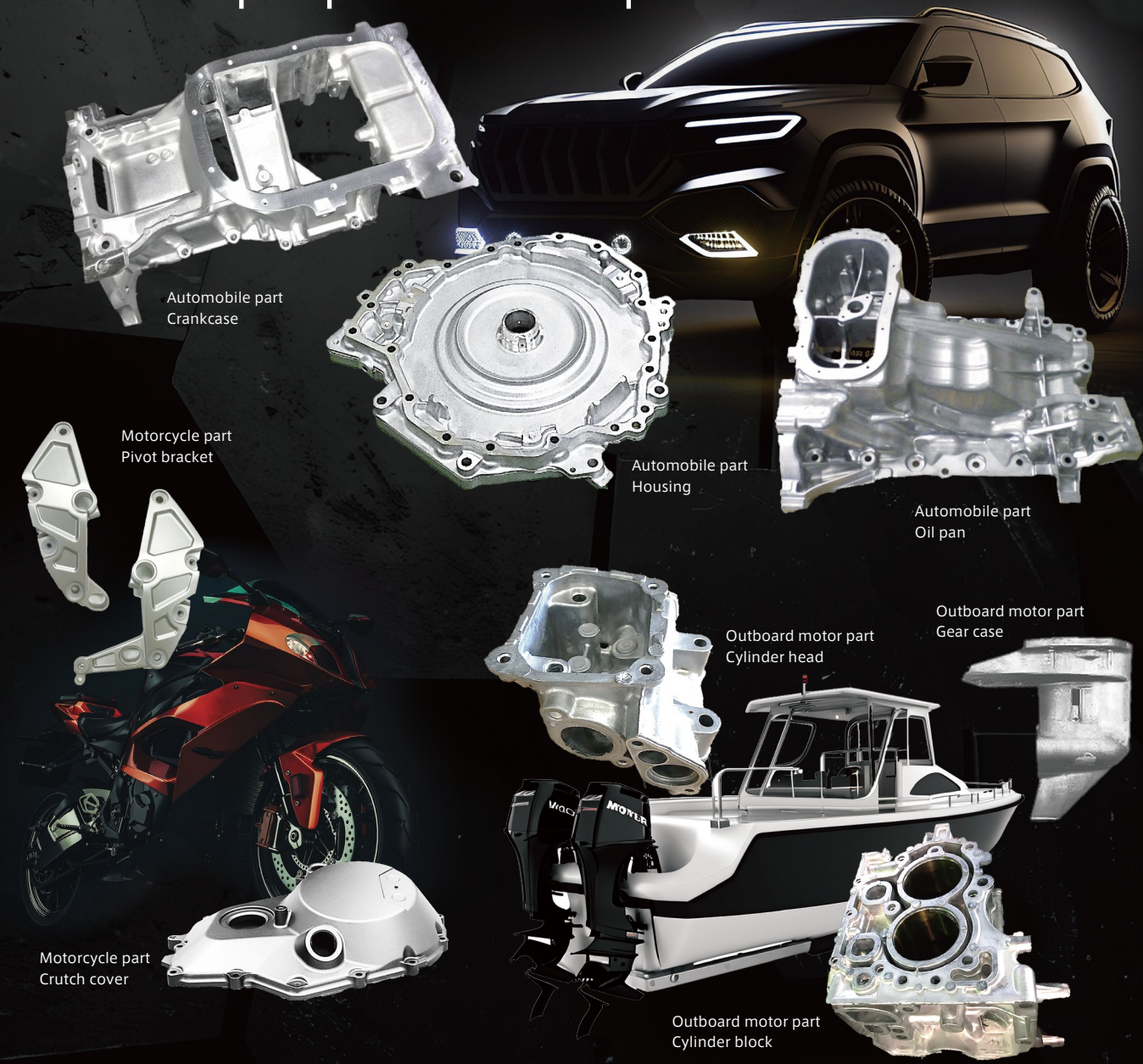
Headquarters: 445 Nishiyamacho-kurobe, Kashiwazaki-shi, Niigata 949-4142
Tokyo Office: 18-19 Miyacho, Kawaguchi-shi, Saitama 332-0028
Osaka Office: Nisshin Shokuhin Building 4F, 4-1-1 Nishinakajima, Yodogawa-ku Osaka City, Osaka 532-0011

TEL : +81-257-48-2331

FAX : +81-257-48-2852



05 “Nano Cast”, a semi-solid die casting method, realizing excellent mechanical properties and pressure resistance.



Processing method	Material	Check Point
Aluminum die casting	<ul style="list-style-type: none"> Nano cast AC4C, AC4CH, A6061, and others Equivalent to general die casting ADC12, ADC3, 6, and 14 	<ul style="list-style-type: none"> From various materials, we select materials that are optimum for the request. We contribute to the efficiency improvement and cost reduction processes in casting part procurement and conversion of processes into one-stop process.

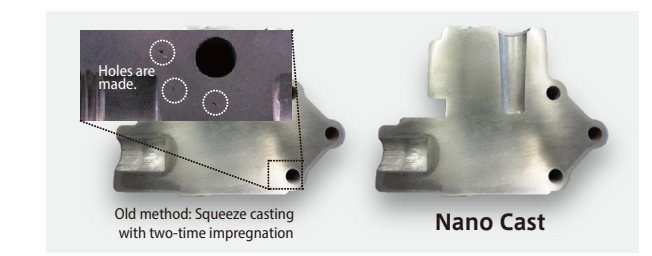
Aluminum die casting momentarily molds an item with a complicated shape at high pressure and is suitable for mass production. Kawakin Die Casting Industries achieves high quality and high efficiency with the further enhanced new technology Nano Cast.

- What is Nano Cast?**

An innovative technology using a semi-solid slurry that offers excellent conventional die casting.
- Advantages of Nano Cast 1: Improvement of quality**

Casting holes and shrinkage cavities are rarely made, which considerably improves the mechanical properties and pressure resistance.
- Advantages of Nano Cast 2: Cost reduction**

Significant improvement in the efficiency rate achieves a reduction in loss due to defective products and a dramatic reduction in the investment amount.



Example
The total investment amount for a mold of the product to be produced at a rate of 10,000 pieces/month x 5 years (60 months) = 600,000 pieces is as follows:
(General die casting: 150,000 shots, Nano Cast: 500,000 shots, based on the price of single mold as 5 million JPY)

General die casting	20 million JPY (5 million JPY x four molds)
Nano Cast	5 million JPY (5 million JPY x single mold)

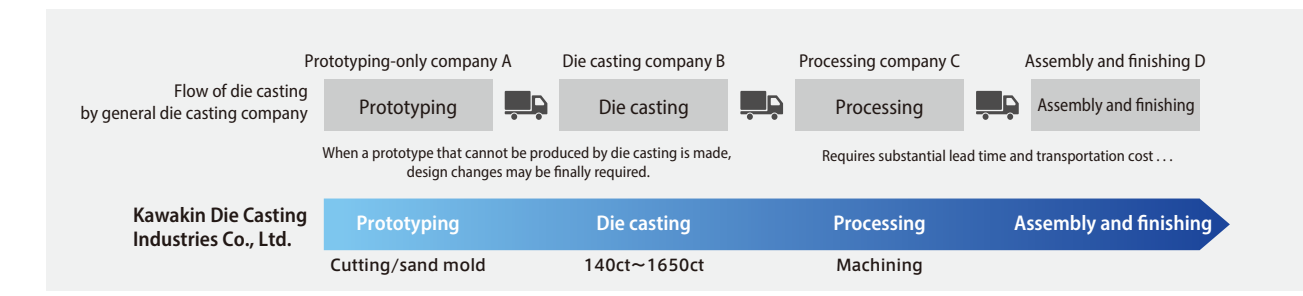
The latest die casting method that can obtain uniform metallographic structure with fine crystals as a semi-solid slurry at a lower temperature than that of a conventional slurry is poured into a mold. With this method, blow holes are rarely made, and higher quality, higher operation rates, lower costs, and space savings can be achieved.

Crystal grains, whose size is half of those in the conventional method, allow the metallographic structure to become uniform. Because of its fine structure and very little internal defects, it is possible to obtain products with excellent strength and toughness. It can also be applied to such thick shapes that are difficult to produce with general die casting.

Because of the feature of very little generation of internal holes, Nano Cast exerts a great effect on the reduction in loss cost in subsequent processes. As the casting temperature is low, the mold service life is also lengthened.

Achieves die casting manufacturing in one-stop process.

A one-stop system of processing from prototyping to casting, machining, and assembly/finish can be achieved. By responding to your requests in detail, we will promptly provide high-quality die casting products produced by using optimum manufacturing methods and technologies.



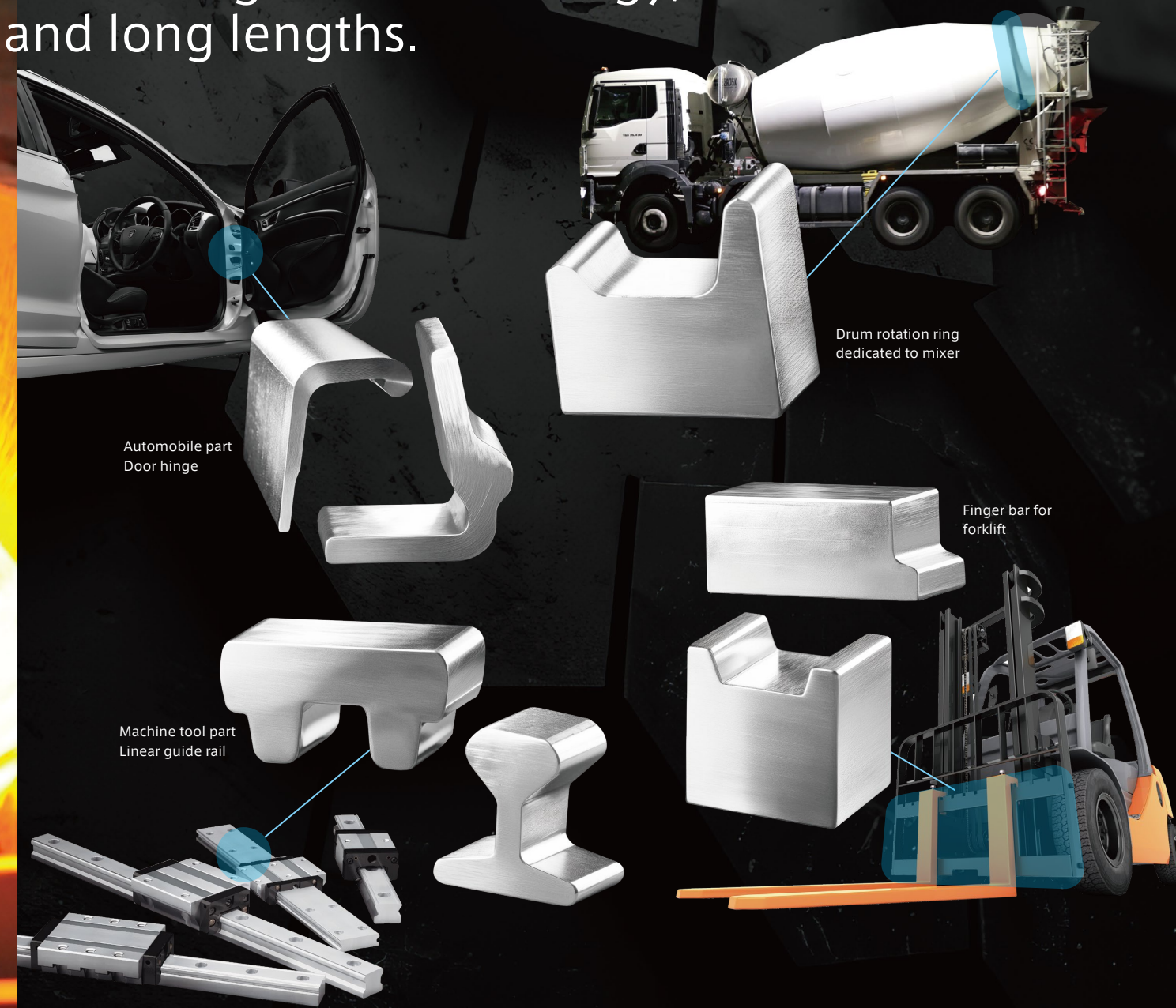
To make an inquiry about products/technologies introduced on this page, contact us via the following.

Kawakin Die Casting Industries Co., Ltd.
www.kawakindc.co.jp

Headquarters: 15 Shirasaka-jinba Shirakawa-shi, Fukushima 961-0835
Kumamoto Plant: 8772-51 Taragi, Taragi-machi, Kuma-gun, Kumamoto 868-0501
Eastern Japan Sales Office: 15 Shirasaka-jinba Shirakawa-shi, Fukushima 961-0835
Hamamatsu Sales Office: 1184-2 Nearai-cho, Chuo-ku, Hamamatsu-shi, Shizuoka 433-8108
Tokai Sales Office: 1F East Room, 1-20-7 Mikawaanjo-higashimachi, Anjo-shi, Aichi 446-0057
Kyushu Sales Office: 8772-51 Taragi, Taragi-machi, Kuma-gun, Kumamoto 868-0501

TEL : +81-248-28-2081
FAX : +81-248-28-2317

06 World-leading precision rolling steel technology, for complex shapes and long lengths.



Automobile part
Door hinge

Drum rotation ring
dedicated to mixer

Finger bar for
forklift

Machine tool part
Linear guide rail

Processing method

Hot rolling processing

Material

Capable of producing various steel types ranging from general steel materials to special steel materials.

Check Point

- For high-mix low-volume production of irregular-shape steel
- For production of parts in complicated shape that are difficult to produce for other manufacturers

Sliding parts serve as the main components of a wide range of industrial machines including manufacturing equipment and transportation equipment. The Kawaguchi Metal Material's advanced precision rolling technologies are highly appreciated by the world's cutting-edge industries.

Capable of high-mix low-volume production of irregular-shape steel. We will positively meet even your niche demands.

Parts employed in a wide variety of machines are required to be produced in high-mix low-volume production processes. We will satisfy your demands in detail from small-lot to mass production of items in various shapes.



We are confident we can produce the complicated shapes that other manufacturers find it difficult to produce. Rely on us with a sense of security.

As a pioneer in the hot rolling process, we boast an extensive track record and development capabilities. Let us produce such products with complicated shapes and/or high accuracy that other manufacturers find it difficult to produce.

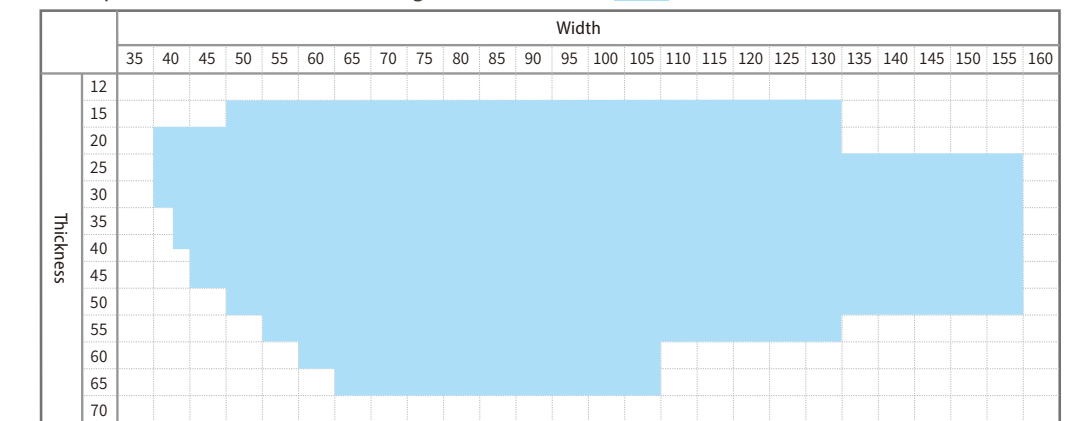


From roll design to rolling, quality management, and delivery. We achieve high quality by means of consistent high technological capabilities.

We will conduct equipment design/manufacturing that is optimum for product manufacturing in accordance with your demands. We manage all processes ranging from consultation to design, manufacturing, and delivery with high technological capabilities and provide high-quality products.



Flat/square steel manufacturable range



Length Product length: 3100 mm to 8800 mm (capable of division into small pieces and precision shearing)

Note 1: Even within the manufacturable range, we may not be able to manufacture some products depending on their specifications.
Note 2: If you have any questions about detailed dimensions and accuracy, feel free to contact us.

Steel type (Steel material)

Rolled steel for general structure	(SS)	Carbon tool steel material	(SK)
Carbon steel material for machine structure	(SC)	Spring steel material	(SUP)
Rolled steel for welded structure	(SM)	Stainless steel	(SUS)
Alloy steel for machine structure	(SCM, SMn, SNCM, SCr, etc.)	Others	
Steel material for high-carbon chromium bearing	(SUJ)		

To make an inquiry about products/technologies introduced on this page, contact us via the following.



Kawaguchi Metal Material Co., Ltd.
www.kawakinmm.co.jp

Headquarters: #1103 Tokyo Kotsu Kaikan Building 11F, 2-10-1 Yurakucho, Chiyoda-ku, Tokyo 100-0006
Sales Division: Umeda Kita Place 7F, 1-14-8 Shibata, Kita-ku, Osaka-shi, Osaka 530-0012
Hyogo Plant: 278-3 Hanjo-cho, Kasai-shi, Hyogo 675-2101

TEL : +81-6-6374-2821

FAX : +81-6-6375-2985

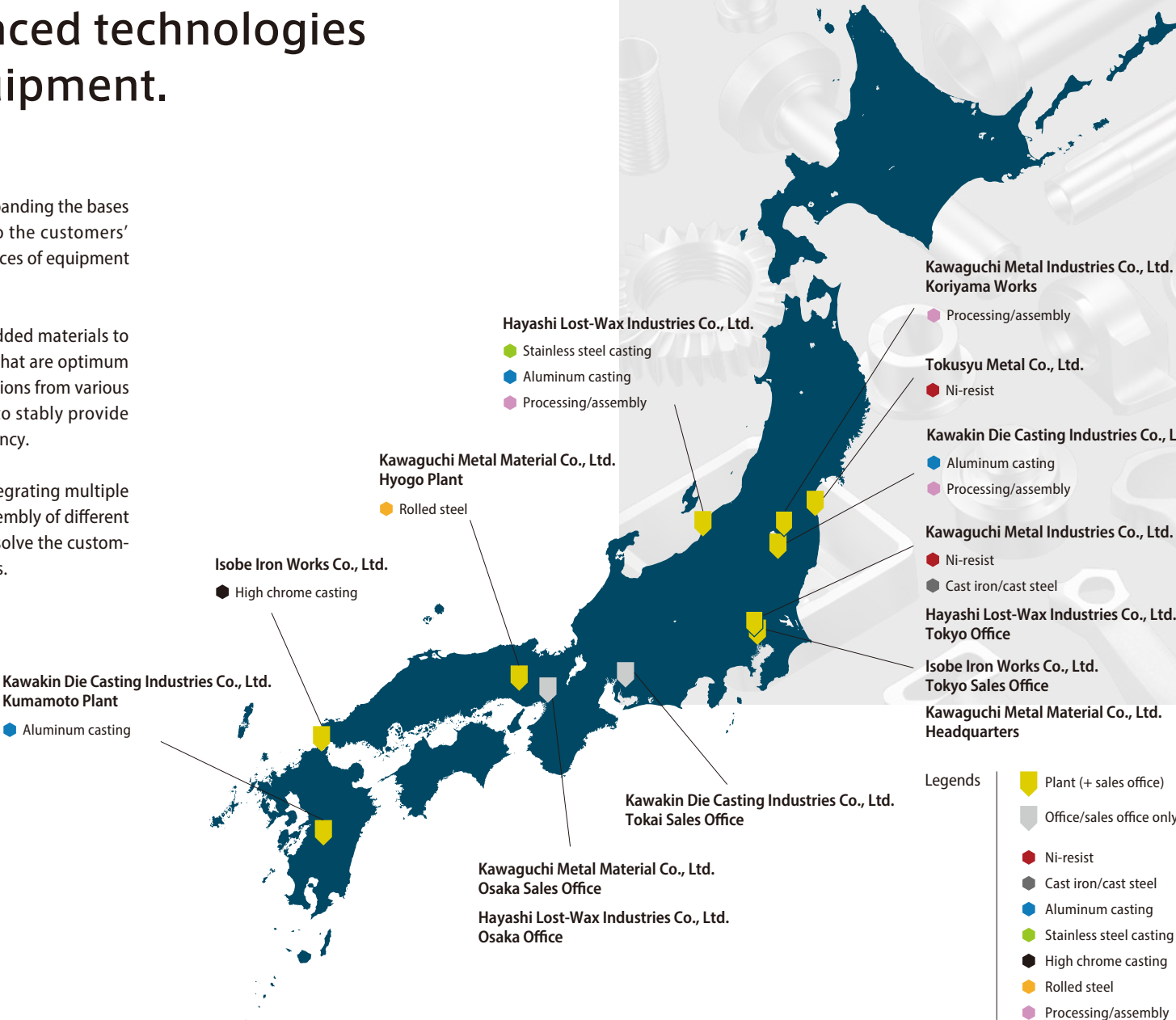


Reliable and stable manufacturing capabilities, supported by advanced technologies and a variety of equipment.

The Material Division of Kawakin Holdings, which is expanding the bases of group companies throughout Japan, responds to the customers’ needs quickly and in detail by leveraging its various pieces of equipment and high production management technologies.

We offer various materials ranging from high-value-added materials to standard materials and establish production systems that are optimum for customers’ demands by selecting suitable specifications from various product shapes and sizes and wide production lots to stably provide products that achieve high quality and economic efficiency.

Furthermore, by jointly developing new materials, integrating multiple parts, and introducing a one-stop process for up to assembly of different materials and finishing products, we will endeavor to solve the customers’ problems throughout the whole production process.



Kawaguchi Metal Industries Co., Ltd.



Kawaguchi Headquarters Plant (casting, processing)

6-ton electric furnace	1 pc.	Five-face milling machine	1 pc.
3-ton high-frequency induction furnace	2 pcs.	NC turning machine	1 pc.
1-ton high-frequency induction furnace	1 pc.	NC boring machine	1 pc.
Molding: 3 lines (line A, line G, line H)		Universal testing machine, Charpy impact testing machine	1 pc.
Casting mold: alkaline phenol resin		Emission spectrophotometer, thermal expansion coefficient measurement device	1 pc.
Shot blast machine	1 pc.	Ultrasonic flaw detector, magnetic particle flaw detector	3 pcs. each
40-ton heat treatment furnace	1 pc.	Three-dimensional measurement device (KEYENCE)	1 pc.
		Casting process simulator	1 pc.

Koriyama Works (processing, assembly)

Large-size machining center (machining range: 3,000 × 2,000 × 450)	1 pc.	Crane with max. load capacity of 15 t	2 pcs.
Medium-size machining center (machining range: 2,050 × 850 × 750)	2 pcs.	Two-dimensional CAD/CAM NCCAD	
Small-size machining center (machining range: 900 × 550 × 450)	1 pc.	Three-dimensional CAD/CAM UG/EYE	
3D printer “AGILISTA-3200”	1 pc.	Three-dimensional measurement device (Tokyo Seimitsu)	1 pc.
		Three-dimensional measurement device (KEYENCE)	1 pc.



Tokusyu Metal Co., Ltd.



Headquarters Plant

Equipment category	Equipment name	Quantity
Casting process	One-ton high-frequency crucible induction furnace	2
	Automatic pouring machine PDA-90	1
	Special automatic molding machine KDM-6 (frame size: 840×640×260/260)	1
	Shell machine	8
Manufacturing equipment	Pipe drum	1
	Shot blast	2
	Crane blast	2
Casting finish	High-speed cutting machine	4
	Band saw	2
Heat treatment furnace	Car bottom heat treatment furnace	2
	Emission spectrophotometer	1
Chemistry analyzer	CE meter	1
	300-kN universal testing machine	1
Mechanical testing machine	Brinell hardness tester	1
	Metallurgical microscope	1
Inspection equipment	Immersion thermometer	5
	Molding sand testing machine	1
Other testing machines	Instrument for thermomechanical analysis (thermal expansion measurement)	1
	Coagulation analysis simulator	1
	Spheroidizing rate measurement instrument	1
	Band saw	1



ISOBE IRON WORKS Co., Ltd.



Kokura Works

Electric furnace (2.5 t)	1 pc.
High-frequency furnace (500 kg)	1 pc.
Kerosine-type heat treatment furnace (6 t)	1 pc.
Electric heat treatment furnace (10 t)	1 pc.
Mixer (10 t/5 t)	1 pc. each
Dust collector	4 pcs.
Compressor	3 pcs.
Sand regenerator	1 pc.
Shake out	1 pc.
Shot blast	1 pc.
Automatic welder	1 pc.
Boring machine	2 pcs.
Face lathe	6 pcs.
Small lathe	2 pcs.
Radial drilling machine	2 pcs.
Turning machine	3 pcs.
Equotip	3 pcs.
Rockwell hardness-tester	1 pc.
Shore hardness tester	3 pcs.
3D scanner	1 pc.
Three-dimensional measurement device	1 pc.
Emission spectrometer	1 pc.
Casting CAE system	1 pc.
Inverted microscope	1 pc.

Headquarters Plant

Vertical machining center	4 pcs.
NC lathe	2 pcs.
Multitasking machine	1 pc.
Horizontal boring machine	3 pcs.
Five-face milling machine	1 pc.
Long-workpiece NC lathe	1 pc.
Radial drilling machine	2 pcs.
General-purpose lathe	1 pc.



Hayashi Lost-Wax Industries Co., Ltd.



Dalian Plant

Injection equipment	
Injection machine (product)	45 pcs.
Injection machine (runner)	7 pcs.
Wax regeneration machine	2 pcs.
Autoclave	4 pcs.
Coating robot	2 lines
Batch kiln	7 pcs.

Casting equipment	
Induction melting machine 225 kW	3 pcs.
Induction melting machine 250 kW	3 pcs.
Induction melting machine 300 kW	1 pc.
Non-iron electric furnace	2 pcs.
Boiler	3 pcs.

Heat treatment equipment	
Solid solution furnace	2 pcs.
Annealing furnace	1 pc.
Continuous heat treatment furnace	1 pc.

Finishing machine	
Spout cutter	1 pcs.
Plasma fusion machine	1 pcs.
Hanger-type shot blast machine	15 pcs.
Apron-type shot blast machine	9 pcs.
Drum-type shot blast machine	3 pcs.
Sand-type shot blast machine	3 pcs.
Semiautomatic-sand-type blast machine	2 pcs.
Resinder	15 pcs.

Secondary processing equipment	
Machining center	13 pcs.
General-purpose milling machine	4 pcs.
NC lathe	30 pcs.
General-purpose lathe	2 pcs.
NC drilling machine	7 pcs.
Drilling machine	11 pcs.
Buffing machine	8 pcs.
Barrel grinder	2 pcs.
Hydraulic press	12 pcs.
Surface grinder	1 pcs.



Kawakin Die Casting Industries Co., Ltd.



Headquarters Plant

Casting machine		
1650 t	Shibaura Machine	1
1250 t	Shibaura Machine	3
800 t	Shibaura Machine	3
500 t	Shibaura Machine	1
350 t	Shibaura Machine	2
140 t	UBE	1
(dedicated to Nano Cast)		
530 t	3UBE	1
250 t	Sanjo Seiki	1

Centralized melting furnace 2,000 kg/ch	2
Centralized melting furnace 1,000 kg/ch	1
Centralized melting furnace 500 kg/ch	1

Kumamoto Plant

Casting machine		
800 t	Shibaura Machine	2
650 t	Shibaura Machine	1
500 t	Shibaura Machine/UBE	2
350 t	Shibaura Machine	2
250 t	Shibaura Machine	1

Centralized melting furnace 1,500 kg/ch	1
Centralized melting furnace 1,200 kg/ch	1
Centralized melting furnace 750 kg/ch	3

Machining equipment	
Machining center	16
Tapping center	29
CNC lathe	1
Drilling machine	18
Others	

Various pieces of inspection equipment	
Three-dimensional measurement device	
3D scanner (ATOS)	
Fluoroscopy machine	
CT (tomographic equipment)	
Material analyzer	
Gas amount measurement device	
Digital microscope, etc.	

Machining equipment	
Machining center	14
Tapping center	23
CNC lathe	5
Drilling machine	3
Others	

Various pieces of inspection equipment	
Three-dimensional measurement device	
Fluoroscopy machine	
CT (tomographic equipment)	
Material analyzer	
Gas amount measurement device	
Digital microscope, etc.	



Kawaguchi Metal Material Co., Ltd.



Headquarters Plant

Continuous heating furnace	With automatic controller	22T/H	1 set
Rough rolling mill	φ470×L1,600×H3 (φ 500×L2,000)×H3	AC 1,000 kW	1 pc.
No. 1 intermediate rolling mill	φ355×L800×H2	AC 380 kW	1 pc.
No. 2 intermediate rolling mill	φ355×L800×H2	DC 528 kW	1 pc.
No. 3 intermediate rolling mill	φ355×L800×H2	DC 528 kW	1 pc.
No. 4 intermediate rolling mill	φ355×L800×H2	DC 600 kW (coaxial)	1 pc.
No. 5 intermediate rolling mill	φ355×L800×H2	DC 600 kW	1 pc.
No. 1 finish rolling mill	φ355×L800×H2	DC 541 kW	1 pc.
No. 2 finish rolling mill	φ355×L800×H2	DC 541 kW	1 pc.
Descaler	230 kg f/cm ²		1 pc.

	50 kg f/cm ²		2 pcs.
	150 kg f/cm ²		1 pc.
Cooling bed	walking beam type	7 m×25 m	1 pc.
Hot saw	φ1,200×1		1 pc.
Band saw	Cutting capability	W650 × H400	2 pcs.
Roller straightener	Side support type upper four/lower five rollers		1 pc.
Press straightener	horizontal type 200T		1 pc.
Grinding wheel cutter	Grinding wheel dimensions: φ860×17.0×152.4 mm Motor 160 kW 6PVVF control		1 pc.
Cutting/sizing machine	Twin-head automatic type, sizing range: 3,000 mm to 9,000 mm		1 pc.
Finishing baffle	Chain conveyor type, product length: A: 9,000 mm B: 8,000 mm C: 6,000 mm		1 pc.
Shot blast	W105 mm×H50 mm×L10,000 mm		1 pc.
NC lathe	600 mm×2,000 mm, 600 mm×3,000 mm		2 pcs.
	800 mm×3,000 mm		2 pcs.

Overhead travelling crane	20T/5T		1 pcs.
	10T		3 pcs.
	7.5T		3 pcs.
	5T		1 pcs.
	2.8T		1 pcs.
	2.8T		9 pcs.

Wall crane			
Automatic polisher	1-path simultaneous 2-face polishing, motor: 15 kW×2 pcs., VVVF control		1 pc.
Precision circular saw cutting machine	Saw blade size: φ420 to 550		
	Cutttable material size (width × height): 35×19 to 250×150 mm		1 set