Safety Precaution

Before using any of the products introduced in this catalog, please read the respective user manuals thoroughly. The contents of this catalog are subject to change without prior notice.

Hitachi Metals Product Catalog

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The Driving Force behind Sustainable Growth

The Hitachi Metals Group has built a solid position as a manufacturer of materials and components, developing businesses in a broad range of sectors by making full use of its material and technology development capabilities.

Since our founding in 1910, our management philosophy has been to contribute to society by embodying the optimum corporate performance.

The materials and components the Hitachi Metals Group offers are not often seen because they are utilized inside individual products. However, they sustain the foundations of all sorts of industries and are indispensable to world markets. With our highly distinctive products, we will be the driving force that helps society achieve sustainable growth. Hitachi Metals will continue in its role from here on out.
New Growth Driven by Sustainable Development

The Hitachi Metals Group pursues the automotive-, electronics-, and industrial infrastructure-related sectors as its focal markets, with each separate business division advancing autonomous business operations.

**Diversified Business Operations**

<table>
<thead>
<tr>
<th>Business Segment</th>
<th>Business</th>
<th>Principal Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-Grade Metals Company</td>
<td>Specialty Steel</td>
<td>YSS™ brand high-grade specialty steel products (molds and tool steel), alloys for electronic products (display-related materials and semiconductor materials, materials for industrial equipment (automobile, aircraft, and energy-related materials), and razor and blade materials)</td>
</tr>
<tr>
<td></td>
<td>Rolls</td>
<td>Rolls for steel mills, injection molding machine parts, structural ceramic products, steel-frame joints for construction</td>
</tr>
<tr>
<td></td>
<td>Amorphous Metals</td>
<td>Metglas® amorphous metals</td>
</tr>
<tr>
<td></td>
<td>Hitachi Tool Engineering, Ltd.</td>
<td>Cutting tools</td>
</tr>
<tr>
<td>High-Grade Metal Products and Materials</td>
<td>Magnets</td>
<td>Magnets (NEOMAX® ne-earth magnets, ferrite magnets, and other magnets and applied products)</td>
</tr>
<tr>
<td></td>
<td>Soft Magnetic Materials and Applications</td>
<td>Soft magnetic materials (soft ferrite, FINEMET® nanocrystalline magnetic material, and Metglas® amorphous metals) and applied products</td>
</tr>
<tr>
<td></td>
<td>Hitachi Tool Engineering, Ltd.</td>
<td>Cutting tools</td>
</tr>
<tr>
<td>Magnetic Materials Company</td>
<td>Magnetic Materials and Applications</td>
<td>Magnets</td>
</tr>
<tr>
<td></td>
<td>Specialty Steel</td>
<td>Soft ferrite and other soft magnetic materials, and their applications</td>
</tr>
<tr>
<td></td>
<td>Cast Components for Automobiles</td>
<td>High-grade casting components for automobiles (HNM™ high-grade ductile cast iron products and HERCUNITE™ heat-resistant exhaust casting components)</td>
</tr>
<tr>
<td></td>
<td>Piping Components</td>
<td>Piping and infrastructure components (SCUBA™ Gourd brand pipe fittings, stainless steel and plastic piping components, water cooling equipment, precision mass flow control devices, and sealed expansion tanks)</td>
</tr>
<tr>
<td></td>
<td>Cable Materials Company</td>
<td>High-grade specialty steel</td>
</tr>
<tr>
<td></td>
<td>Electric Wires and Cables</td>
<td>Electric power and industrial systems, electronic and telecommunication materials, electric equipment materials, and industrial rubber products</td>
</tr>
<tr>
<td></td>
<td>Automotive Products</td>
<td>Electronic components and brake hoses</td>
</tr>
<tr>
<td></td>
<td>Information Systems Devices and Materials</td>
<td>Information networks, wireless systems, and compound semiconductor products</td>
</tr>
</tbody>
</table>

**Hitachi Metals—Target Sectors**

<table>
<thead>
<tr>
<th>Business Segment</th>
<th>Automobiles</th>
<th>Electronics</th>
<th>Infrastructure</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-Grade Metal Products and Materials</td>
<td>High-grade specialty steel</td>
<td>Alloys for electronic products</td>
<td>High-grade specialty steel</td>
</tr>
<tr>
<td>Magnetic Materials and Applications</td>
<td>Amorphous metals</td>
<td>Cutting tools</td>
<td>Rolls</td>
</tr>
<tr>
<td>High-Grade Functional Components and Equipment</td>
<td>Magnets</td>
<td>Soft ferrite and other soft magnetic materials, and their applications</td>
<td></td>
</tr>
<tr>
<td>Wires, Cables, and Related Products</td>
<td>High-grade casting products for automobiles</td>
<td>Electric wires and cables</td>
<td>Piping components</td>
</tr>
<tr>
<td></td>
<td>Automotive products</td>
<td>Information systems devices and materials</td>
<td></td>
</tr>
</tbody>
</table>

The "Materials Magic" communication symbol is an expression of the overall value of the Hitachi Metals Group.

From a Customer Standpoint
"Materials" encompasses people, products, technologies, designs, ideas and services that solve problems and generate value. At the Hitachi Metals Group, we deliver optimal solutions that embody customer needs. This is what we call "Materials Magic."

About Our Manufacturing Philosophy
As a development-driven company distinguished for its advanced technology and development capabilities, Hitachi Metals' philosophy reflects a single-minded focus on quality. In relentless pursuit of the creation of quality, we will continue to deliver highly functional component materials that contribute to the wellbeing and prosperity of society. This, too, is "Materials Magic."

Each and Every One of Us
Consolidating our wisdom and knowledge, the experience we have amassed over the years and all of the other "Materials" that we possess as an engine for growth, we will forge ahead in the 21st Century. This is yet another facet of "Materials Magic."
Manufacturing Safe, Environmentally Friendly Cars

Cars that run on alternative fuels are becoming more common, and the kinds of performance that people demand in cars are shifting to higher efficiency and better energy conservation.

Firmly understanding this situation, we offer proposals adapted to the respective requirements of markets around the world. We meet customers’ requirements concerning functionality, quality, etc., with our high-quality products, including components for drive motors, which could be called the heart of electric and hybrid vehicles; inverter parts; and components for thin-walled, lightweight, and highly heat-resistant engines and exhaust systems.

Alternative-Fuel Green Cars

In the future, more vehicles will be electric or hybrid models that run on alternative fuels. We contribute to automotive advances by developing magnets used in drive motors, soft magnetic materials used inside inverters, etc.

NEOMAX® Nd-Fe-B Sintered Magnets

We are leading the way globally in manufacturing Nd-Fe-B sintered magnets, which have optimum magnetic properties for use in the drive motors of electric and hybrid vehicles. The NEOMAX®, which we developed and mass produce, can be used in a broad spectrum of applications and in environments that range from room temperature to the mercilessly high temperatures around engines.

Dysprosium (Dy) is a rare metal that is used as an additive to increase the heat resistance of magnets in the drive motors of electric and hybrid vehicles. However, the supply of Dy is limited. We have therefore developed techniques that not only reduce the amount of Dy used in these vehicles but also contribute to augmenting the functionality of their motors and making those motors smaller by increasing magnetism and maintaining heat resistance.

DDMagic™ (Dy Vapor Deposition and Diffusion Technology)

In the future, more vehicles will be electric or hybrid models that run on alternative fuels. We contribute to automotive advances by developing magnets used in drive motors, soft magnetic materials used inside inverters, etc.

Drive Motor for EV

Enameled Wire for High-Efficiency Motors

This wire product supports the compact design and higher outputs required for electric and hybrid vehicles while reducing environmental impact and saving energy, leading to the development of higher performance electric and hybrid vehicles.

Cut Cores for Power Chokes

These cut cores are used in everything from high-voltage batteries to low-voltage drive motors and DC-DC converters, which convert voltage for electrical components. The cores are able to substantially reduce core loss compared to silicon steel cut cores and make it possible for compact, highly efficient DC-DC converters to be designed. Moreover, the cores have superior DC superimposition characteristics thanks to their high saturation flux density.

Cladding Materials for Battery Electrode Connection

Used in the terminals and leads of lithium-ion batteries in electric vehicles, these materials suppress battery heat generation because they have low electrical resistance and are highly thermally conductive. Various welds are possible, and these cladding materials contribute to the increased capacity, smaller sizes, and improved productivity of batteries.

Fuel-Efficient Green Cars

HERCUNITE™ Series of Heat-Resistant Cast Components

This series of heat-resistant cast iron and steel components help reduce CO₂ emissions and fuel consumption in the next generation of gas engine vehicles. The exhaust manifolds, turbine housings, and other exhaust system components in this series are able to withstand the extreme heat generated by an internal combustion engine and contribute to improving a car’s environmental performance.

HERCUNITE™

The name HERCUNITE is an acronym for heat-resistant cast iron and steel made for exhaust parts. However, the name has another derivation. The suffix -nite, which stands for a metal compound, is preceded by the name Hercules, a hero in Greek mythology.

*The origin of the name HERCUNITE™
Automobile-Related Products | Manufacturing Safe, Environmentally Friendly Cars

Engines and Exhaust Systems
We produce cast materials and components that promote the development of engines and exhaust systems. Employing the alloy design technology developed in the specialty steel field and the casting technology with which it got its start, Hitachi Metals offers products tailored to diverse requirements.

High-Grade Specialty Steel Engine Materials and Parts
We produce engine components with unique properties that render them suitable for use in places where abrasion resistance, heat resistance, and corrosion resistance are required along with high strength and low thermal expansion.

Piston Ring Materials
With the call for more compact yet more powerful engines, steel piston rings have come to be widely employed. Controlling metal texture at the nanoscale has made it possible for Hitachi Metals to provide piston ring materials with increased abrasion resistance and improved sliding friction in the form of deformed layers that have undergone plastic working and heat treatment.

Engine Valve Materials
Engine valve materials that are highly heat and oxidation resistant, with excellent cost performance, contribute to lighter and more durable engine valves.

HERCUNITE™ Series of Heat-Resistant Cast Components
HERCUNITE™ is a series of heat-resistant cast-iron and steel materials that are suitable for the manufacturing of exhaust manifolds, turbine housings, and other exhaust system components. Our complete product line starts with the HERCUNITE™ S Series, which can be used in temperatures of up to approximately 1,050°C. HERCUNITE™ will find wider applications in smaller turbocharged engines, giving them more environmentally friendly performance.

Others
Other products we provide include materials for fuel injection systems (e.g., common rail injection systems), spark plugs, and variable valve timing systems.

Diesel Particulate Filters
Diesel Particulate Filters remove particulate matter from the exhaust of medium-sized to large commercial diesel vehicles, employing a combination of low pressure loss and a high collection rate that enables them to handle extremely tiny 10- to 100-nanometer particles.

Turbine Wheels for Turbochargers
Turbine wheels for turbochargers are made of nickel-based heat-resistant super alloy that exhibit superior resistance to heat. The lost-wax process is employed to produce three-dimensional components with complicated forms in a single piece.

Suspension Systems
Pursuing optimum materials, forms, and manufacturing methods, we contribute to car bodies that are lighter and safer, which lead to better fuel efficiency. Also, we produce well-designed, lighter aluminum wheels by employing casting and computer-aided engineering (CAE) technologies.

High-Toughness Ductile Iron Castings
The HM6™ series of castings have excellent low-temperature toughness and extremely accurate dimensions and can be delivered in a near-net-shape state. They contribute to the production of thin-walled automobile components that are lighter.

Harness for Electric Parking Brakes
We developed harnesses for use in electric parking brakes that excel in flexural resistance and durability. This helps conserve space inside the cabin and elevates vehicle safety and convenience.

Others
Other products we provide include materials for fuel injection systems (e.g., common rail injection systems), spark plugs, and variable valve timing systems.

Aluminum Wheels
Our SCUBA™ aluminum wheels were created by employing high-precision CAE technology. They are very strong, rigid, and light (15% lighter than our previous products) and contribute to fuel savings as well as reduced CO₂ emissions. Chic, delicate designs are possible thanks to the advanced aluminum casting techniques that are employed as well as the high-grade surface treatment, such as our high-quality LUSTERIC™ coating, that is utilized.

Brake Hoses
With outstanding durability and low expansion characteristics, our brake hoses have been widely acclaimed and are used by the world’s leading automakers. We also have a range of hoses developed for motorcycles, which require a very subtle touch when braking.

Steering and Power Train Systems
Providing materials and components for electric power steering (EPS) and continuously variable transmission (CVT) systems, we support improvements in the basic performance of vehicles.

Nd-Fe-B Radial-Oriented Ring Magnets
(NEOMAX® Series Nd-Fe-B Sintered Magnets)
Because these magnets are radial in anisotropic direction and shaped in separate rings, they improve the ease with which rotors can be assembled. Also, cogging torque can be reduced by skew magnetization relative to the axis of rotation. Hitachi Metals is able to meet the requirements of segment-shaped designs that excel in magnetic performance and design flexibility, enabling customers to select the best shape and material properties for their specific purposes. These magnets are useful for not only electrical power steering but also gearshifts and electric brakes.

CVT Belt Materials
These metal belt materials have excellent fatigue endurance and were developed for use in CVT systems. Preventing nonmetallic inclusions that can cause damage when melting and cold rolling techniques are used, we contribute to improved transmission performance and increased reliability.

MANITURBO™
Turbine wheels for turbochargers are made of Nickel-based heat-resistant super alloy that exhibit superior resistance to heat. The lost-wax process is employed to produce three-dimensional components with complicated forms in a single piece.

Others
Other products we provide include materials for fuel injection systems (e.g., common rail injection systems), spark plugs, and variable valve timing systems.
Electronic Devices and Power Transfer Equipment

As cars have incorporated more electronics, we support the manufacturing of comfortable, convenient cars by providing numerous magnets used in various electronic devices, noise suppression components used to prevent device malfunctions, power semiconductor module substrates, etc.

YSS SLD-MAGIC™ Cold Work Tool Steel

This die steel is suited for a wide range of plastic products. It blends the contradictory characteristics of machinability and toughness to bring die costs down while reducing such problems as mold damage.

Harnesses for use in Hybrid Vehicles

Harnesses connect the battery, inverter and motor in hybrid vehicles. Our products have superior heat resistance, oil resistance and flexibility. They are extremely reliable in high-voltage and large-current areas. We also supply air-conditioner harnesses and other products in support of the move to electric-powered onboard equipment.

Si3N4 Insulating Substrates for Power Semiconductor Modules

These insulating substrates are used in power semiconductor modules for inverters in hybrid and electric vehicles. Hitachi Metals’ silicon nitride substrates exhibit superb heat conduction and mechanical strength, making them ideal for application in insulated gate bipolar transistors (IGBT), large power semiconductors, and other insulating substrates that demand high reliability. There is increased freedom with regard to heat dissipation and strength designs compared to conventional aluminum nitride.

Cutting Tools

We provide all sorts of cutting tools used in die machining, etc., including endmills that produce smooth curves and inserts and drills for finely fabricating precision parts.

Cladding Materials for Battery Electrode Connection

These cladding materials are suitable for use in connecting materials with different properties (e.g., aluminum, copper) in cathodes and anodes. Cell interconnection (resistance welding, ultrasonic welding, and laser welding) can be accomplished in a smooth, efficient way.

Aluminum Battery Cases

An aluminum battery case is used for electric vehicles that contribute to reducing carbon dioxide emissions. The use of a cast aluminum alloy contributes to lighter weight with battery cases that provide the required sealing performance.

Lithium-Ion Batteries

Cladding Materials for Battery Electrode Connection

These cladding materials are suitable for use in connecting materials with different properties (e.g., aluminum, copper) in cathodes and anodes. Cell interconnection (resistance welding, ultrasonic welding, and laser welding) can be accomplished in a smooth, efficient way.

Electromagnetic Compatibility (EMC) Noise Suppression Products

Noise suppression products guard against electronic device malfunctions. FINEMET® nanocrystalline magnetic materials and amorphous metals developed by Hitachi Metals have abundant forms and applications.

Harnesses for use in Hybrid Vehicles

Harnesses connect the battery, inverter and motor in hybrid vehicles. Our products have superior heat resistance, oil resistance and flexibility. They are extremely reliable in high-voltage and large-current areas. We also supply air-conditioner harnesses and other products in support of the move to electric-powered onboard equipment.

NMF™ Series Sintered Ferrite Magnets

Ferrite magnets—the principal component of which is iron oxide—have excellent cost performance and are most widely used in motors found in automotive electrical equipment. The excellent magnetic properties of ferrite magnets and their ability to withstand temperature variations can be put to use in a broad range of applications, including starter motors, power window motors, cooling fan motors, electric power steering motors, and windshield wiper motors.

Low-Frequency Amorphous Antennas

These compact, lightweight antennas are used in components that lock and unlock remote keyless entry systems. The antennas can withstand vibrations, shocks, and high temperatures.

YSS DAC-MAGIC™ Die Cast Tool Steel

This die cast tool steel is used in manufacturing highly precise castings in large volumes quickly. It combines the ability to withstand high temperatures during heating and quenching in the heat treatment cycle with toughness, and minimal cracking in cooling channels contributes to improvements that mean longer-lasting dies.

YSS SLD-MAGIC™ Cold Work Tool Steel

This die steel is suited to high-tensile plates widely used in making lighter cars with safer designs. Its characteristics are high machinability and fewer dimensional deformations following heat treatment. It contributes to overall die cost reductions because its superior quality means that dies last longer.

YSS DAC-MAGIC™ Die Cast Tool Steel

This die cast tool steel is used in manufacturing highly precise castings in large volumes quickly. It combines the ability to withstand high temperatures during heating and quenching in the heat treatment cycle with toughness, and minimal cracking in cooling channels contributes to improvements that mean longer-lasting dies.

YSS HPM Series Plastic Mold Steel

This die steel is suited to high-tensile plates widely used in making lighter cars with safer designs. Its characteristics are high machinability and fewer dimensional deformations following heat treatment. It contributes to overall die cost reductions because its superior quality means that dies last longer.

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This die steel is suited to high-tensile plates widely used in making lighter cars with safer designs. Its characteristics are high machinability and fewer dimensional deformations following heat treatment. It contributes to overall die cost reductions because its superior quality means that dies last longer.

YSS is a registered trademark of Hitachi Metals, Ltd.
Solutions That Show the Way to the Future

In the electronics field, which changes with dizzying speed daily, Hitachi Metals responds speedily—from new-product development through testing, product commercialization, and mass production—endeavoring to create products that quickly answer diverse product needs.

Electronics-Related Products

IT and Home Appliances

We offer products that enhance the technical and energy-saving performance of information technology (IT) devices and home appliances, such as materials and components for use in mobile telecommunication devices, including smartphones, and liquid crystal displays, as well as magnets for air-conditioner motors.

IT and Home Appliances

Sputtering Target Materials for LCDs
These materials are used in thin film interconnects in LCDs. Employing the hot isostatic pressing (HIP) method gives sputtering target materials the finest, most uniform structures, and they can be adapted to larger displays. Further, our alloy design techniques make it possible for us to offer alloys suited to various purposes, including those that require low resistance and heat or moisture resistance.

NEOMAX® Series Nd-Fe-B Sintered Magnets
These rare-earth magnets have world-leading magnetic properties. They serve an important role as materials indispensable in making smaller, lighter, more energy-efficient motors used in the automobile, IT, household appliances, medical equipment, environmental, energy, and other industrial sectors.

NMF™ Series Sintered Ferrite Magnets
Among the ferrite magnets, the NMF™-12 series provides the world’s best magnet properties as a mass production ferrite magnet. On the back of the increasing trend for conserving rare earth resources and moving away from the use of rare earth magnets, studies are in progress to switch to the use of the NMF™-series from neodymium-iron-boron (Nd-Fe-B) magnets, primarily for air-conditioner compressor motors.

Isolators and Circulators for Telecommunications Devices
These components function so that the amplifier that regulates the audio during communication operates stably and prevents intermodulation. Using high-performance ferrite magnets and low-loss garnets, these isolators and circulators enable size and weight reductions and are compatible with LTE (Long Term Evolution), the worldwide cell phone standard.

FINEMET® Multilayered Sheets
These shield yoke sheets are used in wireless chargers for smartphones, tablet PCs, and other communications devices. The lamination processing of FINEMET®, a high magnetic permeability material with low core loss, enables a slimmer size and lighter weight and achieves impressive cuts in power transmission noise and energy loss.
Electronics-Related Products

Electronic Devices

This section contains information about magnetic materials used for various applications, such as in manufacturing magnetic heads and coils, transformer cores, and magnetic shields, as well as products that play important roles in the automobile, household appliance, IT, and medical equipment sectors and various others.

Amorphous Metals Metglas®
These low-loss metal materials have no crystalline structure. Their low-loss properties are put to work in transformer cores and other applications.

FINEMET® Nanocrystalline Magnetic Materials
Developed by Hitachi Metals, FINEMET® is the world’s first nanocrystalline soft magnetic material. This new Fe-based soft magnetic material is composed of nanocrystals and has excellent temperature characteristics and temporal stability because it has high saturation flux density and magnetic permeability. FINEMET® is utilized in noise-suppression components and other applications where it contributes to downsizing and lightening filters.

Magnetic Sensors
These sensors detect weak magnetism and convert it to electrical signals, enabling the generation of highly precise signals even in extreme environments, and are used in digital cameras, robots employed in factory automation, and other rotating components.

Micro Coaxial Cables and Flexible Flat Cables (FFC)
Micro-coaxial cables and FFC with superior flexibility and compactness are widely used as wiring materials in tablet terminals, copiers, and other OA equipment.

Fe-Based Amorphous Metals
These metals have iron as their main component. They make it possible for power supply components to conserve energy because Fe-based amorphous metals have a lower no-load loss compared to that of grain-oriented silicon steel sheets.

Ni-Based Amorphous Metal Material
Amorphous Bruting foil, composed primarily of nickel, is metal foil characterized by its thinness and outstanding soft magnetic properties. This material can be metallically joined without the use of pastel type binders, excels in adhesion and corrosion resistance, and otherwise contributes to streamlining the work process.

Cut Cores
Used in high-frequency power transformers and choke coils, our cut cores contribute to higher efficiency and smaller sizes. FINEMET® nanocrystalline magnetic materials and amorphous metal products suited to various uses are available.

Medical and Analytical Equipment

Ceramic Scintillator Materials
Scintillator materials absorb the energy of radiation that strikes them and emit it as visible light. Because of their high sensitivity and large X-ray absorption coefficients, they contribute to reductions in device sizes. They are used in X-ray CT scanners and other medical equipment as well as analytical devices.

Probe Cables for Ultrasound Diagnostic Equipment
The cable connects the main body of ultrasonic diagnostic equipment and the probe used for echographic investigation. It is lightweight, excels in elasticity and flexibility, and has high-quality electric characteristics, making ease of handling and high-definition images, thereby contributing to the development of medical equipment.

Precision Molding Technology

Metal Powder Injection Molding
The metal injection molding (MIM) process is a technique to manufacture metal components by using metal powders and injection molding machines, as is the case for plastic injection molding. It characteristically offers a high degree of freedom in designing materials and components.

Copper Core Solder Balls
Copper core solder balls are copper-core balls with thermal conductivity and high electrical conductivity coated with a layer of solder. They are extremely superior in dimensional accuracy and sphericity and are suitable for use as connecting materials for standoffs when stacking or connecting terminals of ball-grid array (BGA) or chip scale package (CSP) packages. Copper core balls can be coated with a variety of lead-free solders, including tin-silver-copper (Sn-Ag-Cu) or tin-silver (Sn-Ag) solders.

HIDUST™ Cores and HIDUST™ Coils
An Fe-Al-Si powder and amorphous powder are used in these cores and coils, which can be utilized as choke coils for the input and output terminals of power supply units and electromagnetic noise-suppression choke coils. They contribute to improved efficiency in power conditioners used in solar power generation.

Soft Ferrite
These soft magnetic materials are mainly composed of iron oxides. Although they have a slightly low saturation flux density, their electrical resistance is high, and they are characterized by excellent magnetic properties in high-frequency bands. They are used in coils for communications equipment, televisions, refrigeration, personal computers, etc.
Energy Businesses

Energy use is becoming increasingly sophisticated and power generation systems more diversified worldwide, and Hitachi Metals supplies materials and components for the machinery, rechargeable batteries, and transformers that are indispensable to solar, wind, thermal, and nuclear power facilities.

Sputtering Target Materials for CIGS® Photovoltaic Cell Panels
Hitachi Metals is using the alloy design, manufacturing, and testing expertise cultivated in the production of target materials for LCDs, hard disks, and semiconductors to supply target materials for electrodes and absorption layers on the rear of CIGS photovoltaic cell panels. In addition, we supply cylindrical target materials designed to boost usage efficiency.

For Tomorrow’s Enriched, Carefree Society
Hitachi Metals offers products and materials that can contribute to better quality and productivity as well as energy conservation in the infrastructure sector, which sustains the foundations of the earth’s future and people’s lifestyles.
Numerous products enhance society’s sustainable growth behind the scenes.

ZMG™ 232 Series for Solid Oxide Fuel Cell (SOFC) Interconnects
This material, made of a ferrite alloy consisting primarily of iron and chrome, is used in separators that link cells in SOFCs electrically. It withstands oxidation over long periods, has good conductivity in high-temperature environments, and achieves nearly the same thermal expansion coefficient as that of electrode materials.

Magnet Wires for Heavy Electrical Machinery
These wires are used in large generators found in power plants, transformers in electrical substations, motors for railroad cars and other applications. Our product lineup spans glass, heat-resistant paper and other insulating materials keyed to heat resistance and dielectric strength demanded, supporting electrical power and transportation infrastructure.

Amorphous Metals Metglas®
These materials are used in the cores of transformers used in electrical substations and on utility poles as well as for photovoltaic cell’s cut cores because making electric steel sheets amorphous makes it possible to cut electrical power losses in cores, enabling highly efficient power conservation. Amorphous metal materials are being used in an increasing number of applications as electrical power infrastructure demand related to environmental regulations and smart grids rises. Metglas® is expected to find applications both in Japan and overseas.

Turbine Blade Materials
Turbine blades rotate at high speeds of thousands of revolutions per minute and are vital components that need to be durable enough to withstand extreme conditions in which they are exposed to steam that is hundreds of degrees hot. As such, they must be strong at high temperatures, have a high degree of fracture toughness, and be reliable in terms of quality. We provide the most reliable products by utilizing our integrated manufacturing system, which draws upon our broad expertise and the latest technologies, helping our customers generate power more efficiently.

CIGS is a thin film substance comprising Copper, Indium, Gallium, and Selenium.
Energy Businesses

Photovoltaic Cell Interconnect Materials
Solder coated copper ribbon has high conductivity and ultralow resistance, enabling highly reliable connections when used for high-output silicon photovoltaic cell interconnects.

Control Rod Drive Components
Control rods, which regulate the number of neutrons inside a nuclear reactor and control the reactor’s output, serve an extremely important role in shutting down reactors in times of emergency. In an emergency, they are all inserted into the reactor. housings for control rod drives (CRDs) and in-core monitors (ICMs)—important components in the makeup of CRDs—need to be highly reliable. We offer reliable products that meet this requirement through our integrated manufacturing system, which draws upon our broad expertise and the latest technologies.

Environmentally-Friendly Roofing Products
We offer a wide range of products that contribute to the protection of the global environment, including our leading solar power generation system, the SORASIE™, which uses clean natural energy sources, and thermal insulation panels, which make it possible to save energy throughout the building.

Turbine Blades
Our high-precision complex-shaped turbine blades for generators that are manufactured using the lost-wax process are durable enough to withstand extreme high-temperature conditions in which they are exposed.

Fuel Assembly Sustention Tie Plates
These metal fittings are cast using the lost-wax process and are used to support the top and bottom of fuel assemblies containing bundles of fuel rods used in nuclear reactors.

Industrial Equipment

Linear Motors/Linear Stages
Linear stages equipped with linear motors that are designed and developed in house can handle diverse requirements, including the need for high precision or long strokes.

Rolls for Steel Mills
Our rolls for steel mills are extremely heat and shock resistant, which is needed to roll out very hot steel and iron ingots with great pressure. Moreover, the rolls have the superior abrasion resistance required to make highly precise product shapes. Our wide-ranging product lineup for steel sheets and plates, shapes, pipes, and wires is designed to meet steel manufacturers’ diverse needs. Above all, our HINEX™ line of high-speed steel rolls, which are produced through new casting methods, have vastly improved performance compared to traditional rolls, making it possible to reduce rolling costs.

Undulators
We supply undulators to SPring-8, a large synchrotron radiation facility capable of producing the most powerful synchrotron radiation in the world, and SACLA, an adjacent X-ray Free Electron Laser (XFEL) facility. To generate synchrotron radiation, magnets are used to change the path of electrons that have been accelerated to nearly the speed of light. Extremely bright and highly directional synchrotron radiation contributes to wide-ranging research in everything from nanotechnology and biotechnology to industrial applications.

Materials for Aircraft Components

Cylinders and Screws for Injection Molding Machines
These machine parts are used for the injection molding and extrusion of various kinds of plastic. To ensure that its products maintain a significant level of abrasion and heat resistance, Hitachi Metals continuously adapts the materials used in its cylinders and screws to match advances in resin products.
Infrastructure-Related Products | For Tomorrow’s Enriched, Carefree Society

Industrial Cables

We provide wires and cables that are used in diverse areas, from electric power facilities to general building construction and industrial applications. With our advanced technologies and ample expertise, we provide optimal products for our customers.

MLFC™ Flame-Retardant Polyflex Insulated Wire

MLFC™ flame-retardant polyflex insulated wire has been widely used for electric wiring, including insulated wire inside switchboards and motor lead wires, because of its outstanding heat resistance, flame-retardant properties, and flexibility.

Flexible Cables

Cables with superior flexibility are used to supply power and signals to cranes and hoists inside plants (supplemental equipment for cranes). Since they are also durable enough to be used in harsh environments, these cables are expected to play a role in mining and other areas of the resource extraction sector.

Wires and Cables for Rolling Stock

For bullet trains and many other trains, operated both in Japan and overseas, our wires and cables are used in cabs, underfloor wiring, and wiring between rolling stock. We also provide railway vehicle cables and trolley wires as well as signal cables, thus supporting power supply and information transmission for railways.

Cables for Use in Industrial Robots

These cables are utilized in the moving parts of industrial robots. They excel not only in heat and flame resistance as well as in their high flexural resistance and flexibility. Such parts must deliver solid durability under repeated bending, twisting and similar sources of sustained stress. Our expansive lineup encompasses the interior wiring of individual machines, as well as wires and cables for the power sources, control and signal transmission connecting different machines.

Compound Semiconductors

Gallium Nitride and Gallium Arsenide Compound Semiconductors

Mobilizing high-frequency characteristics, these compound semiconductors are widely adopted in high-frequency devices such as power amplifiers and other products. They are also put to effective use in laser diodes and red LEDs, taking advantage of their emission properties. Hitachi Metals also pioneered the development of mass production technology for gallium nitride templates for use in white LEDs.

Active Optical Cables

Active optical cables integrate a fiber optic transceiver and an optical fiber cable. They connect information equipment such as servers and storage devices and contribute to greater processing capacity at data centers.

Wireless Systems

Antenna Systems for Terrestrial Digital Broadcasting

Since 1994, we have provided numerous transmission antenna systems for broadcasting. Our main power cables that send radio waves from transmitters to antennas are highly acclaimed, above all, and transmission antennas for terrestrial digital broadcasting have been installed at dozens of key stations and a large number of relay stations in Japan. In addition, our systems were selected for the TOKYO SKYTREE®.

Mobile Phone Base Station Antenna Systems

By utilizing high frequencies and wireless technologies, Hitachi Metals provides antennas for mobile phone base stations as well as a variety of products for wireless communication systems, including high-frequency coaxial cables. Our product lineup plays a crucial role in developing mobile phone infrastructure.

Information Network

Hitachi Metals delivers solutions through products and technologies that represent the foundation of the information society, such as network equipment for telecommunications carriers and antenna systems for mobile phone base stations and terrestrial digital broadcasting.

APRESIA™ Ethernet Switches and Ethernet Extenders

Our proprietary Apresia® series Ethernet switches and Ethernet extenders have been widely used in wide-area Ethernets and mobile phone networks. Furthermore, we provide the Apresia 3000/5000/13000/15000 series and ApresiaLight series—which feature enhanced network authentication and other functions for use in building PC LAN systems—to general businesses, government agencies, educational institutions, etc. This full lineup offers a range of optimized products for our customers.

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Infrastructure-Related Products | For Tomorrow’s Enriched, Carefree Society

Piping Components

With our world-leading Gourd brand pipe fittings as our centerpiece, we offer a wide-ranging lineup of piping components for gas and waterworks applications.

Polyethylene Gas Piping Systems

Our complete line of products for gas piping systems includes electrofusion (EF) fittings, polyethylene pipes and valves, various transition joints, and EF controllers. Piping systems that use polyethylene pipes are very flexible and typically do not suffer much damage compared to conventional systems that use steel or cast iron pipes when ground displacement occurs due to ground subsidence, earthquakes, frozen ground, etc. Our systems include a wide spectrum of joints and pipes in diameters from 25A to 200A. Characterized by superior corrosion resistance and the exceptional ease with which they can be installed, they contribute to cutting overall installation costs.

Pipe Fittings for General Use

These pipe fittings are for small and medium-sized threaded steel pipes. Our Gourd brand pipe fittings are primarily made of malleable cast iron and have a good reputation for high reliability.

Facility Equipment and Components

SAM™ and Aera™ Mass Flow Controllers

Mass flow controllers are devices that precisely control the volume of gas flowing within a gas supply system used for deposition and etching in a semiconductor manufacturing line. Our products all have clean structures in which the parts that come in contact with gases are equipped with metal seals, and we have a complete lineup suited to a range of purposes. Digital mass flow controllers that house CPUs for even higher performance and space-saving units with integrated metal diaphragm valves are available also.

HICS Chilled Tower™

This piece of equipment supplies water at temperatures ranging from 10°C to 30°C for cooling various kinds of manufacturing equipment and air-conditioning. The closed-type cooling tower is integrated with a chiller, contributing to energy conservation.

Building and Construction Components and Materials

Access Floor System

This dual-flooring system allows wiring to be housed beneath the floor. We offer systems suited for a wide range of uses, including those for offices, computer rooms, and clean rooms.

Super HIBASE™ Process, a Construction Method for Exposed-Type Column Bases

Used in steel frame structures, our unique connecting technique employs cast steel pillar bases. It is vastly easier to install, provides superior earthquake resistance, greatly shortens work periods, and saves space.

Antistatic Rubber Sheets

Our COSTAC lineup of antistatic rubber sheets enjoy extensive use as static electricity countermeasures at plants engaged in the manufacture of semiconductors and electronic devices as well as other locations.

Others

Razor Blades Materials

Our razor blades materials are manufactured using meticulously selected raw materials and the sophisticated melting, refining, and hot-working techniques we have honed over many years. Thanks to very few impurities and a uniform structure, blades made of these materials are outstandingly sharp. Because these blades cut so well and are extremely durable, they are widely used in manufacturing ordinary household razor blades and various types of knives, scissors, saws, etc.

Handrails

Handrails are rubber and urethane resin products used for escalators and moving walkways. Boasting safety enhancements that improve the grip and make the handrails more eye-catching, this product line also comes in eight standard colors.

Rubber Rollers

Rubber rollers are used in the development and transfer process of images as well as toner fixing processes in copy machines and printers. They facilitate office equipment performance such as in stable paper feed and high-speed, high image quality printing.
Major Operating Bases

Europe

● Hitachi Metals Europe GmbH
  Headquarter
  Europe
  Sales Base
  Hitachi Metals (Shanghai) Ltd.
  Production and R&D Bases

South Germany Office, Leonberg
South Germany Office, Munich
Milano Branch Office
London Branch Office
Paris Branch Office

Asia

● Hitachi Metals (China), Ltd.
  Headquarters
  Asia

● Hitachi Metals (India) Pvt. Ltd.
  Asia

Europe

Headquarters
Europe
Sales Base
Production and R&D Bases

Asia

Japan
North America

Overseas

Note: Companies marked by an asterisk (*) are subsidiaries of Hitachi Metals America, Ltd.
Serving the Ever-Developing Energy Sector

Hitachi Metals Group offers specialty products in the diversified industry sectors of the automotive, electronics, and industrial infrastructure industries. The field of activity of our products has now expanded to include next-generation energy industries for the effective use of energy.

For a more detailed description of each product, please refer to the corresponding page, which is indicated by the number in the white circle.