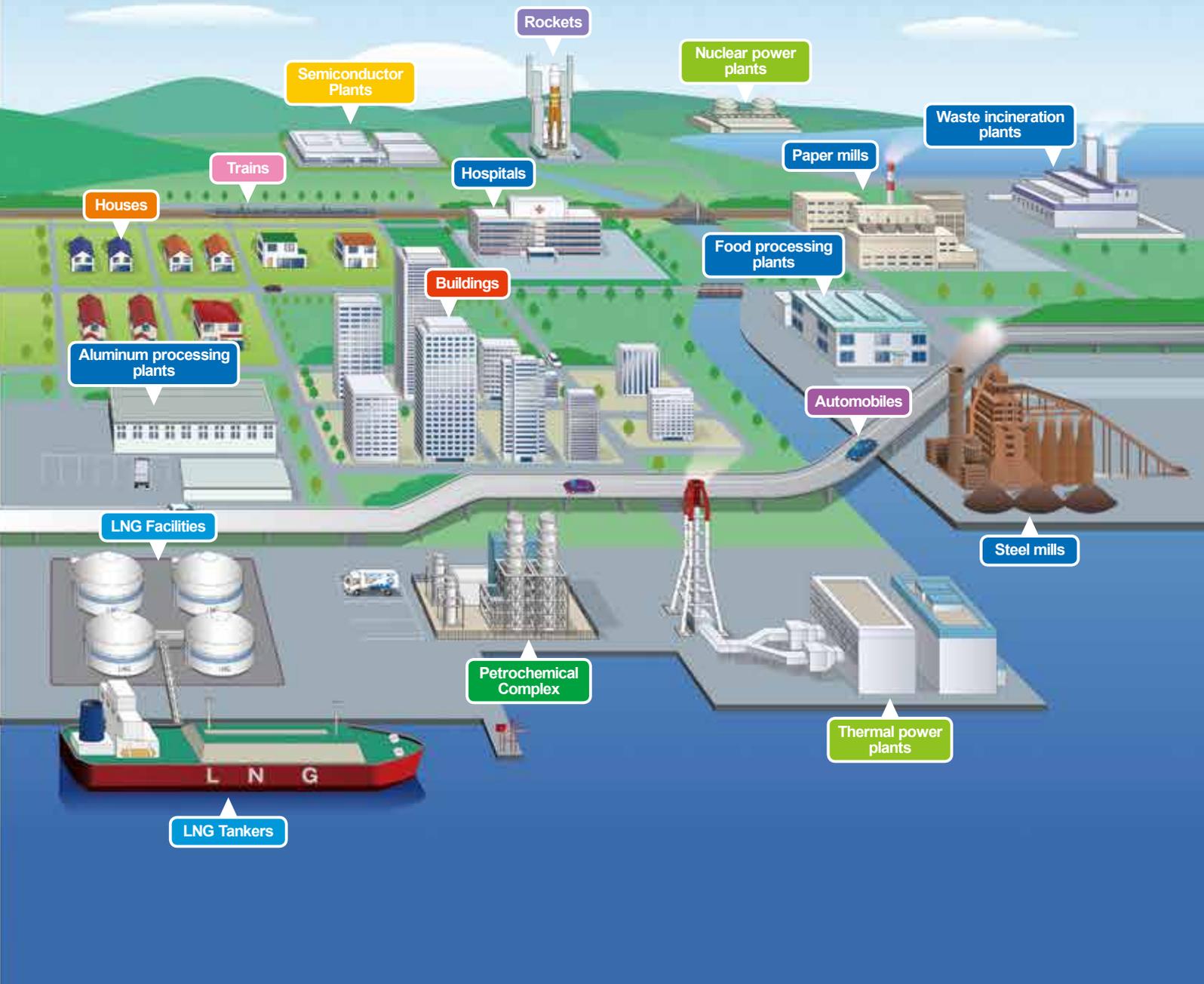


NICHIAS

TOMBO™ BRAND Products

You can find us anywhere!



TOMBO™ Brand products contribute greatly behind the scenes, and they will continue to do so!

Introducing NICHIAS Corporation with symbolic numbers.

**Founded in
1896**

The expertise and customer trust that we have acquired over the past 120 years are our most valuable assets.

**6 technologies
for Insulation and
Protection**

Since its foundation, NICHIAS has consistently offered products and services that are built upon our Insulation and Protection technologies.

→ Page **4**

**Supporting
-250 to
+1800°C**

TOMBO™ brand products are available for all temperature ranges, which is why they are used in a wide range of industrial fields.

→ Page **5-25**

**5 businesses
covering a
wide range of fields**

Our business covers a diverse range of markets including industrial plants, semiconductors, automobiles, construction, and more, allowing us to continue stable operations over many years.

→ Page **26**

**An extension
lineup of
3,000
products**

Taking advantage of superior Insulation and Protection technologies, our products hold the largest share in each area.

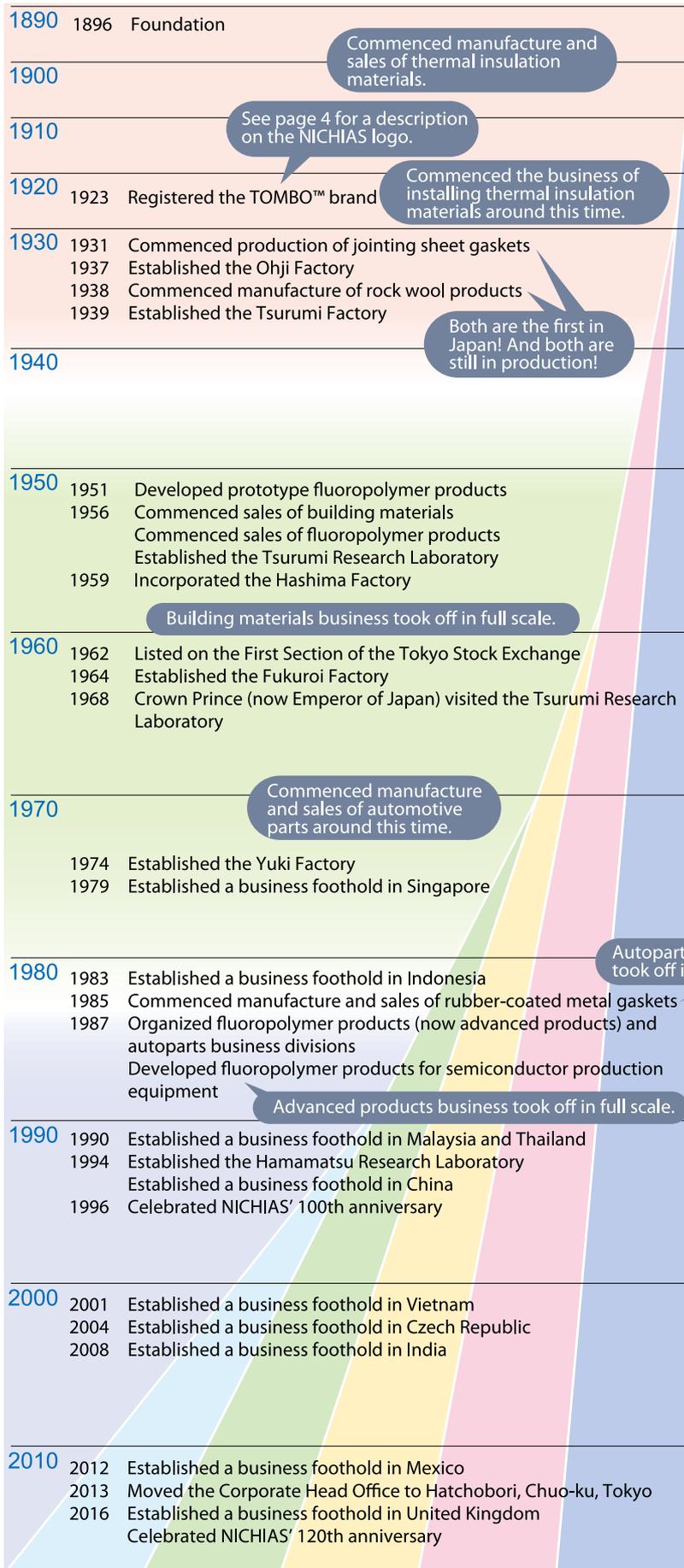
→ Page **5-25**

**A network of
more than
200
businesses**

We have 190 offices in Japan and 20 offices overseas to meet a diverse range of customers' needs.

→ Page **27**

NICHIAS' growth history



Birth of NICHIAS with the TOMBO™ brand

NICHIAS was born as a pioneer manufacturer of Japan-made sealing and insulation materials. Since then, it has supported the industrialization of Japan with its Insulation and Protection technologies.

Business growth and diversification

Our Insulation and Protection technologies contributed greatly to Japan's post-war recovery and subsequent economic growth based on the chemical and heavy industries. In line with the industrial growth in Japan, we developed a building materials business targeted at the construction boom for buildings and houses.

Establishment of five businesses and development of full-scale global business

Along with the expansion of existing businesses, NICHIAS flexibly handles changes in the industrial structure by making full use of its Insulation and Protection technologies. In addition, our large-scale entry into the semiconductor and automobile industries has led to our present basis consisting of five businesses. We are also actively pursuing the growth of our overseas operations.

Advanced Products business

Autoparts business

Building Materials business

Energy and Industrial Plants business

Industrial Products business

6 technologies for Insulation and Protection

NICHIAS' Insulation and Protection technologies consist of six core elemental technologies, which contribute to various areas including equipment safety, energy conservation, and environmental preservation.



Sealing technologies

Prevents leakage of fluid from pipe joints, thus helping to ensure safe operation of equipment.



Thermal Insulation technologies

By maintaining the temperature of heated (or cooled) objects and providing insulation against external heat, NICHIAS contributes to energy conservation and the reduction of CO₂ emissions.



Soundproofing technologies

By reducing noise from factories and vibration from vehicle brakes, NICHIAS helps create a quiet and comfortable environment.



Fire-resistant technologies

NICHIAS provides materials that protect buildings against fire, or heat from industrial furnaces and incinerators.



Anti-corrosion technologies

Prevents corrosion and contamination by chemicals. For example, this technology plays an important role in semiconductor and food manufacturing processes where cleanliness and the elimination of bacteria are strictly controlled.



Clean technologies

Maintains cleanliness in processes that do not allow even the smallest amount of impurities. NICHIAS pursues cleanliness to its utmost limit.



About the NICHIAS logo

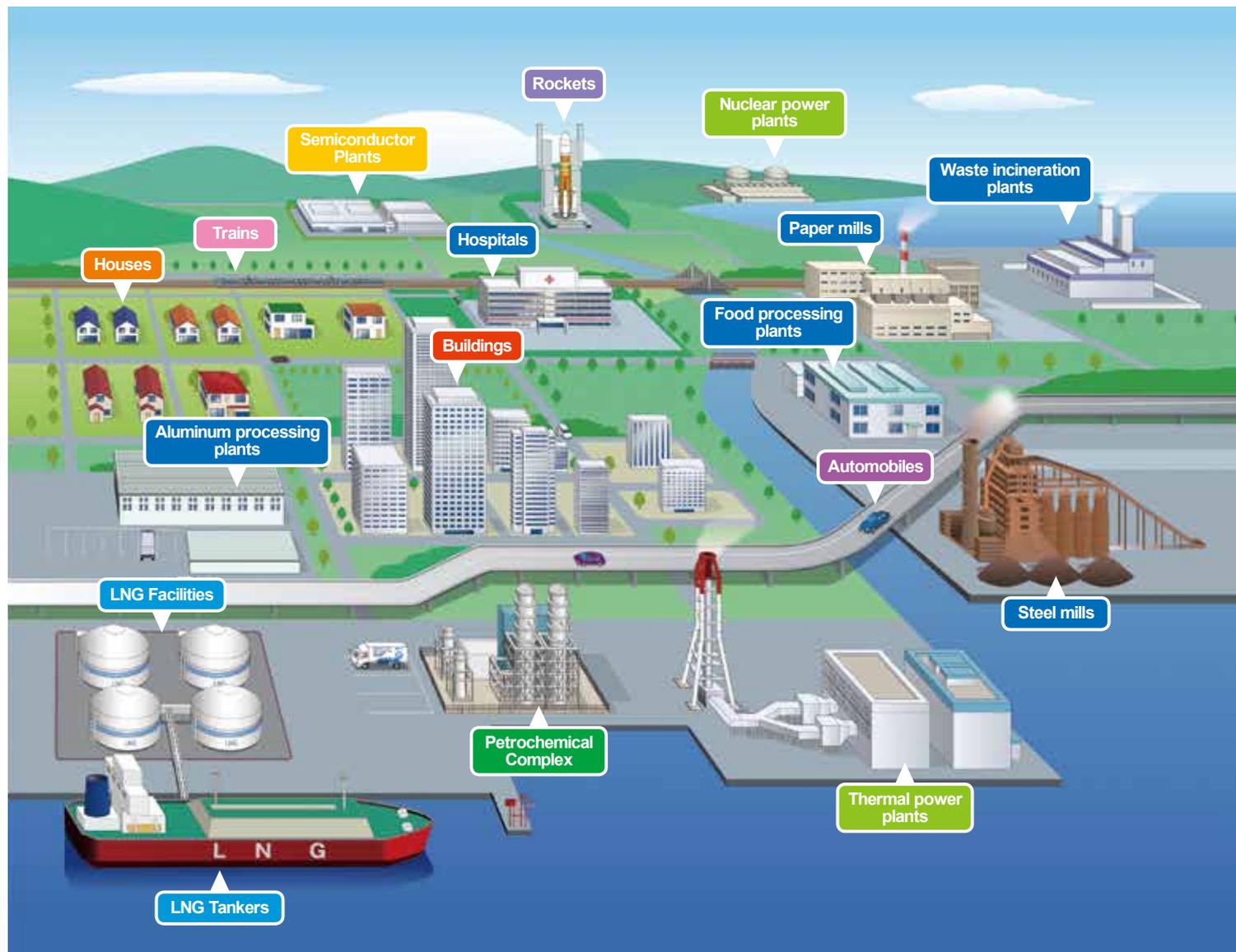
In ancient times, the dragonfly was a symbol of Japan itself. NICHIAS decided on the dragonfly trademark to reflect its vision of an exemplary Japanese company. The trademark was officially registered in 1923. At that time, the dragonfly in the trademark was perched on the ground, but now it is flying towards the sky, mirroring our hopes for the future.

* The dragonfly is called "TOMBO" in Japanese.

* "TOMBO" and the dragonfly are trademarks or registered trademarks of NICHIAS Corporation.

NICHIAS contributes to a wide range of industrial fields.

NICHIAS' products and services are based on our Insulation and Protection technologies and contribute to the growth of a wide range of industries. Our TOMBO™ brand products, which are used in many fields, are described on the following pages.



INDEX

TOMBO™ brand in AEROSPACE	p6
TOMBO™ brand in AUTOMOBILES	p8
TOMBO™ brand in VEHICLES	p10
TOMBO™ brand in BUILDINGS	p12
TOMBO™ brand in HOUSES	p14
TOMBO™ brand in SEMICONDUCTOR PLANTS	p16
TOMBO™ brand in POWER STATIONS	p18
TOMBO™ brand in PETROCHEMICAL COMPLEXES	p20
TOMBO™ brand in LNG terminals and LNG tankers	p22
TOMBO™ brand in a wide range of fields	p24

Product names with ™ are trademarks of NICHIAS Corporation.

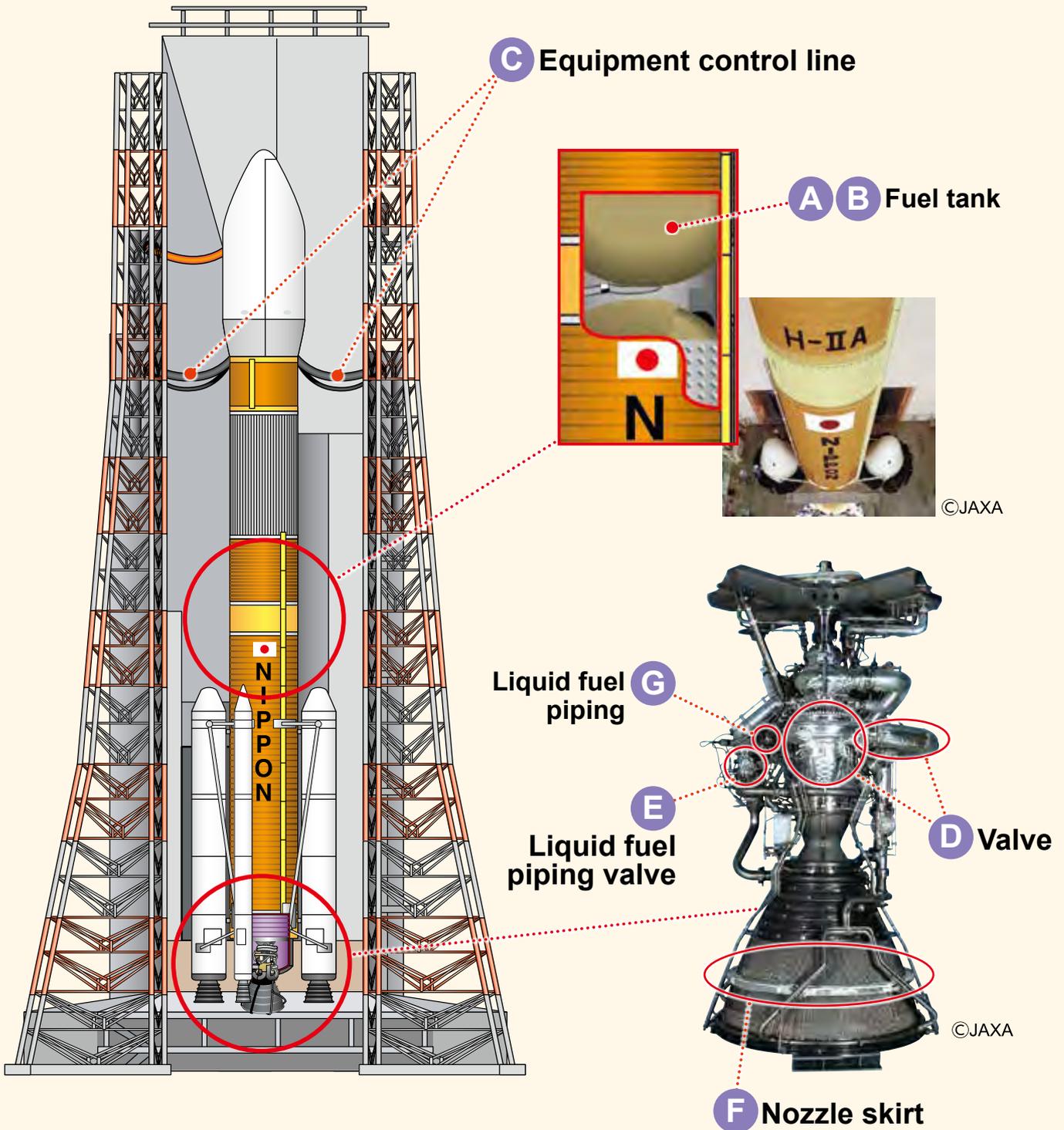
ECOFLEX, KEICAL ACE SUPER SILICA, and PYROGEL are trademarks of Saffil Ltd., Nippon Keical Ltd., and Aspen Aerogels, Inc., respectively.



TOMBO™ brand in AEROSPACE

The TOMBO™ brand flies into space. Products such as our thermal insulation materials for rocket engines and cold insulation materials for fuels are used in the leading-edge aerospace industry.

Rockets





A Foamed heat insulation material

FOAMNERT™ Solution



A solution of heat insulation material used on fuel tanks and the exterior walls of rockets. It provides thermal insulation for liquid fuel that can be at extremely low temperatures.

B Foamed heat insulation material

FOAMNERT™ Processed Parts



Foamed heat insulation material used on the piping for liquid fuel tanks. It provides thermal insulation for liquid fuel that can be at extremely low temperatures.

C Fluoropolymer hose

NAFLON™ PFA Pressure Resistant Hose



A fluoropolymer hose used for equipment control lines to maintain clean conditions.

D Reusable flexible heat insulation material

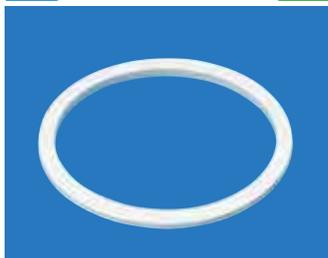
ENETHERMO™



Reusable heat insulation material for covering valves at the lower part of the engine. It provides insulation against heat from the piping.

E Fluoropolymer processed parts

NAFLON™ PTFE Cutting Parts



Fluoropolymer sealing material used on valves in the liquid fuel piping of the rocket engine. It prevents fuel leakage.

F Heat-resistant cloth

RUBILON™ Cloth



Heat-resistant cloth used on the nozzle skirt of the rocket engine. It provides insulation against heat from the high-temperature combustion gas.

G Hollow type metal O-rings

Metal O-Seal



Sealing material used on joints in the liquid fuel piping of the rocket engine. It prevents fuel leakage from the piping.

Column

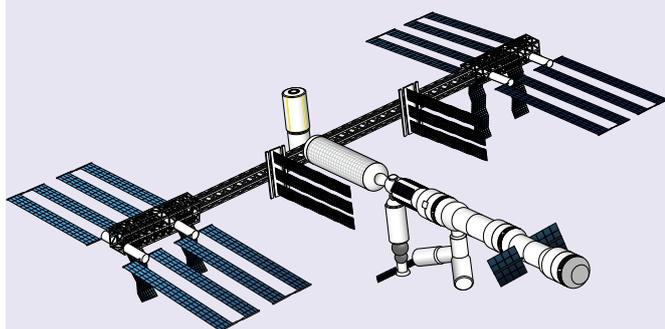
Space station

Yasai-Hana Blocks that supported the cultivation of azuki beans in space

Rock wool culture medium

Yasai-Hana Block™

Culture medium made of rock wool used as a seedbed for the cultivation of fruits and vegetables. Also used for the cuttings of flowering trees and shrubs.

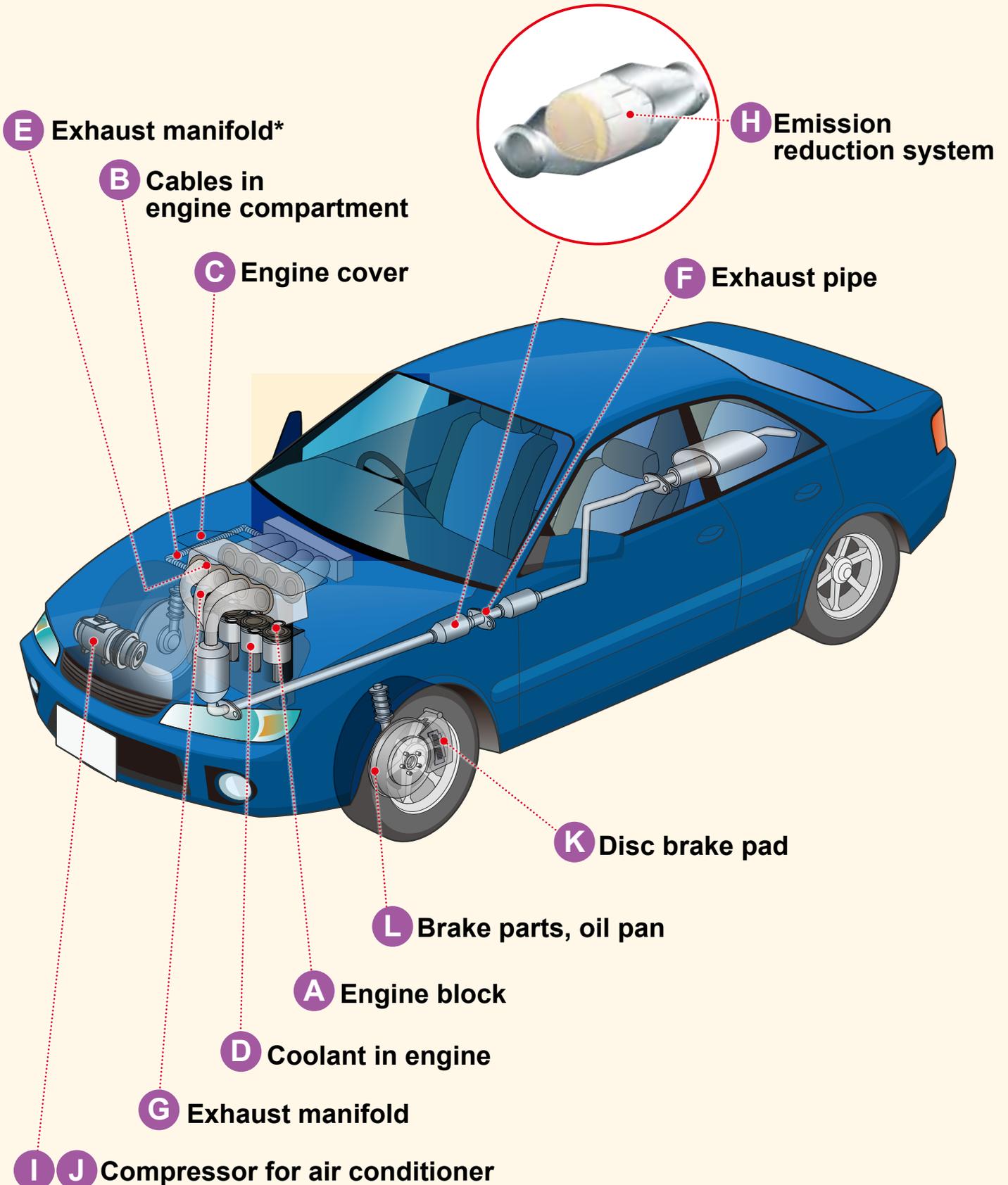


Konotori IV was launched from the Tanegashima Space Center in August 2013. The rocket delivered a test kit to the space station where an azuki bean cultivation experiment "Space Seeds for Asian Future 2013" was conducted. The rock wool culture medium "Yasai-Hana Blocks" from the NICHIAS Group was used for planting the azuki bean seeds. The experiment was a success, with azuki beans germinating in a weightless environment.



TOMBO™ brand in **AUTOMOBILES**

The TOMBO™ brand products include sealing materials to prevent the leakage of engine fluid and vibration damping materials to reduce the squeal of brakes, thus supporting safe and comfortable driving.



* The exhaust manifold consolidates the combustion gas discharged from multiple engine cylinders into a single exhaust pipe.



A Cylinder head gaskets **METAKOTE™**



Sealing material used for the engine head gasket. It prevents the leakage of combustion gas, coolant and lubricating oil from the engine.

B Tube-shaped insulators **N-Flex Tube™**



Flexible heat insulation tube for covering cables, rubber hoses, etc., in the engine compartment. It provides protection against heat from the engine.

C Ultra-lightweight sound insulation cover **AIRTONE™**



Lightweight soundproofing cover used on the engine cover, etc. It blocks the sound of engine vibrations.

D Water jacket spacer **Water Jacket Spacer**



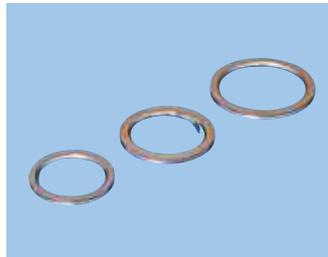
This is a resin product that is used inside the engine for improved fuel economy. By controlling the flow of the coolant, it keeps the cylinder wall at a constant temperature.

E Exhaust manifold gasket **Metal Gasket**



Sealing gasket used on the exhaust manifold. It prevents the leakage of high-temperature exhaust gas.

F Exhaust pipe gasket **VORTEX™ Gasket**



Sealing material used on exhaust pipe flanges. It prevents the leakage of high-temperature exhaust gas.

G Heat insulator **INSULCOVER™**



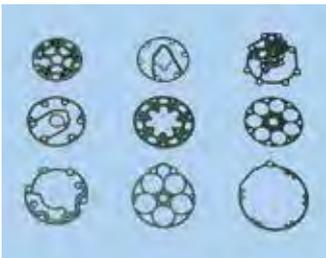
A metal cover used on the exhaust manifold, etc., to protect nearby parts. It provides insulation against exhaust heat.

H Catalytic converter support mat **ECOFLEX™**



This heat-resistant buffer material protects the catalyst support, which is used for cleaning the exhaust gas, from the vibration and heat of the vehicle. Its excellent heat resistance provides insulation against the heat of the exhaust gas.

I Gasket for compressor **METAKOTE™**



Sealing material used in the compressor for the air conditioner. It prevents the leakage of coolant and refrigerant oil from the compressor.

J Sliding material **EXCELIDE™**



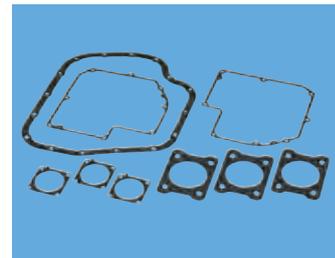
These sliding parts, made of multifunctional resin, are used in equipment such as compressors, ATs and ABSs.

K Brake shim material **METAPLUS™ Multi-Layer Shim**



A soundproofing shim attached to the disc brake pad. It prevents unpleasant squealing noise generated during braking.

L Gasket **METAFOAM™**



Sealing material used in brake parts and oil pans. It prevents the leakage of oil and water.



TOMBO™ brand in VEHICLES

In motorcycles, aircraft, ships, trains, and more...
TOMBO™ brand products are used in all types of vehicles.

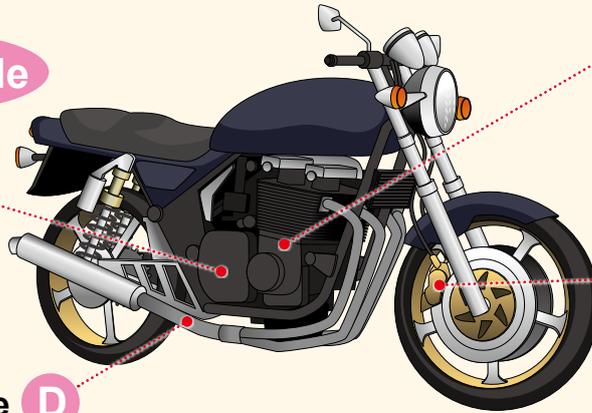
Motorcycle

Transmission **C**

Exhaust pipe **D**

A B
Piping in engine

E Disc brake pad



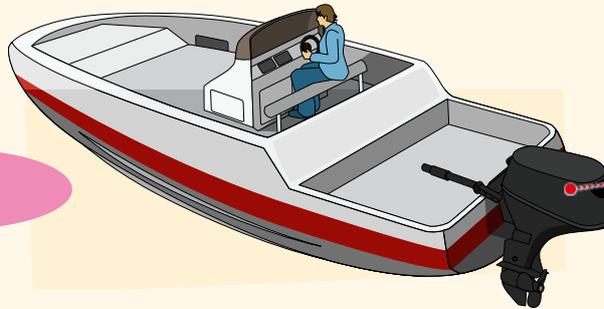
Aircraft

F G



Ship

A Outboard engine

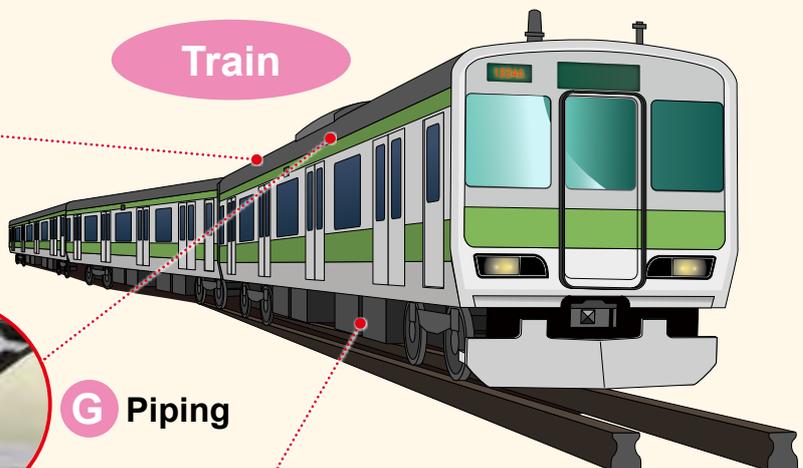
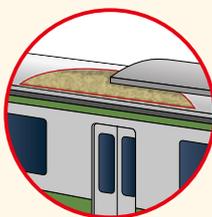


Train

I Ceiling

G Piping

H Resistor under car



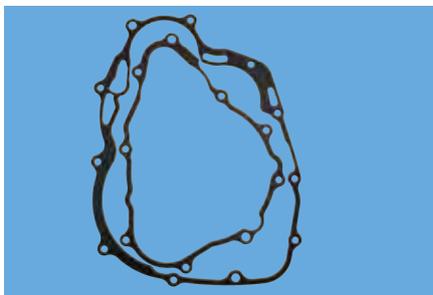


A Gasket
METAKOTE™



Sealing material used in engines and piping. It prevents the leakage of oil and coolant.

B Gasket
METAFOAM™



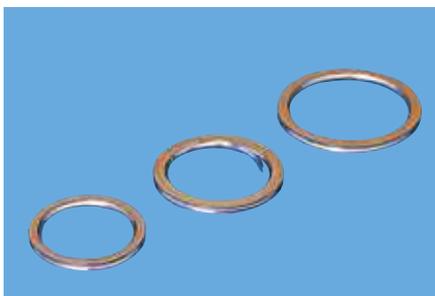
Sealing material used in engines and piping. It prevents the leakage of oil.

C Ultra-lightweight sound insulation cover
AIRTONE™



Lightweight sound insulation cover used in transmissions, etc. It blocks the sound of vibrations.

D Exhaust pipe gasket
VORTEX™ Gasket



Sealing material used on exhaust pipe flanges. It prevents the leakage of high-temperature exhaust gas.

E Brake shim material
METAPLUS™ Multi-Layer Shim



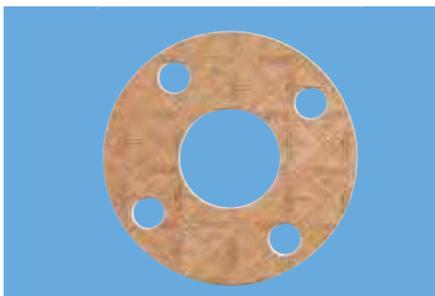
A soundproofing shim attached to the disc brake pad. It prevents unpleasant squealing noise generated during braking.

F Fluoropolymer tube
NAFLON™ PTFE Hose



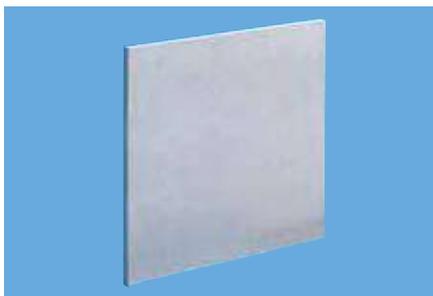
These hoses are used in aircraft galleys, etc.

G General-purpose joint sheet
CLINSIL™ Brown



Sealing material used on flanges and valves of piping. It prevents the leakage of water, oil, air, etc., from the piping.

H High-strength thermal insulation board
HEMISUL™



A thermal insulation board installed between the resistor under a train and the train's floor. It provides insulation against heat generated during acceleration/ deceleration.

I Heat insulation material made of rock wool
MG BOARD™

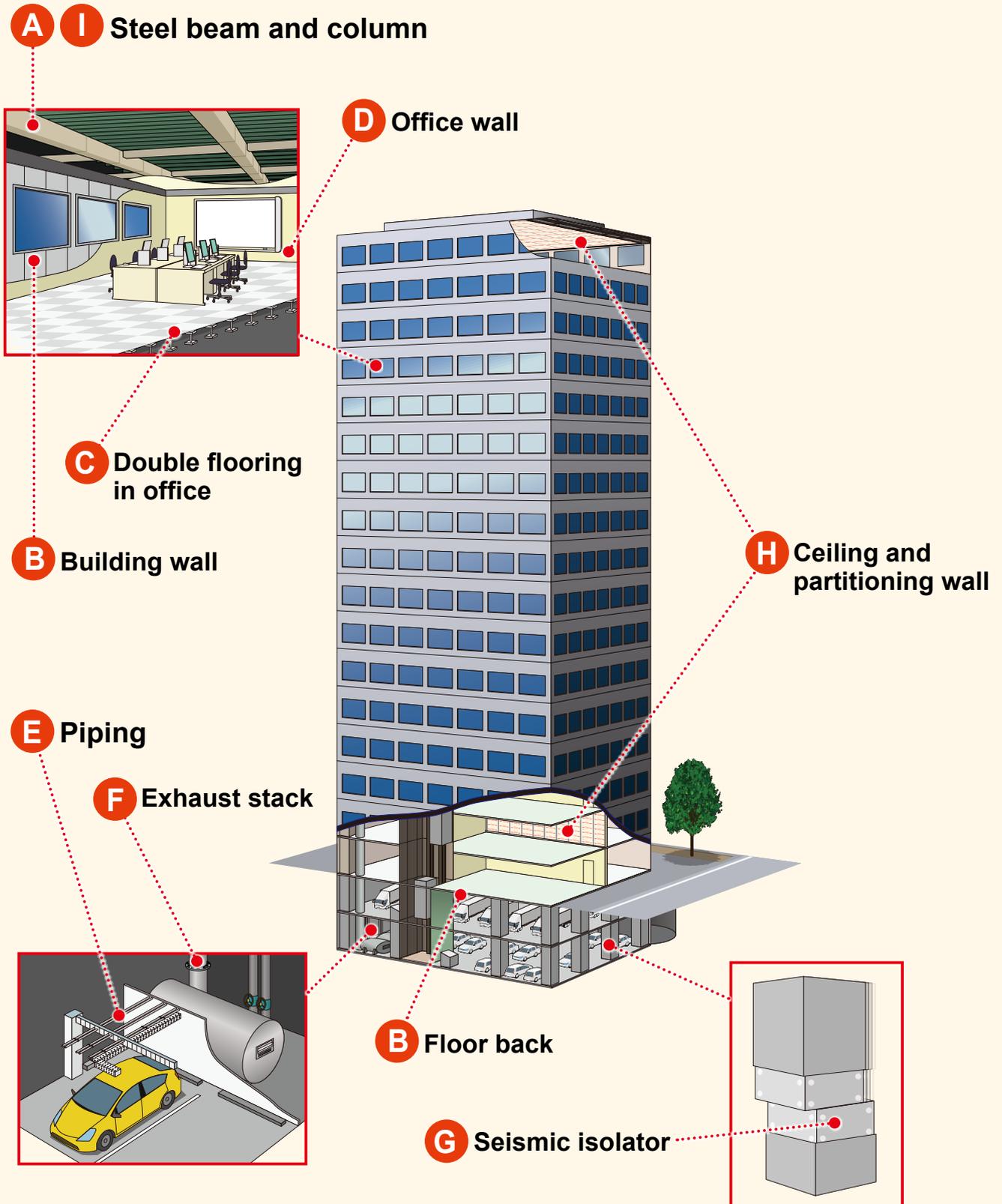


Heat insulation material used in ceilings and under floors. It provides insulation against radiant heat from equipment.



TOMBO™ brand in BUILDINGS

TOMBO™ brand products are also used in buildings, providing safety and comfort through their nonflammable, fireproofing and heat-insulating performance.





A Wrap-type fireproofing material
MAKIBEE™



Wrap-type fireproofing material made of rock wool to cover beams and columns of steel structure buildings. It provides protection against fire.

D Interior incombustible material
ECOLUX™



Incombustible material for use on the walls of offices and meeting rooms as well as for the interiors of toilets and office kitchenettes.

G Fireproof covering material for seismic isolator
MENSIN GUARD™ S



Fireproof covering material used for seismic isolators in buildings. It provides protection against fire.

B Heat-resistant rock wool thermal insulation material with moisture-proof layer
MAKIBEE™ DANNETSU



Heat insulation material used for internal thermal insulation of a building's wall surfaces. It retains the heat from air conditioners.

E Heat insulation material made of rock wool
MG MIGHTY COVER™



Heat insulation material made of rock wool used on the piping of building equipment. It provides insulation against heat from the piping.

H Soundproofing and heat insulation material for buildings
MG BUILPACK™



Soundproofing and heat insulation material used for ceilings and partitioning walls of buildings. It retains the heat from air conditioners while blocking the sound from ceilings and walls.

C Raised access floor
NICHIAS OMEGA FLOOR™



Raised access floor used for double flooring in offices.

F Stack lining material
CAPOSTACK™ Super



Lining material used for the exhaust stacks of buildings. It provides insulation against exhaust heat.

I Wrap-type fireproofing material
MAKIBEE™ WTA/CLA

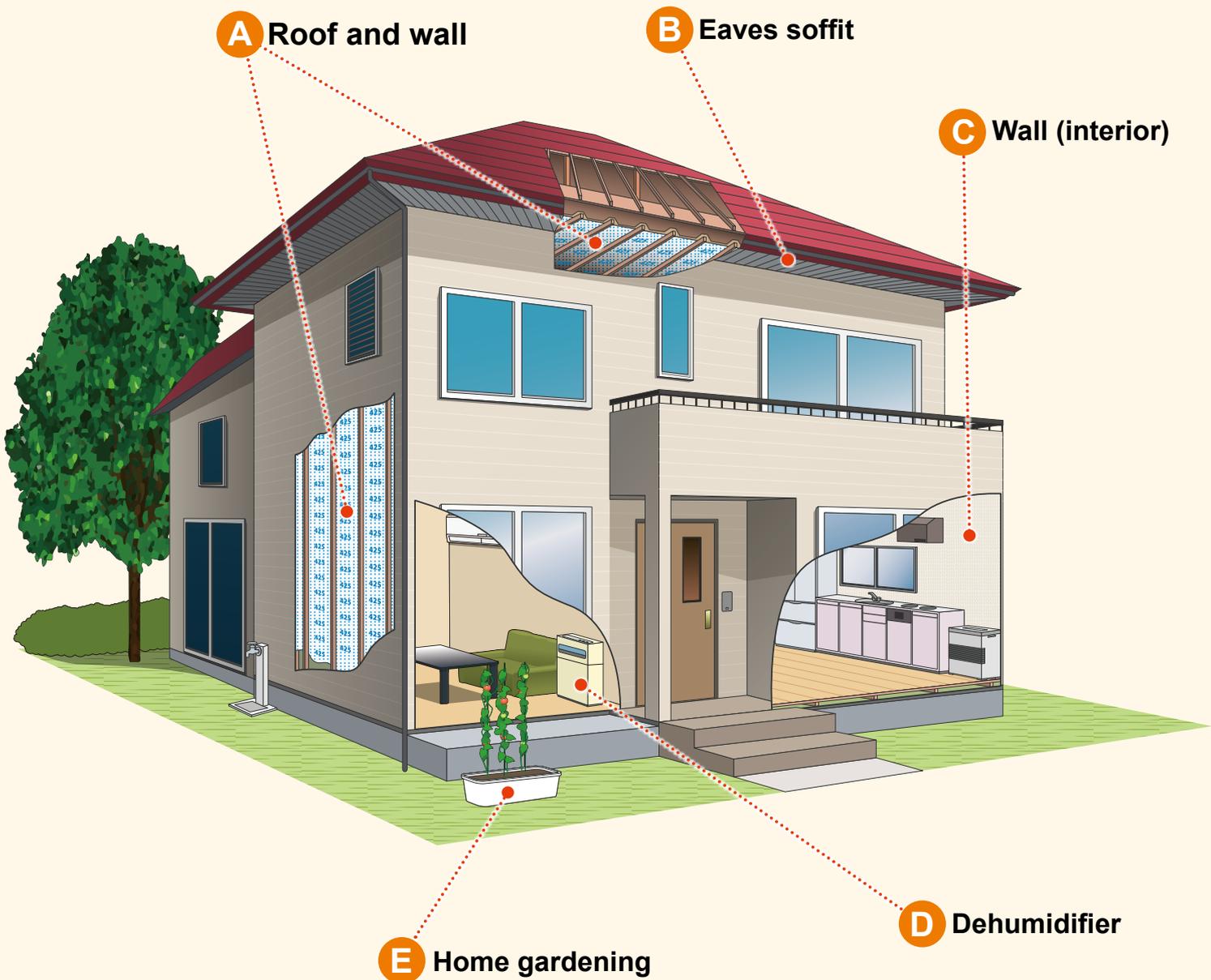


New MAKIBEE™ series with enhanced design. Suitable for buildings with bare steel structures without ceilings. Available in variations of two colors.



TOMBO™ brand in HOUSES

TOMBO™ brand products enhance the safety and security of homes, and also contribute to energy conservation, thus supporting a more comfortable life.



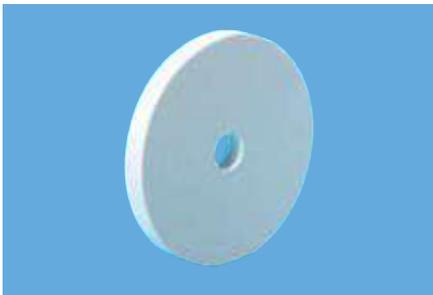


A Heat insulation material made of rock wool
HOMEMAT NEO™



Heat insulation material made of rock wool used on ceilings, walls and roofs of houses. It restrains the heat coming in/out of houses.

D Desiccant rotor for dehumidifier
HONEYCLE™ GX



A desiccant rotor with a honeycomb structure used in dehumidifiers.

B Eaves and soffit board
ECOLUX™ Eaves Soffit Board



An incombustible board used on eaves.

E Lightweight potting compost
SAKHALIN PEAT MOSS



Culture soil material mixed with rock wool, used for home gardening and agriculture.

C Decorative calcium silicate boards
ASLUX™ Series



Decorative board used as interior materials for hallway walls, and the interiors of toilets and office kitchenettes. This incombustible material can be used in water facilities.

Column

Planning to build a house?

HOMEMAT™ is for you.

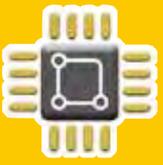
When planning to build a house, it is easy to focus on the interior, kitchen, or other areas. But did you know that heat insulation is one of the most important factors for a comfortable house?

A house with high heat insulation provides high cooling and heating efficiency, thus saving energy. A study found that a well-insulated house can save about 80,000 yen per year in cooling and heating costs compared to a house without heat insulation materials. It has also been proven that houses with high heat insulation performance help reduce symptoms such as bronchial asthma, sore throat and atopic dermatitis, and also help prevent heat shock. NICHIAS' HOMEMAT™ provides top-class heat insulation performance among heat insulation materials for houses. If you are planning to build a house, choose HOMEMAT™. Feel free to call the NICHIAS Building Materials Division for more information.

Using HOMEMAT™ for heat insulation means...



Energy saving and a healthy life



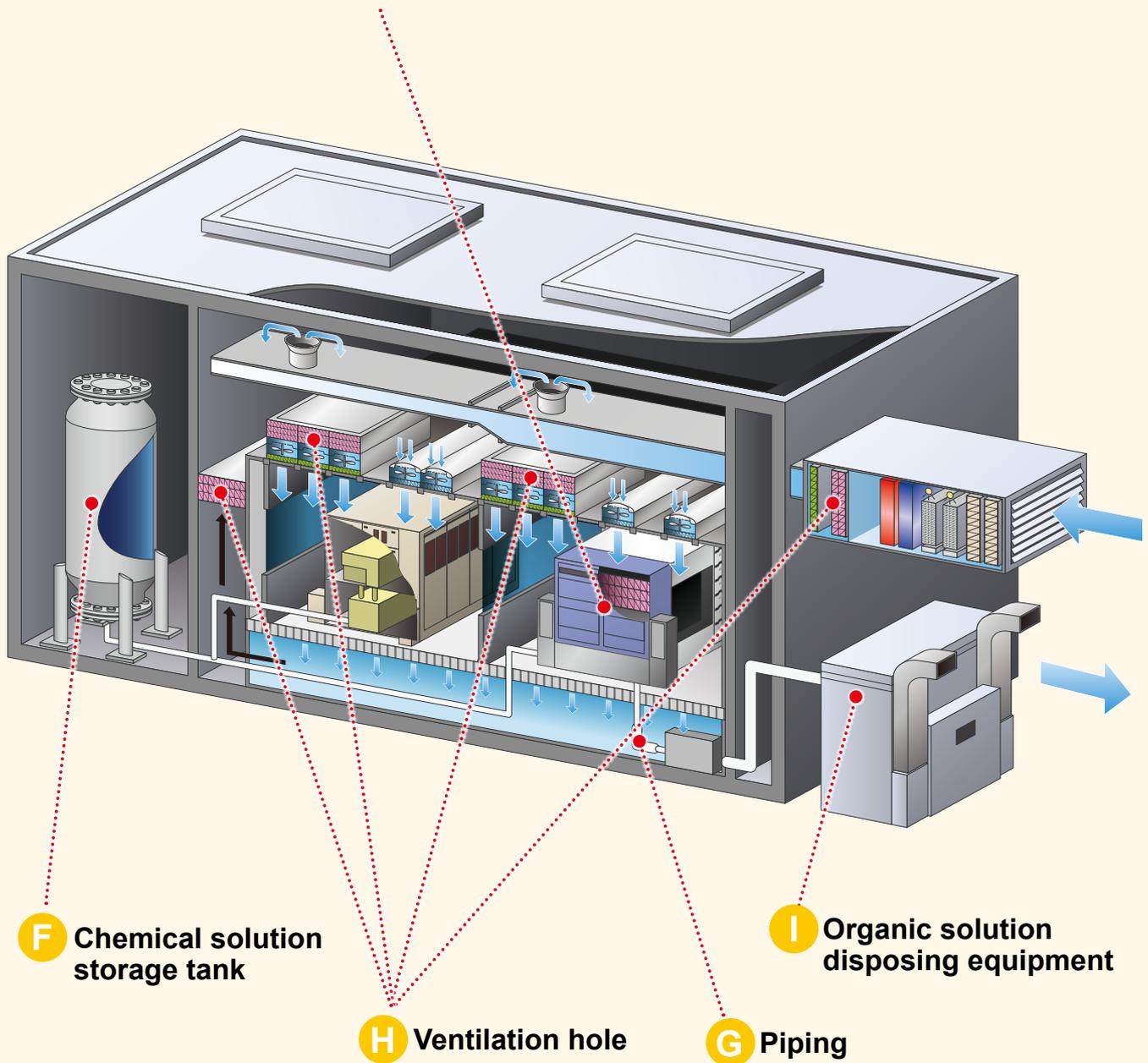
TOMBO™ brand in

SEMICONDUCTOR PLANTS

Semiconductors are used in many product areas including smartphones, home appliances and automobiles. The manufacturing processes for these semiconductors are also supported by TOMBO™ brand products.

A B C Semiconductor manufacturing equipment

D E Semiconductor cleaning equipment





A Heat-resistant perfluoroelastomer
Rubber O-Ring
BLAZER™ NEXT



Sealing material made of perfluoroelastomer used in equipment, piping and valves. It prevents leakage from the piping.

*Perfluoroelastomer is a type of rubber material that offers better resistance to chemicals and plasma compared with ordinary rubber materials.

B Perfluoroelastomer
BLAZER™
O-Ring A



Sealing material made of perfluoroelastomer used in equipment and piping for cleaning processes. It prevents the leakage of cleaning solution.

C Fluoropolymer tube
NAFLON™
PFA-HG Tubing



A fluoropolymer tube used for transporting high-purity chemicals and gases. It prevents the corrosion of equipment piping due to chemicals.

D Jig for wafer cleaning
NAFLON™
PFA Wafer Carrier



A carrier made of fluoropolymer for wafer treatment and transportation. It prevents the corrosion of equipment due to chemicals.

E Fluoropolymer chemical tank
NAFLON™
PTFE Sink



Chemical solution tank used for cleaning wafers in cleaning equipment. It prevents corrosion due to high-purity chemicals and ensures cleanliness.

F Fluoropolymer chemical tank
NAFLON™
Tank Lining



Fluoropolymer tank lining for storing chemicals. It ensures cleanliness of chemicals.

G Jacket heater for pipe heating and insulation
ENETHERMO™
PH



Detachable jacket type heater for heating and heat retention of equipment and piping.

H Chemical filter for low-concentration gas removal
CHEMICAL GUARD™
Series



Filter used in air vents. It removes minute amounts of chemical contamination to ensure cleanliness.

I Volatile organic compound concentrator
SOLVENTCLEAN™

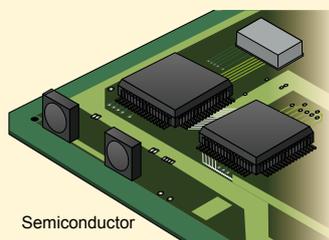


This unit concentrates low-concentration organic solvents discharged from factories. It keeps discharged air clean.

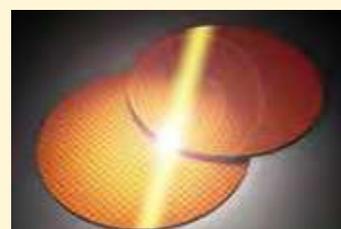
Column

Fluoropolymer products used in semiconductor manufacturing processes that are strictly controlled for cleanliness.

The manufacturing processes for wafers, which are the main materials of semiconductors, are strictly controlled to ensure nano-level cleanliness. Furthermore, the process of cleaning the materials using special cleaning solution is repeated many times. Even the slightest contamination on a wafer may lead to a defect in the semiconductor circuitry. Strict nano-level control is difficult to imagine. If one meter were the diameter of the earth, one nanometer would be about the size of a marble. NICHIAS' fluoropolymer products, which provide excellent resistance to chemicals and ensure high purity, are widely used in semiconductor manufacturing facilities that require stringent control for cleanliness.



Semiconductor

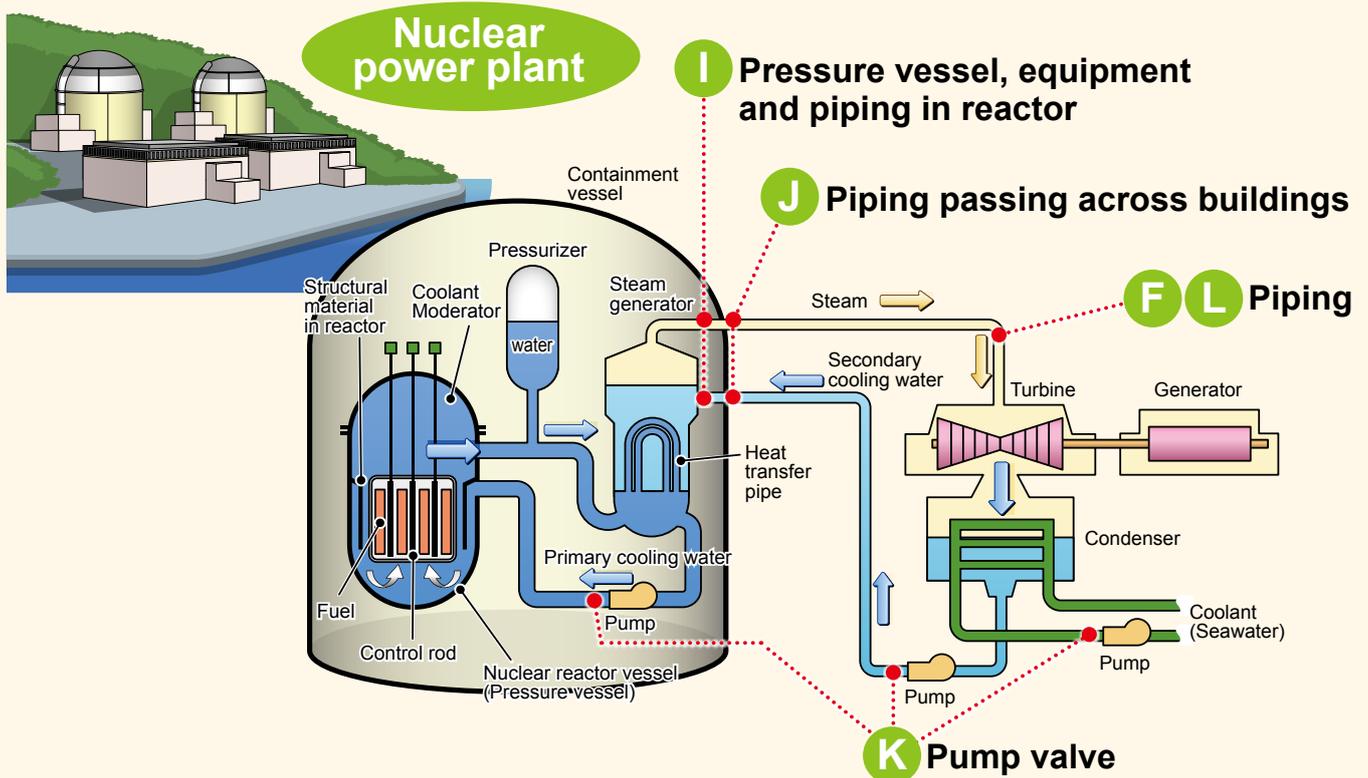
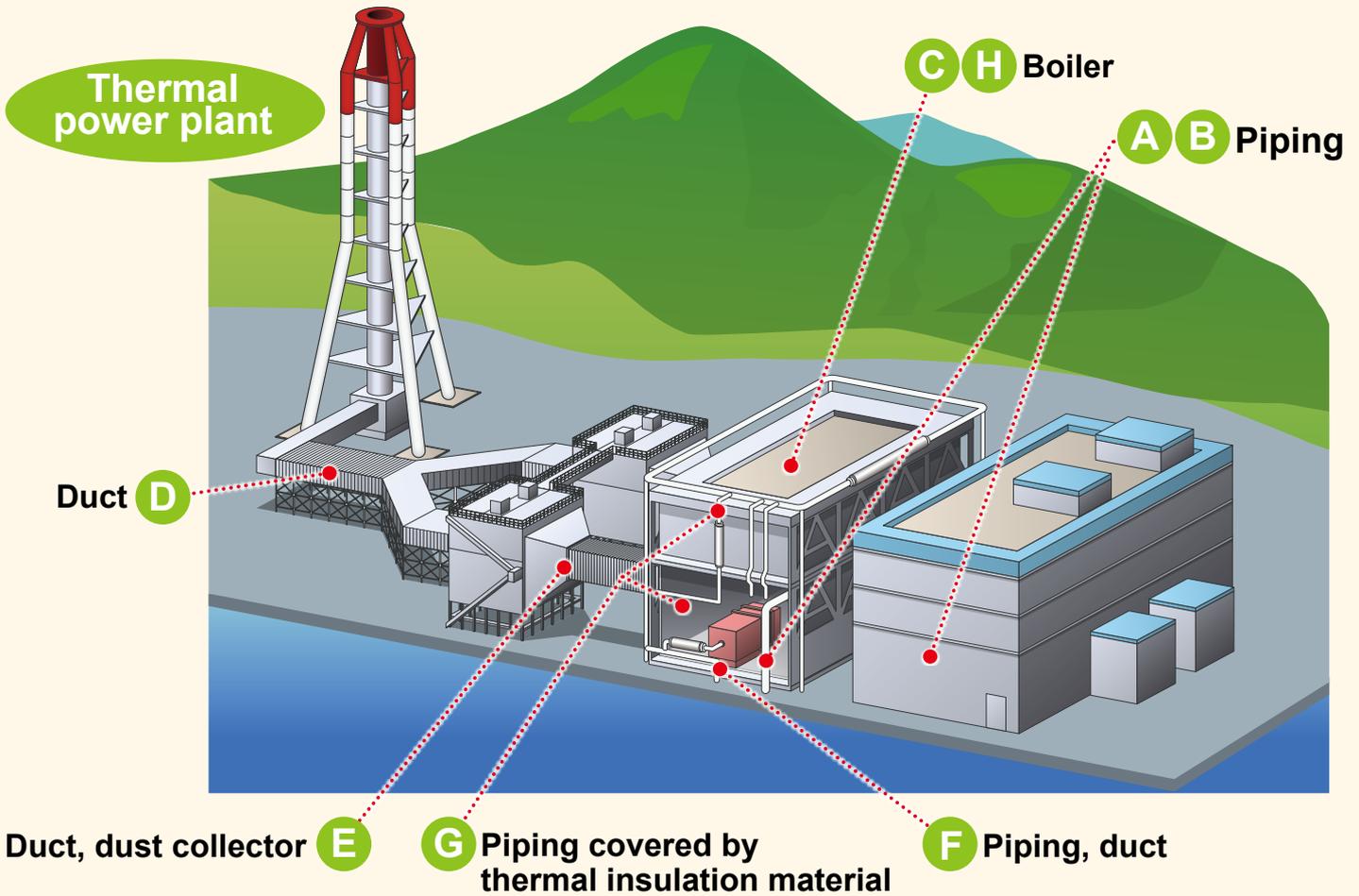


Wafer



TOMBO™ brand in POWER STATIONS

TOMBO™ brand products are also used in equipment in power stations, helping supply electric power that is indispensable to our daily life.





A Spiral wound gasket

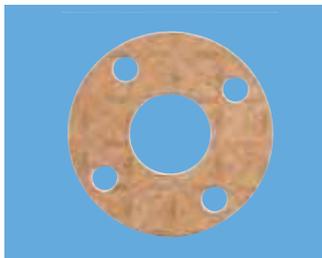
GRASEAL™ VORTEX™ Gasket



Sealing material used on flanges and valves of piping. It prevents the leakage of hot steam, etc., from the piping.

B General-purpose jointing sheet

CLINSIL™ Brown



Sealing material used on flanges and valves of piping. It prevents the leakage of water, oil, air, etc., from the piping.

C Castable refractory

TOMBO™ Fire-Resistant Caster



Fire-resistant material used on the walls, ceiling and bottom of boilers. It blocks fire from the furnace.

D Heat insulation material made of rock wool

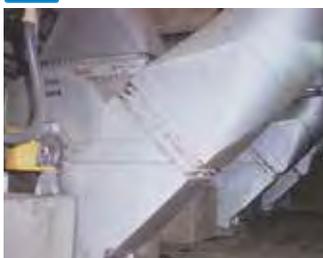
MG BOARD™



Heat insulation material used on boilers, ducts, dust collectors, etc. It blocks heat from the boiler and sound from the ducts and dust collectors.

E Nonmetallic flexible expansion joint

NA BELLOW-Q™



A nonmetallic expansion joint used in smoke ducts such as piping and ducts. It absorbs the thermal expansion and contraction of ducts to prevent the leakage of smoke and air.

F Calcium silicate thermal insulation material

KEICAL ACE SUPER SILICA™



Calcium silicate heat insulation material used on various piping and ducts. It provides insulation against heat from the piping and ducts.

G Degraded insulation resuscitation method

é-AIM™ Method

(eco-Advanced Insulation Method)



A method that restores the performance of thermal insulation material that has become degraded due to absorbing water. The degraded material does not need to be removed. This method reduces energy loss and retains the temperature of the internal fluid.

H Alkaline earth silicate (AES) wool

FINEFLEX BIO™ Blanket



This is a heat insulation material made of AES wool that is used on boiler ceilings and furnace walls. It insulates intense heat in furnaces.

I Heat insulation material for nuclear power plants

Metallic Heat Insulation



Metallic heat insulation material used on the pressure container of nuclear reactors, equipment and piping. It retains the temperature of the piping.

J Building penetration part sealing material

NU BELLOW-Q™



A flexible expansion joint made of special rubber material, used to seal the clearance between the pipes penetrating walls and floors, and the pipe holes. It provides insulation against hot water and water in the event of an accident or fire.

K Spiral wound gasket

NU GRASEAL™ VORTEX™ Gasket



Sealing material used on pressure vessels, heat exchangers, valves, etc. It prevents the leakage of hot steam and coolant from the piping.

L Reusable flexible heat insulation material

NU ENETHERMO™ K



Reusable heat insulation material for piping, valves, boilers, etc. It provides insulation against heat from the piping.

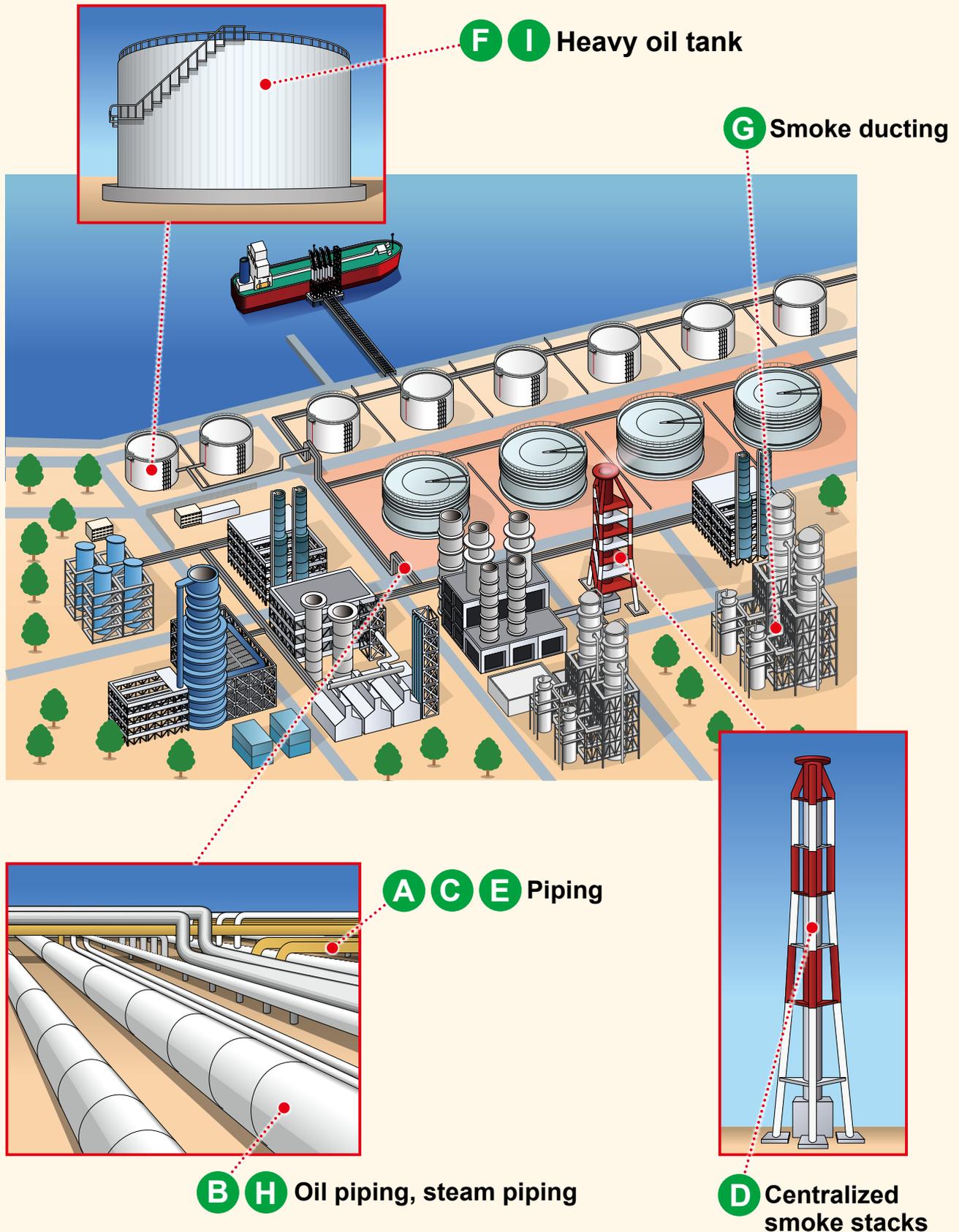
*Since nuclear power plants are typically constructed of high-grade metals and stainless steels, there are regulations on the content of halogen and other components that elute from products. Our products with an "NU" indication have been developed to meet these requirements.



TOMBO™ brand in

PETROCHEMICAL COMPLEXES

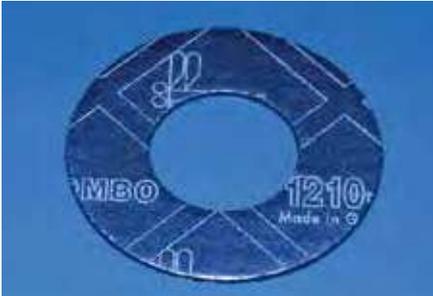
Our lives are greatly supported by petrochemical products. TOMBO™ brand products help ensure safe operation of petrochemical complex facilities that manufacture various petrochemical products.





A Graphite Gasket

GRASEAL™ Gasket



Sealing material used on piping, flanges, heat exchangers, etc. It prevents the leakage of fluid such as naphtha from the piping.

B Calcium silicate thermal insulation material

KEICAL ACE SUPER SILICA™



Calcium silicate heat insulation material used for various piping and ducts. It provides insulation against heat from the piping and ducts.

C Spiral wound gasket

GRASEAL™ VORTEX™ Gasket



Sealing material used on flanges and valves of piping. It prevents the leakage of hot steam, naphtha, etc., from the piping.

D Castable refractory for stack lining

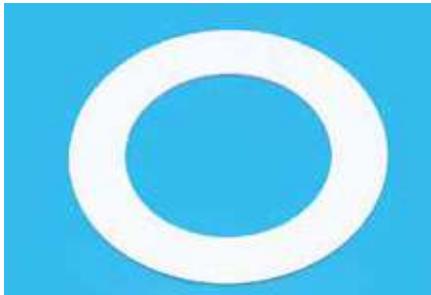
TOMBO™ CASTABLE



Refractory material used on the inside of stacks and ducts. It prevents heat and corrosion due to acidic gas in the stacks.

E Fluoropolymer-based compressed sheet gasket for process application

CLINSIL™ Clean



Sealing material used on flanges and valves of piping. It prevents the leakage of organic solvents and hot oil in the piping to ensure cleanliness.

F Heat insulation material made of rock wool

MG WIRED BLANKET™



Heat insulation material used for equipment such as tanks, ducts and smoke ducts.

G Nonmetallic flexible expansion joint

NA BELLOW-Q™

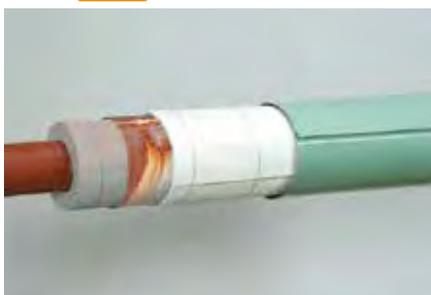


A nonmetallic expansion joint used for smoke passageways such as piping and ducts. It absorbs the thermal expansion and contraction of ducts to prevent the leakage of smoke.

H Degraded insulation resuscitation method

é-AIM™ Method

(eco-Advanced Insulation Method)



A method that restores the performance of thermal insulation material that has become degraded due to absorbing water. This is achieved by wrapping PYROGEL TX around the degraded material, which does not need to be removed. This method reduces energy loss and retains the temperature of the internal fluid.

I Flexible thermal insulation material with low heat conductivity

PYROGEL™ XT



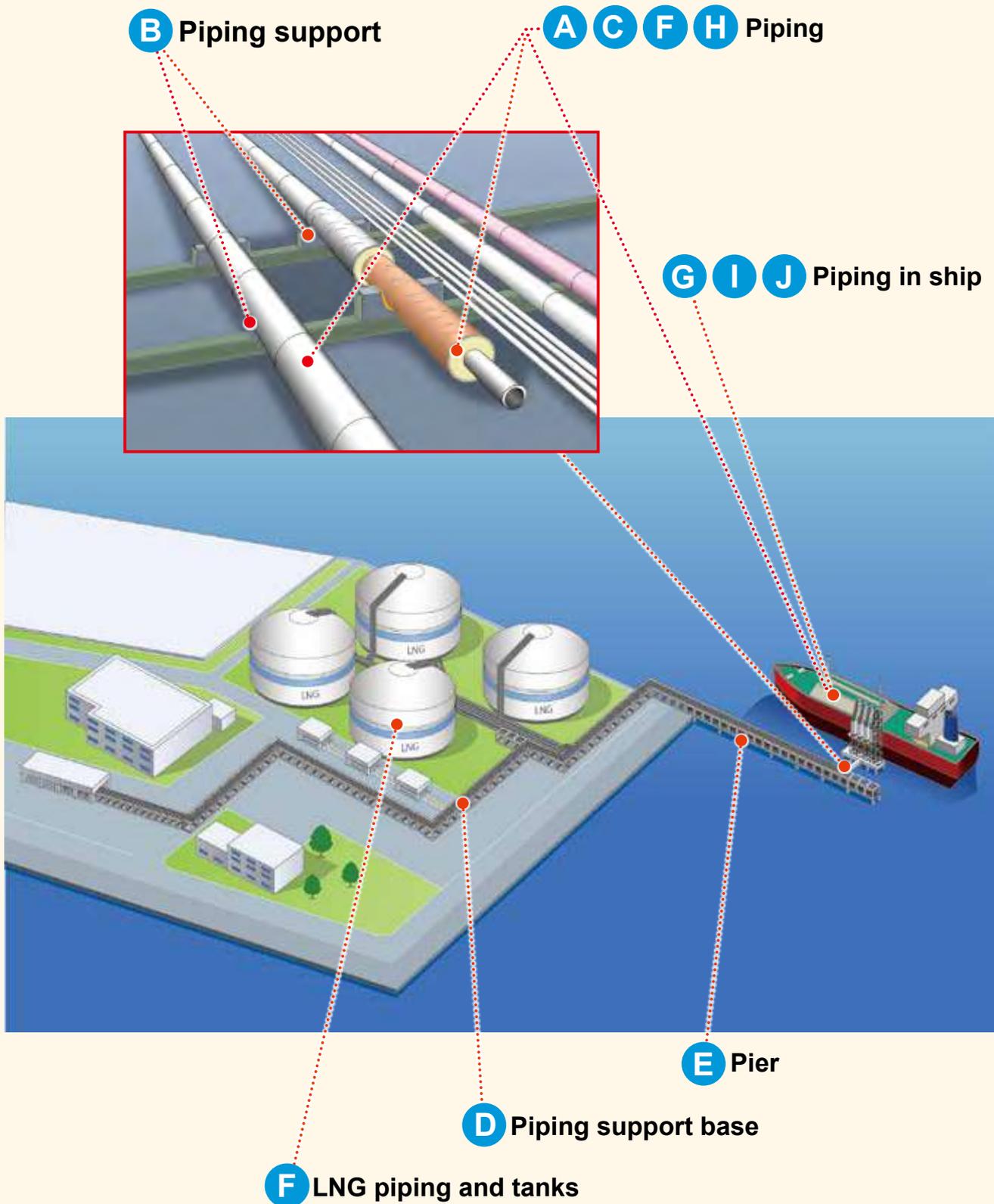
Thermal insulation material used on high-temperature piping, equipment, tanks, etc. It retains the heat inside the equipment.



TOMBO™ brand in

LNG terminals and LNG tankers

Natural gas is cooled and liquefied to be transported in the form of liquefied natural gas (LNG) from overseas. The Insulation and Protection technologies used in the TOMBO™ brand play an important role in these tankers and plant facilities.





A Non-Freon-based rigid urethane foam

FOAMNERT™ TN Series



Urethane foam cryogenic insulation material used on piping for cryogenic fluid. It keeps the fluid at low temperatures.

B Heat insulation support material for cryogenic piping

FOAMNERT™ Support



Support material used on piping for cryogenic fluid. It supports the piping and keeps the fluid at low temperatures.

C Spiral wound gasket for cryogenic piping

GRASEAL™ VORTEX™ Gasket L



Sealing material used on flanges and valves for cryogenic applications. It prevents the leakage of LNG, etc., from the piping.

D Fire-resistant and cold-resistant covering material

MANDSEAL™



Fire-resistant and cold-resistant material used on exposed pillars and beams of equipment support stands. It provides protection against fire.

E Fluoropolymer sliding bearing material

NAFLON™ SLIDING PAD



Fluororesin sliding bearing material used on structures and piping in connecting passageways in bridges.

F Cold insulation work



Installing cryogenic insulation materials on piping, tanks, LNG terminals and LNG tankers.

G Glass cloth

MARINETEX™



Noncombustible lagging cloth that is wound around heat piping on ships. It provides insulation against heat from the piping.

H Spiral wound gasket

GRASEAL™ VORTEX™ Gasket



Sealing material used on flanges and valves of piping. It prevents the leakage of fluid from the piping.

I Jointing sheets for ships

CLINSIL™ Yellow



Sealing material used on flanges and equipment on ships. It prevents leakage from the piping.

J Piping support

NAFLON™ U Bolt



This piping support allows smooth extension and contraction of piping caused by temperature changes in piping on a ship.

Column

NICHIAS' cryogenic insulation materials used in ultra-low temperature environments

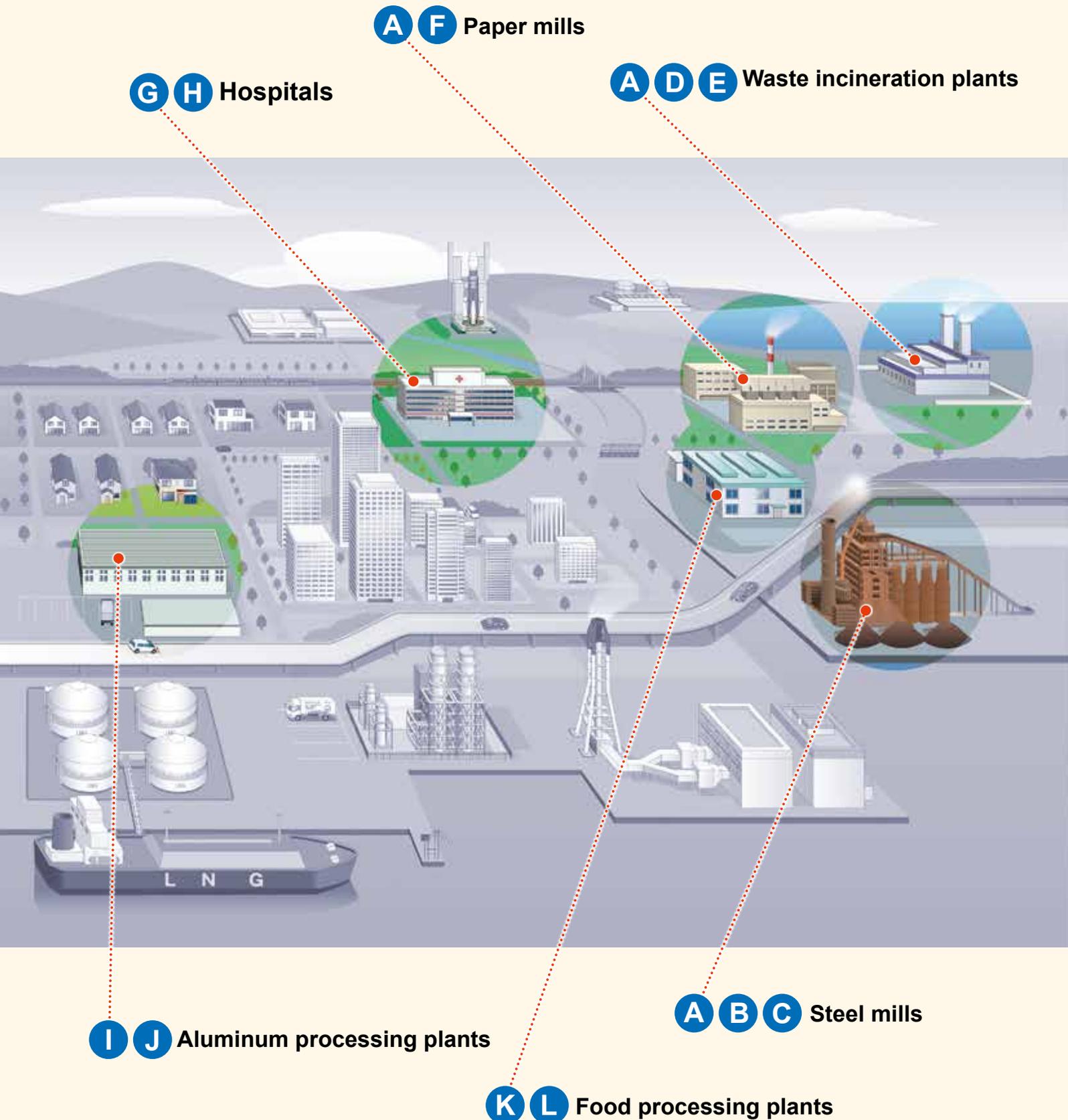
Natural gas is cooled and liquefied to be transported in the form of liquefied natural gas (LNG) from overseas. The volume of natural gas is reduced to one 600th when liquefied, allowing transportation and storage in large quantities. The cooling temperature (boiling point) of natural gas is as low as -162°C , which is difficult to imagine in everyday life. NICHIAS' technology for retaining heat such as urethane foam based cryogenic insulation materials contributes to the operation of gas infrastructures that are indispensable to daily life.



TOMBO™ brand in

wide range of fields

NICHIAS' products based on our Insulation and Protection technologies contribute to a wide range of industries.





A Castable refractory

TOMBO™ CASTABLE



Refractory material used on the walls, ceiling, and bottom of furnaces. It blocks fire from the furnace.

B Alkaline earth silicate (AES) wool

FINEFLEX BIO™ Blanket



This is a heat insulation material made of AES wool that is used on boiler ceilings and furnace walls. It insulates intense heat in furnaces.

C Heat insulation material for extra high temperatures

FINEBLOCK



This is a heat insulation fiber-based alkaline earth silicate wool blanket, for furnace linings. It insulates intense heat in furnaces.

D Nonmetallic flexible expansion joint

NA BELLOW-Q™



A nonmetallic expansion joint used for smoke passageways such as piping and ducts. It absorbs the thermal expansion and contraction of ducts to prevent the leakage of smoke.

E Heat insulation material made of rock wool

MG BOARD™



Heat insulation material used in furnaces, ducts, etc. It blocks heat from the boiler and sound from the ducts and dust collectors.

F Anti-corrosion packing

NAFLON™ Fiber Packing-T



Packing used for the rotating shafts of various pumps. It prevents the leakage of fluid and corrosion due to strong acid.

G Medical tube

NAFLON™ Multi-Lumen Tube



Fluoropolymer tube used in medical equipment. It ensures cleanliness.

H Fluoropolymer tube

NAFLON™ PTFE Tube



Fluoropolymer tube used in medical equipment. It ensures cleanliness.

I Molded shapes for molten aluminum vessel

LUMISUL™ LD



Inner lining material (molding) for molten metal vessels. It makes direct contact with molten aluminum alloys and provides protection against heat from the molten aluminum.

J Ceramic fiber based fibrous castable material

LUMICAST™



Inner lining material (castable) for molten metal vessels. It makes direct contact with molten aluminum alloys and provides protection against heat from the molten aluminum.

K Fluoropolymer pliable hose

NAFLON™ PTFE Pliable Hose



A PTFE pliable hose for transporting materials. Its outer surface is reinforced with a wire braid.

L Sanitary Use Gasket

SANICLEAN™ Gasket



Sealing material mainly used in product filling lines.

Five Businesses of NICHIAS

NICHIAS is engaged in five diverse businesses such as plant equipment, semiconductors, automobiles and buildings, which have different market trends. Although their economic situation may vary, these businesses as a whole are resistant to economic downturns, allowing us to achieve stable long-term growth.

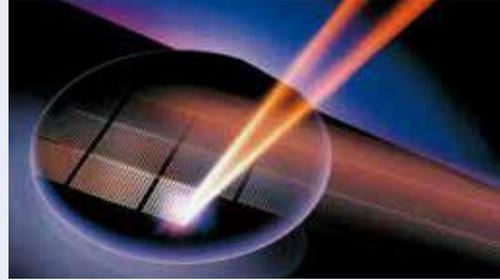
Energy and Industrial Plants

By providing engineering services to facilities for power plants, LNG terminals and petrochemical complexes, and products such as sealing materials, the Energy and Industrial Plants business supports important infrastructures that form the basis of our life. This division has more offices than our other businesses to quickly and accurately meet the needs of customers.



Advanced Products

Semiconductors are used in many product areas including smartphones and home appliances. The Advanced Products business provides parts and materials used in the semiconductor production processes. Although this field is subject to rapid changes in both technology and economic situation, we have established a flexible system to ensure quality and delivery that satisfies our customers.



Industrial Products

NICHIAS' Industrial Products business offers a wide range of products including sealing and heat insulation materials using our Insulation and Protection technologies in various industries ranging from food processing plants to the aerospace industry. This division has the longest history and the most diverse range of customers among our businesses. As the core operation in the NICHIAS Group, this division also serves to create new businesses.



Autoparts

The Autoparts business provides various materials such as sealing, heat protection, soundproofing, and vibration damping materials used on parts related to automobile engines and brakes. With its global supply system, this division has the highest ratio of overseas production and sales among our businesses. With its flexible development capability, the division delivers products to all automobile manufacturers in Japan.



Building Materials

NICHIAS' Building Materials business provides building materials with noncombustible, thermal insulating, fireproofing, and soundproofing properties for various buildings including houses, factories, and office buildings. This division also installs these products. Its products boast the largest share in each material category by meeting the demand from the highly matured domestic building market for a safer, more comfortable living environment.



These five businesses may appear to belong to different areas, but they share a common core — NICHIAS' Insulation and Protection technologies.

NICHIAS Group Network

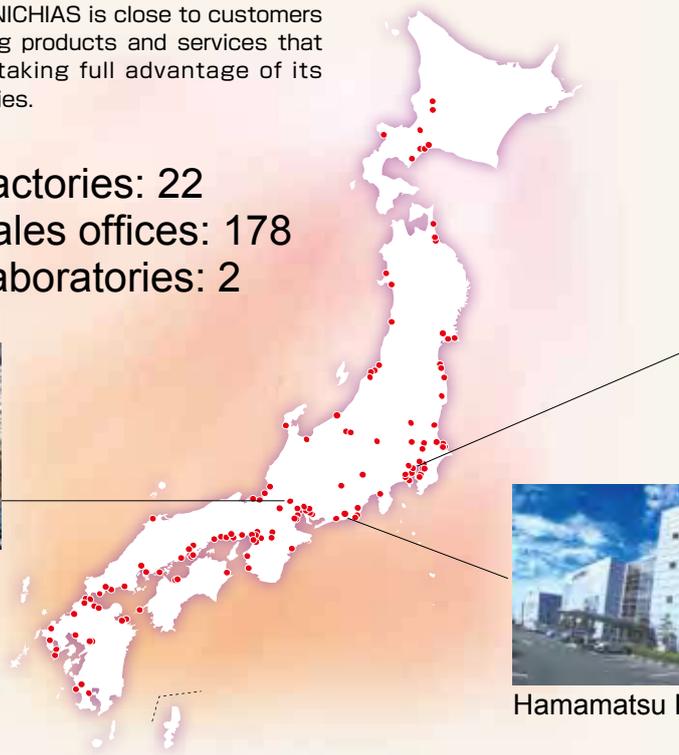
Domestic Business Offices

With more than 170 sales offices, NICHIAS is close to customers throughout Japan, quickly delivering products and services that meet the customers' needs by taking full advantage of its Insulation and Protection technologies.

Factories: 22
Sales offices: 178
Laboratories: 2



Hashima Factory



Head Office



Hamamatsu Research Laboratory

Overseas

The NICHIAS Group is actively pursuing the growth of its overseas operations. The TOMBO™ brand is spreading throughout the world.

Factories: 14
Sales offices: 10



Czech Republic



China



Indonesia

Indonesia, Malaysia, Singapore, Vietnam, Thailand, China, India, Germany, United Kingdom, Czech Republic, Mexico



Malaysia



■ Head Office

6-1, Hatchobori 1-chome, Chuo-ku, Tokyo 104-8555, Japan
International Marketing and Sales Group
Phone: 81-3-4413-1132 Fax: 81-3-3552-6108
Web Site: <http://www.nichias.co.jp/>

■ Overseas Sales Companies

Indonesia

PT. NICHIAS SUNIJAYA

Panin Life Center, 2nd Floor, Room 205, Jl. Letnan Jenderal S. Parman
Kav. 91, Jakarta 11420, Indonesia
Phone: +62-21-56956207 Fax: +62-21-56956208/56956209

Malaysia

NICHIAS SOUTHEAST ASIA SDN. BHD.

Suite A1102, 11th Floor, West Wing, Wisma Consplant 2,
No. 7, Jalan SS 16/1, 47500 Subang Jaya, Selangor Darul Ehsan, Malaysia.
Phone: +60-3-5636-4067 Fax: +60-3-5636-4078

Singapore

NICHIAS SINGAPORE PTE. LTD.

25 International Business Park, #01-15/17 German Centre,
Singapore 609916
Phone: +65-6571-0830/0838 Fax: +65-6265-7681

Vietnam

NICHIAS VIETNAM CO., LTD

Room 12-K, 12Floor, Center Building,
Hapulico Complex No1 Nguyen Huy Tuong,
Thanh Xuan Trung, Thanh Xuan, Hanoi, Vietnam
Phone: + 84-4-3791-7194 Fax: + 84-4-3791-6203

Thailand

NICHIAS (THAILAND) CO., LTD.

85 Moo 1, Wellgrow Industrial Estate T. Homsin, A. Bangpakong
Chachoengsao 24180, Thailand
Phone: +66-38-570-600 Fax: +66-38-570-601

THAI NICHIAS INTERNATIONAL CO., LTD.

Unit 1107, 11th Floor, AIA Capital Center
89 Ratchadaphisek Road, Dindaeng, Dindaeng, Bangkok 10400 Thailand
Phone: +66-2-001-2060 Fax: +66-2-001-2062

China

NICHIAS (SHANGHAI) TRADING CO., LTD.

霓佳斯（上海）贸易有限公司
Room 1701, THE PLACE, Tower A, No. 100 Zun Yi Road,
Changning District, Shanghai, P.R.China Postcode 200051
中国上海市长宁区遵义路100号虹桥南丰城A栋1701室 邮编200051
Phone: +86-21-6236-1783 Fax: +86-21-6236-1781

NICHIAS (SHANGHAI) TRADING CO., LTD. Guangzhou Branch

霓佳斯（上海）贸易有限公司 广州分公司
17F-G, Gold Sun Building, No.109 Tiyu West Road, Guangzhou,
Guang Dong Province, 510620, P.R.China
中国广东省广州市天河区体育西路109号高盛大厦17楼G室 邮编 510620
Phone: +86-20-3879-1640 Fax: +86-20-3879-1647

NICHIAS (SHANGHAI) AUTOPARTS TRADING CO., LTD.

霓佳斯（上海）汽车零部件贸易有限公司
Room 1702, THE PLACE, Tower A, No. 100 Zun Yi Road,
Changning District, Shanghai, P.R.China Postcode 200051
中国上海市长宁区遵义路100号虹桥南丰城A栋1702室 邮编200051
Phone: +86-21-6236-2668 Fax: +86-21-6236-2667

Germany

NICHIAS AUTOPARTS EUROPE GmbH

Prinzenallee 7, 40549 Düsseldorf, Germany
Phone: +49 (0)211-52391-058 Fax: +49 (0)211-52391-200

United Kingdom

NICHIAS EUROPE (UK) LTD

Office#1003, 10th Floor, Hardman Street, Manchester, M3 3HF, UK
Phone: +44-0-161-932-1422 Fax: +44-0-161-932-1401

■ Overseas Construction Companies

Malaysia

NICHIAS SOUTHEAST ASIA SDN. BHD.

Suite A1102, 11th Floor, West Wing, Wisma Consplant 2,
No. 7, Jalan SS 16/1, 47500 Subang Jaya, Selangor Darul Ehsan, Malaysia.
Phone: +60-3-5636-4067 Fax: +60-3-5636-4078

Thailand

THAI-NICHIAS ENGINEERING CO., LTD.

45 Huaypong-Nongbon Road, Huaypong, Muang Rayong,
Rayong Province 21150, Thailand
Phone: +66-38-682-242 Fax: +66-38-691-156

■ Overseas Factories

Indonesia

PT. NICHIAS ROCKWOOL INDONESIA

PT. NICHIAS METALWORKS INDONESIA

Malaysia

NICHIAS FGS SDN. BHD.

NT RUBBER-SEALS SDN. BHD.

Vietnam

NICHIAS HAIPHONG CO., LTD.

China

SUZHOU NICHIAS INDUSTRIAL PRODUCTS CO., LTD.

(苏州霓佳斯工业制品有限公司)

SUZHOU NICHIAS SEAL MATERIAL CO., LTD.

(苏州霓佳斯密封材料有限公司)

SHANGHAI XINGSHENG GASKET CO., LTD.

(上海兴盛密封垫有限公司)

SHANGHAI GOYU AUTO PARTS CO., LTD.

(上海五友汽车零部件有限公司)

India

NICHIAS INDUSTRIAL PRODUCTS PRIVATE LTD.

Czech

NICHIAS AUTOPARTS EUROPE a.s.

Mexico

NAX MFG, S.A.DE C.V.

⚠ Cautions

- 1) The information and recommendation in this catalog are based on our present state of knowledge and given in good faith for customer guidance purpose, and no liability will be accepted in relation to the same.
- 2) Properties/applications shown in this catalog are typical. The products shown in this catalog shall not be used for any purpose other than prescribed application.
- 3) Performance data shown in this catalog are developed from in-house testing and/or field reports from customers. Failure to select the proper products could result in property damage and/or serious personal injury.
- 4) Performance verification under actual operating conditions is recommended even for the application shown in this catalog.
- 5) While the utmost care has been used in compiling this catalog, we assume no responsibility for errors. This edition cancels previous issues and contents of this catalog are subject to change without prior notice.
- 6) For safe handling recommendations and health related effects, refer to the safety data sheet (SDS) of each product, available on request.
- 7) All or any part of the content on this catalog may not be copied, duplicated, imitated, reused and reproduced without prior permission of NICHIAS Corporation.