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#### Fujisash Company Limited

Headquarters:1-1-2, Kashimada, Saiwaiku, Kawasaki-shi, Kanagawa 212-0058, Japan Phone: +81-(0)44-520-0034 Tokyo Head Office: 4-32-1, Nishigotanda, Shinagawa-ku, Tokyo, 141-0031, Japan Phone: +81-(0)3-6867-0770 https://www.fujisash.co.jp/

# FUJI SASH Corporate Guide

(English version)

Becoming a corporate group that customers choose first, and which contributes to realizing a sustainable society

Since our founding in 1930, the Fujisash Group has been pursuing ways to create comfortable living environments in residences and buildings, through our sash manufacturing technologies. We are particularly prominent in the aluminum field, being the first company in Japan to start the manufacture and sale of aluminum sashes in 1958. Since then, we have been using our integrated production of sashes and curtain walls to help create urban landscapes in numerous cities in Japan and overseas. Now, we are confidently moving toward 2030-the 100th anniversary of our foundingand the future beyond that milestone.

The Fujisash Group is aiming to become a corporate group that customers choose first, and which contributes to realizing a sustainable society. To achieve this goal, we are striving to achieve sustainable growth by balancing securing revenue (improving our earning power) through expanding our business domains and areas, and practicing decarbonization management through enhancing our range of environment-conscious products and using recycled aluminum materials. To achieve sustainable growth in a drastically changing business environment, the entire Fujisash Group must work on innovation and transformation, with a sense of urgency and unity under the same vision. What's most important is that all executives and employees in the Fujisash Group share this vision, and challenge themselves to achieve results that will help realize this vision. As we move toward 2030—the 100th anniversary of our founding—and the future beyond that milestone, the Fujisash Group is striving to realize the long-term vision we have of the corporate group we should be while leveraging the Group's accumulated experience and technologies.

# The Fujisash Group's Manufacturing

The Fujisash Group values its origin in manufacturing, as we move forward with innovation and transformation

and the creation of environmental load-reducing, safe, and reliable products in a variety of fields. We will continue to live up to the trust and confidence our customers have in the Fujisash Group, and contribute to realizing an even more prosperous and sustainable society.

March 10

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No.

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# Building Sash & Curtainwall Business/Building Renewal Business

Since our founding, we have been making full use of our accumulated manufacturing and processing technologies and expertise to provide integrated services from proposals and designs to production, construction, and maintenance for a range of products including sashes and curtain walls for buildings.

## Building Sash & Curtainwall Business

We are contributing to the creation of buildings that meet the needs of the times, in terms of functionality, design, energy savings, and other features.



Daido Life Sapporo Building Client: Daido Life Insurance Company Design: Joint venture of Nikken Sekkei Limited and Hokkaido Nikken Sekkei Limited Construction: Obayashi Corporation



**Rikuzentakata City Museum** Client: Rikuzentakata City Design: Naito Architect & Associates Construction: Satake



JR Yokohama Tower Client: East Japan Railway Company Design: First Class Architect Office of the Tokyo Construction Office, East Japan Railway Company Construction: Takenaka Corporation



Takeshiba Crystal Building Client: Suzue Corporation Design: Architectural Design Division, Kajima Corporation Construction: Tokyo Architectural Construction Branch, Kajima Corporation



**Kawanishi City Medical Center Development Project** Client: Kawanishi City Design: First Class Architect Office, Shimizu Corporation Construction: Shimizu Corporation

#### Building Renewal Business

We are helping to raise the value of assets and provide comfortable living spaces by renovating a variety of buildings, mainly apartments and office buildings.



Riviera Tokyo: Renovation work on the entrance area



Nittochi Building: Renovation work on the elevator hall area



**Park City Kashiwanoha Campus South Mark Tower** Client: Mitsui Fudosan Residential Co., Ltd. Design: Haseko Corporation Construction: Haseko Corporation



Khronos Machida: Large-scale renovation work on apartments



Matsuya Ginza: Renovation work on the exterior

# Front Sash Business/Housing Sash Business

We offer a variety of beautiful-looking frontage products with excellent design features, including the entrances of apartments and offices, as well as large-aperture facades of shops and showrooms. Our extensive lineup of housing construction materials includes comfort-oriented products and energy-saving and senior-friendly barrier-free designs.

### Front Sash Business

Creating the facade of buildings and shops. We present a range of frontage products with a diversity of designs and functions.





### Housing Sash Business

We do new builds as well as reform and renovation work. We propose creating disaster-resilient residences with elevated comfort, including energy-saving and barrierfree features to meet the needs of an aging society.



Thin frame automatic door



Window reform series



Safety louver



High thermal insulation sashes for specific clients

# **Aluminum Extrusion Sales Business**

The Fujisash Group company Fuji Light Metal's extruded profiles are used in a variety of places in society, including not only in construction materials, but also in temporary equipment, solar-related materials, semiconductor manufacturing equipment, transportation equipment, automobile-related materials, etc. We are able to stably supply products that require an extremely high level of precision, using the technologies and commitment to quality of Fujisash—a pioneer in aluminum manufacturing and processing.

#### Aluminum Profile/Aluminum Processing Products Business

Aluminum is a lightweight, corrosion-resistant, and easy-to-process material that is used in a variety of products.



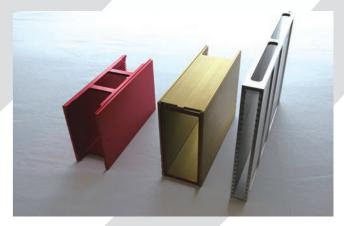
Aluminum profile Extruded products with cross-sectional profiles designed to exactly meet a variety of requirements.



Heat sink Cooling component for electrical products that makes use of aluminum's high thermal conductivity.



**Temporary equipment** We also handle large-lot items and large-size materials such as scaffold planks, ladders, stepladders, construction site trolleys, etc.



#### Magazine

Jig tool used when manufacturing semiconductors such as LEDs and power devices.



#### Solar frame

Solar power is a clean energy source. Our original products meet the new JIS standards, and are lightweight and high-strength with excellent workability.

#### ■Magnesium Alloy Business

We expect the business for high-strength and high-temperature-resistant magnesium alloys to be developed in all kinds of fields.



#### General-purpose magnesium alloy

This material is used in the body of smartphones, tablets, and laptop computers.

# **Special Procurement Business** (Unit House and Disaster Mitigation Business)

Unit houses are ideal for special events, when temporary office space is needed, etc. Also, to facilitate disaster preparedness, we offer multipurpose warehouses for disaster relief as well as for the storage of emergency supplies. Our product lineup covers a wide range of requirements and includes low-cost models that can be easily and quickly assembled for diverse applications.



Unit house



Multipurpose warehouse for disaster relief



Warehouse for storage of emergency supply (Fuji Stocker)



## New construction system developed Unit houses suited for new applications

Fujisash was the first in the industry to be awarded a technical rating from the nonprofit Better Living for the joints used in our folding unit house. This means that Fujisash's unit houses can be classed and used as general buildings.We are working to commercialize this new construction system so that we can meet our customers' needs in various fields, such as for stores, showrooms, offices, etc.



# **Logistics Business**

The role of logistics is changing considerably with the development of industries and economies and the diversification of lifestyles.

Fujisogyo handles logistics for the Fujisash Group, utilizing an independent nationwide distribution network to precisely meet the diversifying and sophisticated needs of customers and to hopefully help create a more prosperous and comfortable society.

#### **Truck & trailer transportation**

We handle all kinds of transportation needs under the slogan of promptly, reliably, and carefully, from long-distance transportation using large-size and special vehicles to door-to-door one-stop transportation using small- to medium-size vehicles.



#### Warehouses/storage/distribution processing

We use our distribution sites and warehouses located nationwide to provide customers with high-quality services that meet their needs, from the temporary storage and management of products and goods to their inspection, assembly, labeling, sorting, packaging, etc.



Sales warehouse (Ichihara, Chiba)



#### International logistics (imports & exports)

We also handle import and export cargo at major ports and airports across Japan, using our international multimodal (door-to-door) transportation to deliver items from overseas to designated destinations in Japan.



#### G-Mark certification (for workplaces with excellent safety)





# Office relocation & moving services

#### Transportation, installation, and dismantling of large equipment

ujisash offers dismantling, installation, and transportation ervices for customers that need to relocate equipment and vices in plants and factories within and outside of Japan

# **LED Business**

In our LED Business, we add lighting elements to the technologies we have accumulated as a manufacturer of aluminum construction materials, and plan and develop products to make cities and townscapes look even more attractive. We are expanding our range of LED products beyond exterior applications to also include entrances and external structures as well as interior spaces.

# Exteriors

ALBEAM Move decorates exteriors with moving lights

Entrances

ALBEAM Curtain Wall creates a bright, beautiful, and warm welcome

ALBEAM Move lighting: Aurora



ALBEAM Move lighting: Christmas

ALBEAM Curtain Wall Line Type decorates exteriors with simple and smart lights



# Interiors

ALBEAM Interior uses soft, indirect lighting to brighten spaces, while saving on labor for construction



External Structures



on materials for cove lighting



Construction materials for slit-type lighting

Construction materi





# **Environment Engineering Business**

Fujisash has various initiatives for the environment, which contribute to realizing a sustainable society for a better global environment and better use of limited resources. These include the design, manufacture, and implementation of fly ash treatment plants for detoxifying fly ash generated from waste incineration facilities, as well as the development and sale of related chemicals. We also handle the design, manufacture, and implementation of recycling plants needed to sort and recycle waste.

We have over 40 years of accumulated achievements and experience, and we have delivered more than 450 fly ash treatment plants and over 30 recycling plants to mainly local governments nationwide.

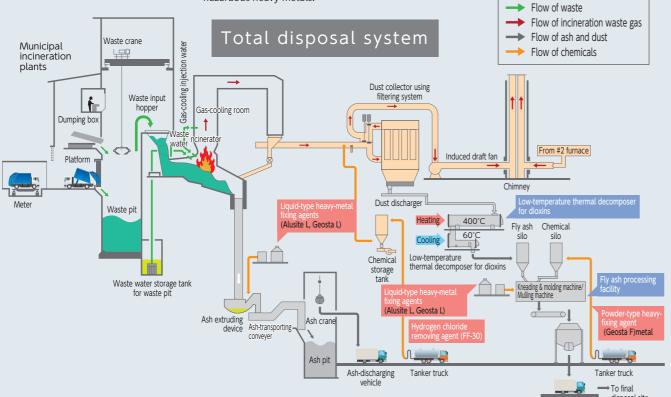
Fujisash will continue to deliver safe and efficient products made using the latest technologies,

so that we can contribute even more to local communities.



#### Municipal Waste Incineration **Plant Engineering Business**

Using our expertise acquired through many years of experience in this field, we handle all aspects of engineering including coordinating equipment and devices, in addition to the design and construction of fly ash treatment systems. We are also using our proprietary technologies to develop devices and machinery to decompose the dioxins in the fly ash treatment process and solidify the fly ash, as well as manufacturing and selling various chemicals to stop the elution of hazardous heavy metals.



disposal site Ash-discharging vehicle



Low-temperature thermal decomposer for dioxins This machine applies heat to trapped ash in hypoxic (low oxygen) conditions, and decomposes the dioxins in the ash.



Kneader for incinerator fly ash This machine effectively treats fly ash, such as by chelation, cement solidification, and scatter prevention.

#### Industrial Waste Plant Engineering Business

Fujisash designs and constructs systems to uniformly knead, detoxify, and stabilize the fly ash generated from the incineration of industrial waste containing heavy metals.

## Recycling & Bulky Refuse Plant **Engineering Business**

We handle all aspects of the design, construction, and engineering of treatment systems tailored to each type of waste including large items of trash, non-burnable garbage, plastic bottles, and waste plastics.

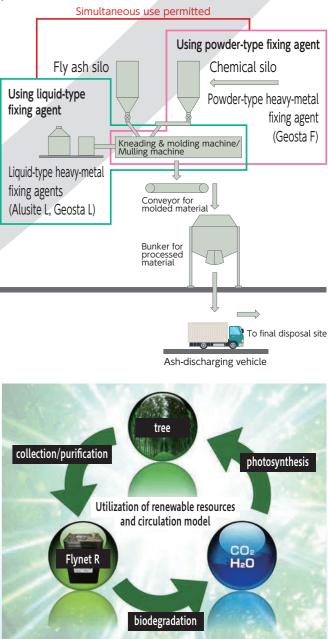
#### Chemical Business

We sell various liquid-type and powder-type stabilizers for heavy metals in urban waste fly ash, incineration ash, and molten fly ash containing hazardous substances, as well as slaked lime as an HCl remover in exhaust gas and dust-scattering inhibitors for soil that effectively use biomass.

Heavy metal stabilizers (for fly ash, incineration ash, molten fly ash)	_
Liquid type	
Alusite L (liquid-type chelating agent)	
Powder type	
Geosta F (powder-type heavy metal stabilizer)	
Alusite 500 (powder-type heavy metal stabilizer)	
Vegetable-based dust-scattering inhibitors	
Environmentally friendly dust-scattering inhibitors that effectively use biomass These inhibitors stop dust from scattering in places such as construction sites and land development sites.	
Flynet R	
Hydrogen chloride remover (for exhaust gas)	
FF-30	



Two-wheel pulverizer



# R&D

This facility has responsibility for R&D for all Fujisash businesses – the core aluminum sash business, building renewal business, aluminum profi le & processing business, environmental engineering business, LED business, special procurement business, and the development of new materials. The goal is to pursue safety, confi dence and comfort with a wide range of testing equipment employing the latest technologies. Fujisash is developing products that contribute to making a better society.

Reproducing all types of environmental conditions in one of the largest indoor testing facilities of its kind in the world



#### Curtain Wall Testing Center(CWTC)

The Curtain Wall Testing Center, which is located in the Chiba Plant (Ichihara, Chiba), is the world's largest testing facility of its kind. The Curtain Wall Testing Center and the Research Center are both ISO/IEC 17025 certified. These international standards recognize these centers as having the same capabilities as third-party testing facilities both domestically and internationally.



F-type relative story displacement testing equipment



L-type relative story displacement testing equipment



Control room

A full-scale curtain wall can be installed in accordance with actual design and installation conditions, and can be subjected to a range of tests to evaluate wind-pressure resistance, airtightness, watertightness, and performance in a relative story displacement. The maximum test weight is 40 tons, and it is also possible to test very large and heavy objects such as a PC curtain wall.

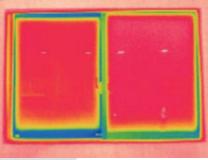
# Contributing to creating a better society through our window products, by pursuing safety, confidence and comfort

Fujisash is investing in and implementing new technologies, and responding to the market's changing needs as we approach our business from every angle—such as being environmentally conscious and energy savings—and bring our building sashes and other core products together under a single brand. We are developing next-generation products that can promptly and flexibly meet our customers' requirements, while also offering a unified design. Our research and development is driven by the pursuit of safety, confidence, and comfort, as we tackle the challenges of ZEB/ZEH design, as well as ensuring reliable sash performance even in extreme weather and during earthquakes.

### Verifying quality that ensures safety, confi dence and comfort

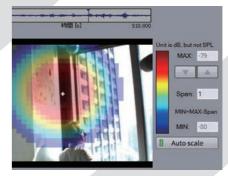






Thermal insulation testing We offer products that meet the needs of customers, by testing under freely controlled indoor and outdoor temperature and humidity conditions,

and analyzing thermal images.



Sound insulation testing

We conduct research on the ability of products to shut out the various types of noise encountered in a modern city. Rapid problem solving is facilitated by a system that makes sound sources visible.



Material testing We check the strength of the materials and parts used in our products.



Accelerated weather testing We evaluate the durability and surface treatment of outdoor-use aluminum materials.



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Sunlight testing We recreate outdoor solar radiation using simulated sunlight, and check the thermal effect.



Sashes and curtain walls in-plane deformation testing

We check if these products are able to withstand in-plane deformation caused by earthquakes, etc.

# **Overseas Business**

Fujisash has been expanding and enhancing the network of production sites and sales offices within Japan, while also looking abroad with the establishment of a factory in the Philippines in 1994 and a joint venture in Taiwan in 2016.

In 2017, we set up a sales subsidiary in Vietnam and started full-fledged sales activities there; it has already built a solid reputation as a company that customers can rely on.

# PHILIPPINES

With approximately 120 employees, our factory in the Philippines is designing and producing sash parts for both the domestic market and Japan.



Fujisash Taisky Co., Ltd. Taipei, Taiwan ■Fujisash Vietnam Hanoi, Vietnam

> Fujisash Philippines Inc. Cavite Province, Philippines

# Contribution to SDGs

The Fujisash Group is working to realize a sustainable society through our business activities. Accordingly, we have set the Sustainable Development Goals (SDGs), which are common global issues, as an important matter in our management strategy, and we are specifying materiality (key issues) based on the social situation and business environment. Listed below are the main topics from an ESG (Environment, Social, and Governance) perspective, within the business activities through which the Fujisash Group is contributing to realizing a sustainable society.



# Expansion of recycling-oriented businesses

Aluminum is a metal with excellent recyclability. Moreover, recycled aluminum materials produce only 3% of CO2 emissions as a raw material compared to newly manufactured aluminum ingots. So, using recycled aluminum can contribute considerably to tackling climate change.

Fujisash is working to raise its rate of aluminum recycling by collecting aluminum from our own and affiliated factories, as well as procuring aluminum from external sources.

### ■Use of renewable energy

The decarbonization of electric power is an important step in reducing the CO<sub>2</sub> emissions derived from the energy directly used by Fujisash. We are already generating renewable energy from the mega solar power generation panels installed on the rooftops of our major factories, and we will continue to expand our use of renewable energy.



## Development of energy-saving products for buildings

Reducing the energy consumption of households is said to significantly speed up CO2 reductions. Thermal insulation is an important part of energy savings in buildings, especially in the flow of heat through windows. Fujisash will continue to create value in society by providing thermal insulation sashes and other energy-saving products to customers.

## Disaster mitigation for buildings

Japan is located in an earthquake-prone zone, and in recent years there have been more and more climate disasters occurring such as typhoons. Fujisash has facilities that can test wind-pressure resistance and earthquake-resistance of products using actual construction materials for not only our own company, but also for other companies by request.We are also committed to further improvement using the findings we have accumulated over many years, and through taking part in industry-government-academia collaborative experiments and other activities.



# Sustainability promotion framework 🚺

As a part of our governance, Fujisash has acquired ISO 9001/14001 certification, and we are implementing product safety action guidelines and other measures. We also recognize the importance of sustainability management, and we have established a human rights policy. Additionally, we are also setting and achieving greenhouse gas emissions reduction targets, and identifying and strategically responding to business risks and opportunities that arise from changes in the environment and society.



# TAIWAN

This company mainly manufactures products to meet the growing demand for apartment buildings. It was set up jointly with a local company that has a firm business foundation.

# VIETNAM

In addition to sales, this local subsidiary will manage everything from product procurement to design and construction, as well as supply high-quality products to ASEAN countries including Vietnam.

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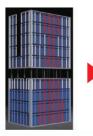
Supplying recycled aluminum materials to melting furnaces



Mega solar power generation panels on the Chiba Plant rooftop



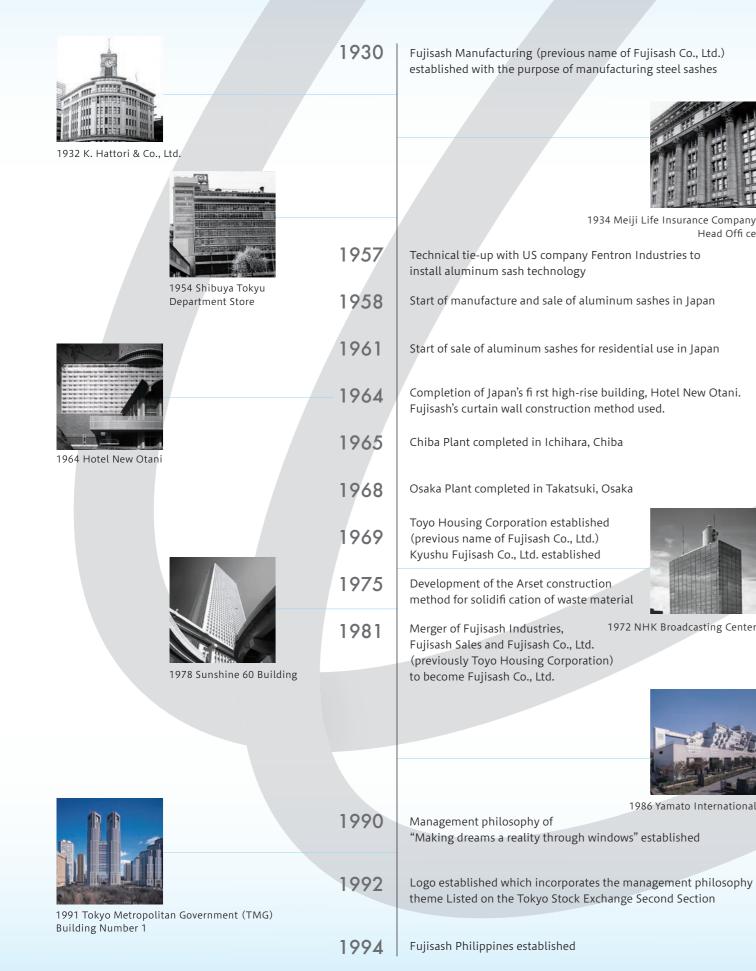
Cross-section of the thermal insulation sash FNS-II 100R





Test-version of a light alert system using Fujisash LED products (Left: Normal time, Right: When an earthquake occurs)

# Drawing on the aluminum sash technologies we have built up over many years, we are confi dently stepping into the future.



1999 1997 Queens Square Yokohama 2001 2004 2002 Marunouchi Building 2006 2007 2009 2012 Shibuya Hikarie 2015 2014 The Parkhouse Harumi Towers Krono Residence 2016 2017 2018 2019 2019 新長田合同庁舎

Head Offi ce

1986 Yamato International

1997

2020

19

Chiba Curtain Wall Testing Center begins operations ISO 9001 certifi cation

Alliance with Ebara Corporation to begin the manufacture and sale of low-temperature dioxin thermal decomposition equipment

Twenty-two regional sales companies consolidated into six wide-area sales locations. ISO 140001 certifi cation

- Kyushu Fujisash becomes a fully owned subsidiary
- Fujisash Kyushu made into a successor company and inauguration of Kyushu Regional Production and Retail Company
- Inauguration of a new company to unify materials, named Kyushu Fujisash. Successor company. Kyushu Fujisash is renamed Fuji Light Metal.
- "Basic agreement concerning capital and business tie-up" concluded with Bunka Shutter Co., Ltd.



- Fujisash establishes mass production system for special procurement business, unit house manufacture
- Fujisash awarded industry's first technical rating for the joint used in folding unit house Fuji Light Metal begins development of medical devices using magnesium alloy.

Joint venture, Fujisash Taisky Co., Ltd., established in Taiwan

Fujisash Vietnam established

Asia Nikkai becomes a fully owned subsidiary of Nikkai Fujisash Hokkaido Housing Service becomes a fully owned subsidiary of Hokkaido Fujisash

Nihon Bosui Kogyo becomes a fully owned subsidiary

Business alliance concluded with Shenyang Yuanda Aluminium Industry Engineering Co., Ltd.



Sapporo 22 Square



2004 Hamamatsucho Square

Becoming a corporate group that customers choose first, and which contributes to realizing a sustainable society, as we move toward the 100th anniversary of our founding—and the future beyond that milestone

> President Hiroyuki Esaki

#### Focus on the future beyond that milestone —

The Fujisash Group will celebrate the 100th anniversary of our founding in 2030, which is also the scheduled year for achieving the SDG targets.

We endorse the realization of a sustainable, diverse, and inclusive society where no one is left behind, and we are aiming to become a corporate group that customers choose first by moving forward with process innovation and manufacturing that reduces the environmental load.

How a contemporary corporation should be is drastically changing on a global level, and practicing ESG management to contribute to SDGs has become an important factor in this. The business environment is also facing a major turning point. We strongly resonate and act in accordance with the passage from Darwin's Theory of Evolution of "It is not the most intellectual of the species that survives; it is not the strongest that survives; but the species that survives is the one that is able best to adapt and adjust to the changing environment in which it finds itself." Therefore, we will establish the Fujisash Group as a corporate group that customers choose first, and implement the basic policies of improving our earning power, realizing decarbonization management, and achieving speedy innovation, transformation, and results. In particular, we will enhance our range of environment-conscious products, and strengthen and expand our business domains and areas including our Building Renewal Business, Recycling Business, Aluminum Products Business, etc.

#### Generating Motive Force from Our Management Philosophy

#### Fujisash makes dreams a reality through windows.

To highlight the Group's basic stance, this phrase was adopted as the expression of our management philosophy in 1990. At the same time a public commitment was made in the following precepts that form the code of conduct for our employees:

## We cherish the close ties with our customers. We supply products with passion and sincerity. We strive to create a culture of intense vitality.

Our country Japan is facing the serious social problem of a continual fall in the productive-age population due to a decreasing population, aging society, and declining birth rate. As for boosting productivity, the accelerating pace of the automation of production equipment, the use of IoT (internet of things), and other areas of digital transformation (DX) have also become urgent matters for the Fujisash Group to address. However, these are only a part of the production process, and we will achieve satisfactory results by upskilling all employees so they can fully use these new technologies and processes. We will train our employees to be multi-skilled so that each worker can handle a range of tasks, and link this to boosting productivity and eliminating labor shortages, as well as to improving customer satisfaction by thinking and acting from the customers' perspective.

The Fujisash Group will continue to innovate and improve, and make dreams a reality with the keywords of close ties, passion and sincerity, and intense vitality. We will open up our future by providing products and services that are proudly valued in society, as we strive to become a corporate group that customers choose first.

### Fujisash Group: Major Factories and Offices in Japan Sales

0	Hokkaido Fujisash Co., Ltd.	08	Fujisash
01	Hokkaido Housing Service Co., Ltd.	09	Nikkai F
02	Shirataka Fujisash Co., Ltd.	09	Hokusei
03	Fujisash Tohoku Co., Ltd.	09	Asia Nik
04	Fujisash Kanto Branch	10	Nara Fuj
05	Fujisash Tokyo Branch	0	Fujisash
05	Fujisogyo Co., Ltd	0	Fujisash
05	Fujisash Renewal Co., Ltd.	0	Kansai F
05	Fujisash Kanto Co., Ltd.	12	Fujisash
05	Nihon Bousui Kogyo Co., ltd	12	Fujisash
06	Fujisash Chiba Plant	13	Yamaguo
06	Fuji Light Metal Co., Ltd.,	14	Fuji Sash
	East Materials Production Department	15	Fuji Ligh
07	Fujisash Yokohama Branch	15	Omuta A
07	Kyodo Kenkou Co., Ltd.	10	Okinawa
07	Fujisash Service Co., Ltd.	I	
08	Fujisash Nagoya Branch		

Sales ••••Production ••••Overseas

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- Fujisash Philippines Inc. 17 18 Fujisash Co., Ltd., Singapore Branch
- 19 Fujisash Vietnam Co., Ltd.
- 20 Fujisash Taisky Co., Ltd., Taiwan

Tokai Co., Ltd. uji Sash Co., Ltd. i Industry Co., Ltd. kai Co., Ltd. ijisash Sales Co., Ltd. Osaka Branch Kansai Co., Ltd. ujisash Co., Ltd. Chushikoku Branch Chushikoku Co., Ltd. chi Fujisash Co., Ltd. n Kyushu Co., Ltd. ht Metal Co., Ltd., Main Plant Aluminum Building Supply Co., Ltd. a Fujisash Co., Ltd.

