

Aiming to Become the Leading Provider of Comfort for All Living Spaces

Amid a hectically changing society, the RIKEN TECHNOS GROUP continues to take on challenges every day to support leading-edge technologies and industries, as well as the future of Japan and the world. In 2016, we started our three-year mid-term business plan with ACT NOW! ACT TOGETHER! 2018 as our management policy as we aim to become the leading provider of comfort for all living spaces.

Original and superior formulations and manufacturing technologies for resin materials are our strengths, and these evolve together with our customers. At the end of our three-year mid-term business plan in the fiscal year ending March 2019, we will offer a variety of further improved products. In this feature, we will introduce for each field some of the ways the RIKEN TECHNOS GROUP's technologies are helpful in the lives of everyone. From long-selling products slowly improved over decades, to the newest products filled with the latest technologies, we will introduce a wide range of products together with the voices of our employees.

Our goal

Aiming to become the leading provider of comfort for all living spaces.

**ACT NOW!
ACT TOGETHER!
2018**





Shinya Tomitaka

Senior Engineer, Group 2, R&D Office 2,
R&D Center, Technical Division



As a material that has a nice feel and is able to clear the flame-resistance standard for rail cars, our product was adopted for the armrests. This is not just a product of our material design capability, but is a joint work produced through collaboration with the molding company and design company who carried out development together with us.

Case Study 01 Armrests for priority seats in 323-series trains on Osaka Loop Line

This is the first specially designed rail car in the history of the area served by this line. Meticulous attention was paid to details in designing the train cars. Various ingenious ideas were used in the interiors for a comfortable ride.

Nobuyuki Usui

Group Leader, Osaka Sales & Marketing Group,
Construction Products Material Business Unit, Sales & Marketing Division



The Construction Products Material Business Unit goes about our daily work providing proposals based on our motto "Providing Comfortable Living Spaces." This time, the material used in the armrests is our ETF-elastomer®, which was carefully developed to give people a sense of comfort the moment they touch it. There are many other things in the world which give people a sense of comfort other than through their feel. We will keep proposing such materials.



Case Study 02 Panel wiring for train stations

There are many electrical wires running within a station. RIKEN TECHNOS's compounds are used in the covering materials that protect electrical wires. These need to be hard to burn and robust, yet at the same time easily pliable.



Concept image



Taisuke Yamamoto

Tokyo Sales & Marketing Group, Electronic Materials
Business Unit, Sales & Marketing Division

The product used is a halogen-free compound that is extremely flexible. It is highly rated by customers as it improves pliability when used as a covering material for cables. It improves work efficiency at construction sites, and is also a great aid to our customers' products. Besides its basic properties, it does not require cross-linking*, and has good properties for extrusion compared to past products. This is good for customers as it can be molded on any production line without worries about the manufacturing facilities available.

* Cross-linking: This is a process for forming links, similar to building bridges, between the molecules of polymer chains.

Automotive

Case Study 03 Wire harnesses

Wire harnesses laid within automobiles can add up to several kilometers per vehicle. The RIKEN TECHNOS GROUP's compounds used as covering materials for these wire harnesses have a 30% share of the global market.



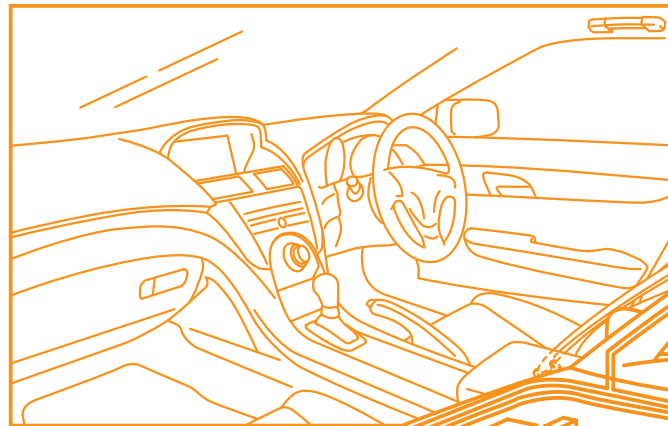
Shinichi Saito

Deputy Manager, Tokyo Sales & Marketing Group, Electronic Materials Business Unit, Sales & Marketing Division



Wire harnesses for automobiles are components for bundling electrical wires used to control safety and comfort, such as driving, stopping, opening windows, controlling cabin temperatures, searching for destinations, and listening to music. If a vehicle can be likened to the human body, wire harnesses would be like blood vessels. RIKEN TECHNOS uses a global QCDTE* system to supply products to many different countries.

* Global QCDTE: Quality, cost, delivery, technology, and environment.



Case Study 04 Sealing materials

Because of the seal material used for sealing, the doors of the vehicles can close tightly and rain cannot get inside the cabin. Many compounds are used for this component.

Light!

Energy-saving!

Cost-reducing!

Excellent heat resistance!

Excellent oil resistance!

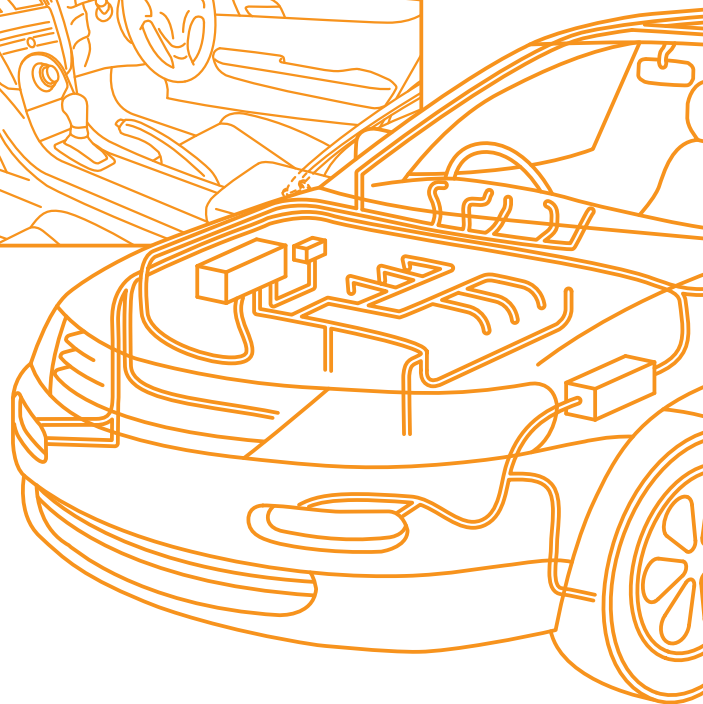
Better than rubber



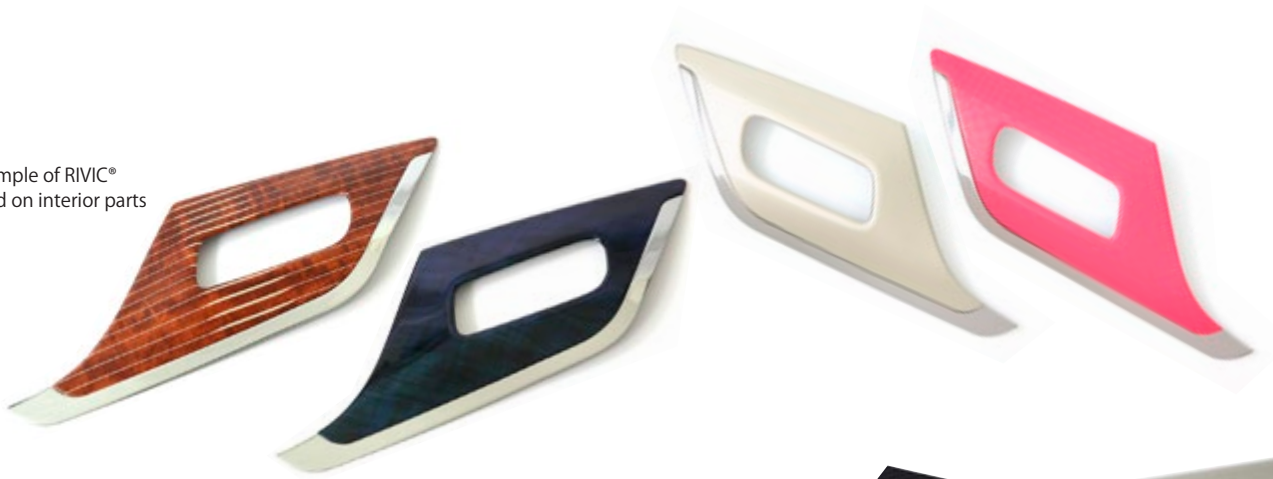
Yujiro Suzuki

Group Leader, Tokyo Sales & Marketing Group, Automotive Business Unit, Sales & Marketing Division

Seal materials using RIKEN TECHNOS's compounds are used as glass run channels, belt moldings, materials for grommets and boots, motor seals, and seal components for outboard motors. Automobile seal materials are components fulfilling important roles of preventing water and dust from entering during opening and closing, reducing noise, and keeping the cabin comfortable. We aim to further improve their functionality and continue proposing the most appropriate materials.



Example of RIVIC® used on interior parts

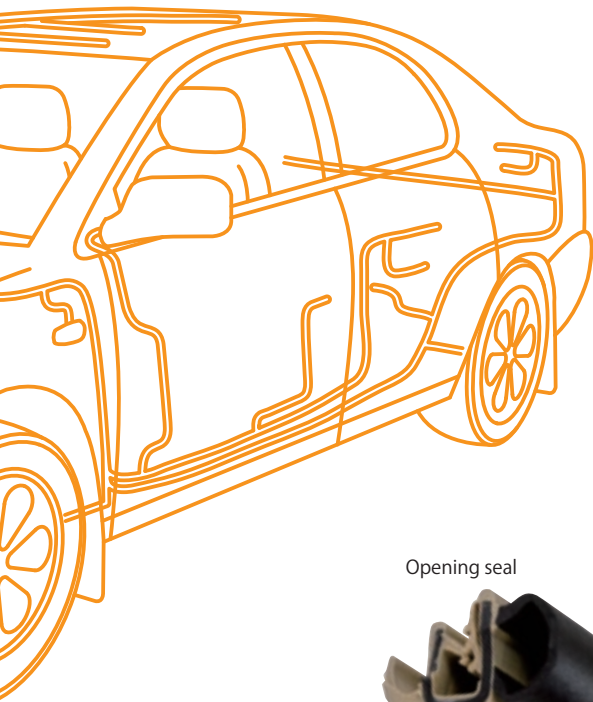
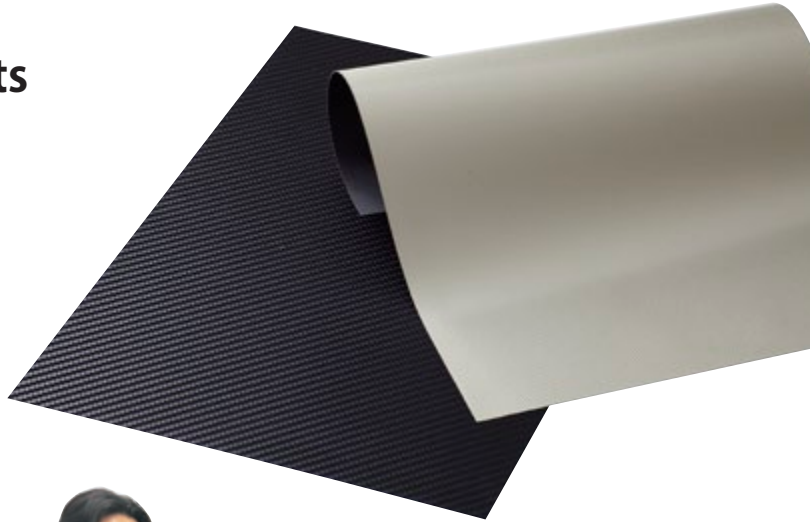


Case Study 05 Decorative parts

To turn the interiors of automobiles into comfortable spaces, film is used to colorize parts. New designs are created together with designers.



Example of RIVIC® used on exterior parts



Yasuhiro Suzuki

Senior Engineer, Group 2, R&D Office 1, R&D Center, Technical Division

RIVIC® is a decorative film which fully utilizes the design, composition, and processing technologies that RIKEN TECHNOS has nurtured so far through its film products. In addition to the printed graphic expression used in past products, textured expression using embossing is also possible. It also gives colored patterns, texture, and visual effects to resin parts. Its use in the interiors of automobiles is expanding due to its unique design and high durability. To contribute to the development of next-generation automobiles, we are working on development to adapt it for use on the exterior of automobiles.

Opening seal



Grommet



Glass run channels

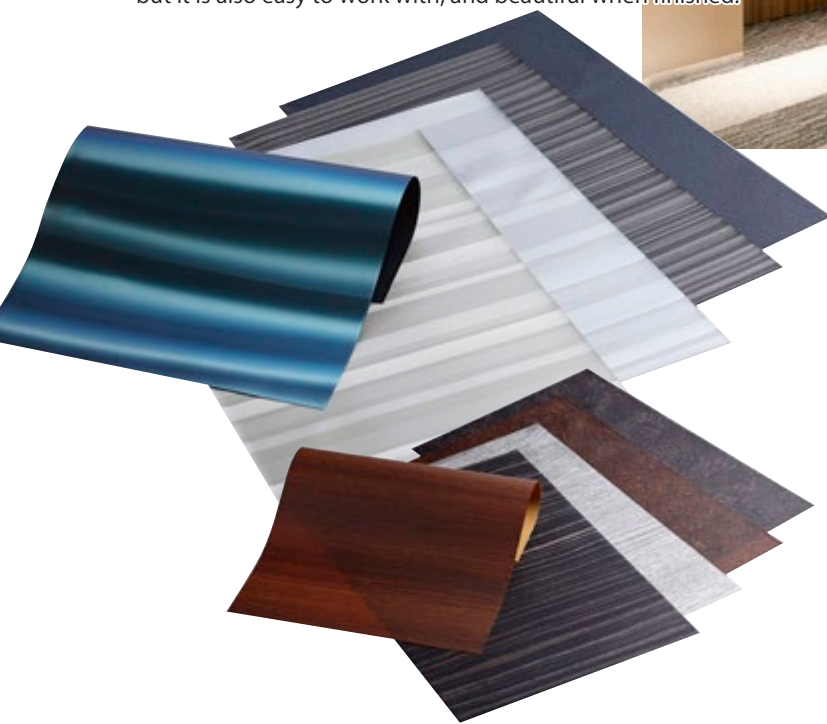


Construction and Civil Engineering

Case Study 06 High-end wall covering materials

Wall covering is essential for creating beautiful spaces, and RIKEN TECHNOS's film processing technology used in high-end wall coverings can be said to be an art.

Finishing with wood-grain film that looks exactly like the real thing, giving a nice texture to the film's surface, and adding shine that looks more metallic than real metal; not only are the designs good, but it is also easy to work with, and beautiful when finished.



Yoshitake Kato Deputy Manager, Tokyo Sales & Marketing Group, Construction Products Material Business Unit, Sales & Marketing Division

We supply high-end wall covering film utilizing RIKEN TECHNOS's formulations and manufacturing technologies in film production, embossing, laminating, and adhering. Among these films are functions which were created through high technical expertise, such as films with due consideration given to stain-proofing their surfaces, and films that have been processed to scratch proof their surfaces.

The attention given to surface design is also well received by our customers, and our films are used widely in interior spaces such as hotels, stores, and other commercial facilities.



Case Study 07 Industrial-use hoses

There are many types of hoses, from industrial-use hoses to those used for watering plants in the garden. Many things pass through hoses, including water, pharmaceutical products, food, solvents, and oil. RIKEN TECHNOS's compounds are used over many years as they meet various requirements including durability and flexibility.

Hideo Osawa

Group 2, R&D Office 5, R&D Center, Technical Division

While they may all fall under a single category called "industrial-use hoses," the characteristics required in these materials used differ according to the properties of the things being carried and the environment in which the hoses are used. Through ongoing discussions with our customers, we accurately grasp their requirements and develop formulas most appropriate to the applications. In addition, for moldability, we also discuss with our customers and pay attention to designing formulas which are easy to mold at molding facilities.



Kazuya Takao

Osaka Sales & Marketing Group, Construction Products Material Business Unit, Sales & Marketing Division

The business unit I belong to also sells compounds for use as materials in industrial-use hoses. These are used in many different places, such as construction sites and disaster rescue sites. We also foresee a lot of demand from the organizing of the Tokyo 2020 Games.

While it may not be easily apparent in our daily lives, we contribute toward providing an environment where people can live safely and securely.



Music

Case Study 08 Records

In this modern age where listening to music over the Internet is a given, there are still many diehard fans of analog vinyl records. Compounds for records are some of our long-selling products.



Mikiko Kato

Group 1, Sales & Marketing Group, Medical & Consumer Goods Business Unit, Sales & Marketing Division



In recent years, there is a worldwide trend of a return to vinyl records, and popularity is rising again in Japan centered on a generation that is highly particular about sound quality. With this, we can see a change in the trend for recent years. First, for color, while vinyl records have always been black in the past, there are more and more requests from artists for transparent records or for other colors. Although materials have hardly changed for more than 30 years till now, this highly particular generation is seeking better sound quality, and vinyl record manufacturers are also seeking to improve. The RIKEN TECHNOS GROUP contributes toward improving sound quality from the material aspect.

Case Study 09 Golf bags

ACT Leather[®]* is a new film with special attention paid to its feel. As a trial, it was used to make golf bags. Besides bags, it is being further developed for a variety of other uses.

Satoshi Shiota

Group 2, Sales & Marketing Group, Medical & Consumer Goods Business Unit, Sales & Marketing Division

We develop products that bring new ideas and excitement by applying our resin formula design and processing technologies for producing films. The cloth product ACT Leather[®] is also one of these development products. This is the first time we are taking on the challenge of development in making cloths, and we kept going through trial-and-error in the process. We were finally able to get it to take shape, and bring excitement to our customers when they touched it for the first time.

Fashion



Workability required in cloths (cutting, sewing, embroidering, etc.)

Durability not found in existing leather cloth

High-end matte finishing

Even spilt sauce can be easily wiped away



Toshio Oguma

Senior Engineer, Group 1 (in Saitama), R&D Office 1, R&D Center, Technical Division

We are developing leather sheets for bags utilizing characteristics such as wear resistance and stain-proofing. A struggle we had during the development process was the difficulty in getting not just the properties needed by leather sheets for bags, but also including characteristics needed for sewing. This is a new field for RIKEN TECHNOS, and we are bravely facing this challenge as we go about development.

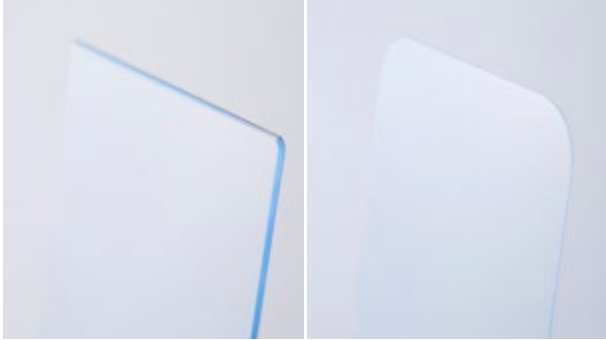


* ACT Leather[®]: Composite material with cloth using ETF-elastomer[®] sheets for the surface skin.

Displays

Case Study 10 Smart phones

We have been developing films to protect glass surfaces, and even films used to substitute glass. Besides being light and not breaking, they also have various functions. We have many grades depending on the uses.



Hiroyuki Tomomatsu

Deputy Manager, Sales & Marketing Group, IT & Electronics Business Unit, Sales & Marketing Division

RIKEN TECHNOS provides optical products for use in various parts. This time, we have developed REPTY® DC100, the world's first acrylic-imide film. REPTY® DC100 is a material that is super hard with excellent optical properties, making it a safe and lightweight substitute for glass. It is already being used in many mobile devices, and there is growing interest for its use in automobiles, medical equipment, and for industrial use. We hope you will take and feel this "glasstic film*" for yourself.

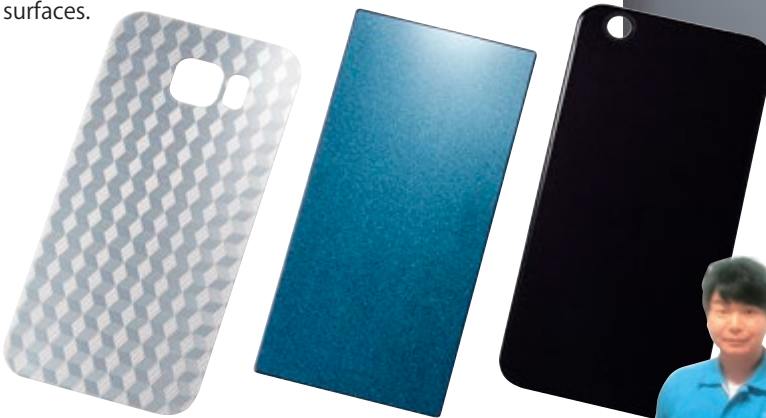


* Glasstic: A word formed by combining "glass" and "plastic," it is a plastic with the transparency and strength of glass.

Case Study 11 3D curved surface forming

Beautiful designs can be added to film being used in place of glass.

Its use, such as in curved-surface displays for automobiles, is expanding as processing is possible on 3D curved surfaces.



Super point!

Can be bent

Nozomu Washio

Group 1, R&D Office 7, Technical Division

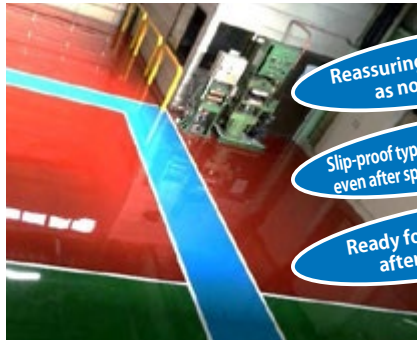
As a material that looks more glasslike than glass, REPTY® DC100 gives a sense of comfort with its beautiful appearance and excellent properties, and has mainly been used in mobile devices by many customers up till now. For future development, we are aiming to expand widely beyond use in mobile devices, such as use in automobiles. Please look forward to the evolved REPTY® DC100.



Liquid Compounds

Case Study 12 UV coating for epoxy floors

This UV coating material is designed for use on floors, and is most suitable for use on places such as floors in factories and shop spaces. It offers high resistance to soiling, including shoeprints made by heels, and greatly facilitates cleaning, thereby helping to maintain a clean look.



Reassuring, safe, and low odor as no solvent is used!

Slip-proof type is safe and prevents slips, even after spills of water, powder, or oil!

Ready for use immediately after UV irradiation!

Tomoyuki Nakagawa

Sales Group, Solution Business Unit,
Sales & Marketing Division



Usually, resin floor finish is used on floors of factories and warehouses, and scratches from driving forklifts and soiling from shoeprints can often be seen. RIKEN TECHNOS's UV coating is resistant to scratches and soiling, and also makes it easy to remove when there are stains. RIKEN TECHNOS's UV coating seeks to help improve, no matter how little, the workplace and living environments of our customers.

Case Study 13 Heat-shield coating for exterior walls

It keeps building interiors cool and reduces power consumed for air conditioning, thereby leading to energy savings.

Kota Okayasu

Development Group, Solution Business Unit, Sales & Marketing Division

RIKEN TECHNOS's heat-shield coating balances flexibility with high sunlight reflectivity. In addition, when used together with a top coat that is resistant to stains and wear, its high thermal barrier effects can be maintained over a long period of time. Originally meant as a product for use in hot regions such as Southeast Asia, it is being used at the factories and warehouses of our customers both in Japan and overseas due to the abnormally hot summers in recent years.



Three traits—stain-proofing, weather-proofing, and thermal barrier effects—help maintain aesthetic appeal of buildings for longer periods!

High sunlight reflectivity of 80%!
(* Measured by RIKEN TECHNOS)

With both heat shield and heat insulation effects!



Case Study 14 TSUTSUMU

Food Wrapping Materials



This is parchment paper with heat resistance of 220°C. As it is a transparent film, food can be displayed wrapped, widening display possibilities.

Yoshimi Mori

Manager, Osaka Branch, Sales & Marketing Department
RIKEN FABRO CORPORATION

Food can be served wrapped in TSUTSUMU. As food is wrapped until just before it is to be eaten, it can be kept warm without losing its fragrance or flavor. In addition, if TSUTSUMU food prepared beforehand is cooked in a steam convection oven, a large amount of food can be cooked to allow warm and highly fragrant food to be served even to a large number of people.

TSUTSUMU was created based on hints from RIKEN FABRO's F.O.R. WRAP®, which can be used in microwave ovens. It started when we wanted to see if we can cook with F.O.R. WRAP®, which has a heat resistance of 180°C, and tried cooking wrapped fragrant vegetables with a meat and fish base in an oven. Aiming to bring colors to food and improve heat resistance, we arrive at the current material.

To generate new value, we will continue to provide proposals for using TSUTSUMU in a wide variety of fields.



Oven-baked green asparagus
This is an original recipe by up-and-coming Chef Kawate, the owner of Florilège, a restaurant in the Aoyama area of Tokyo.

料理に驚きと華やかな世界を

「TSUTSUMU」

