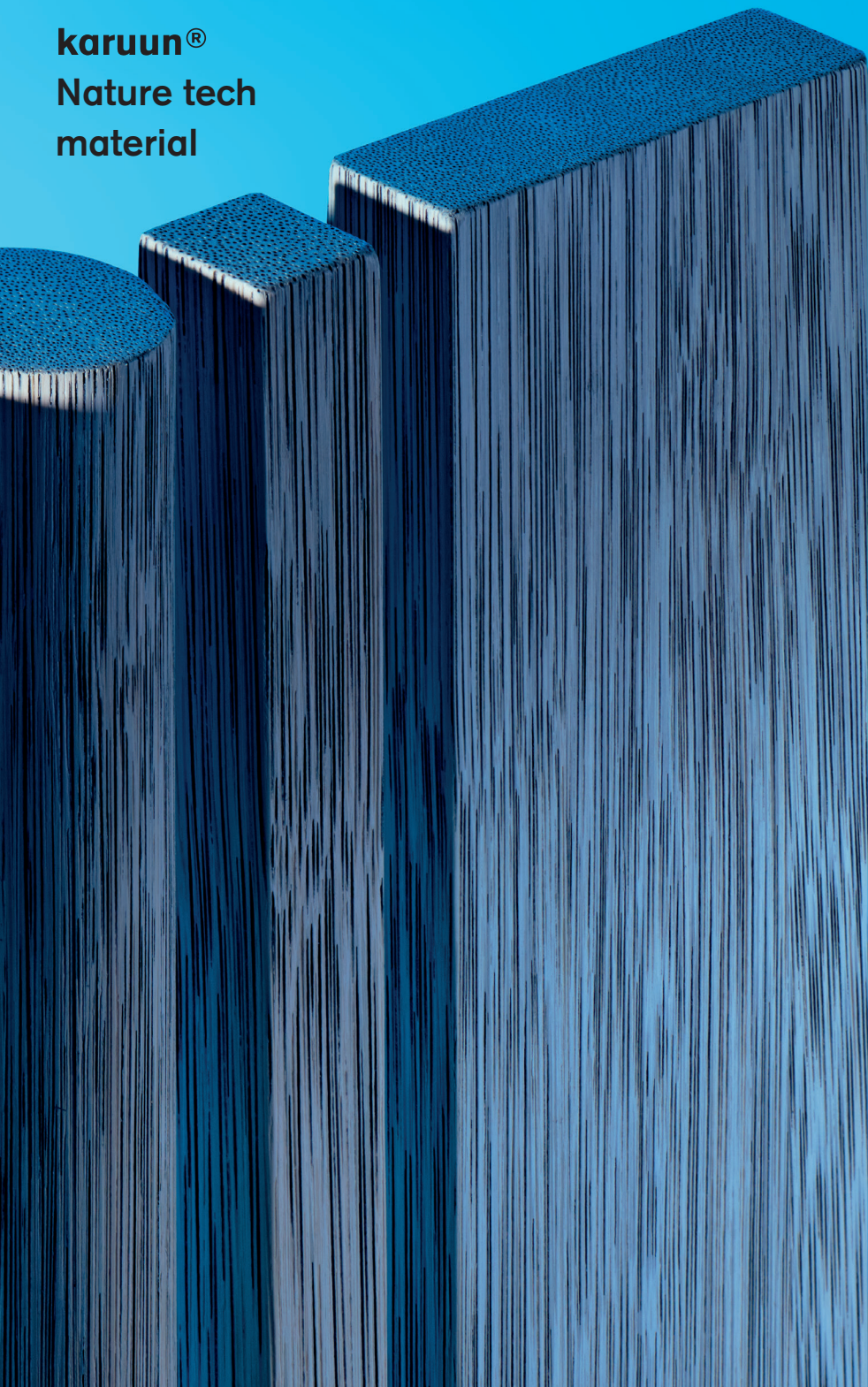


karuun®
Nature tech
material



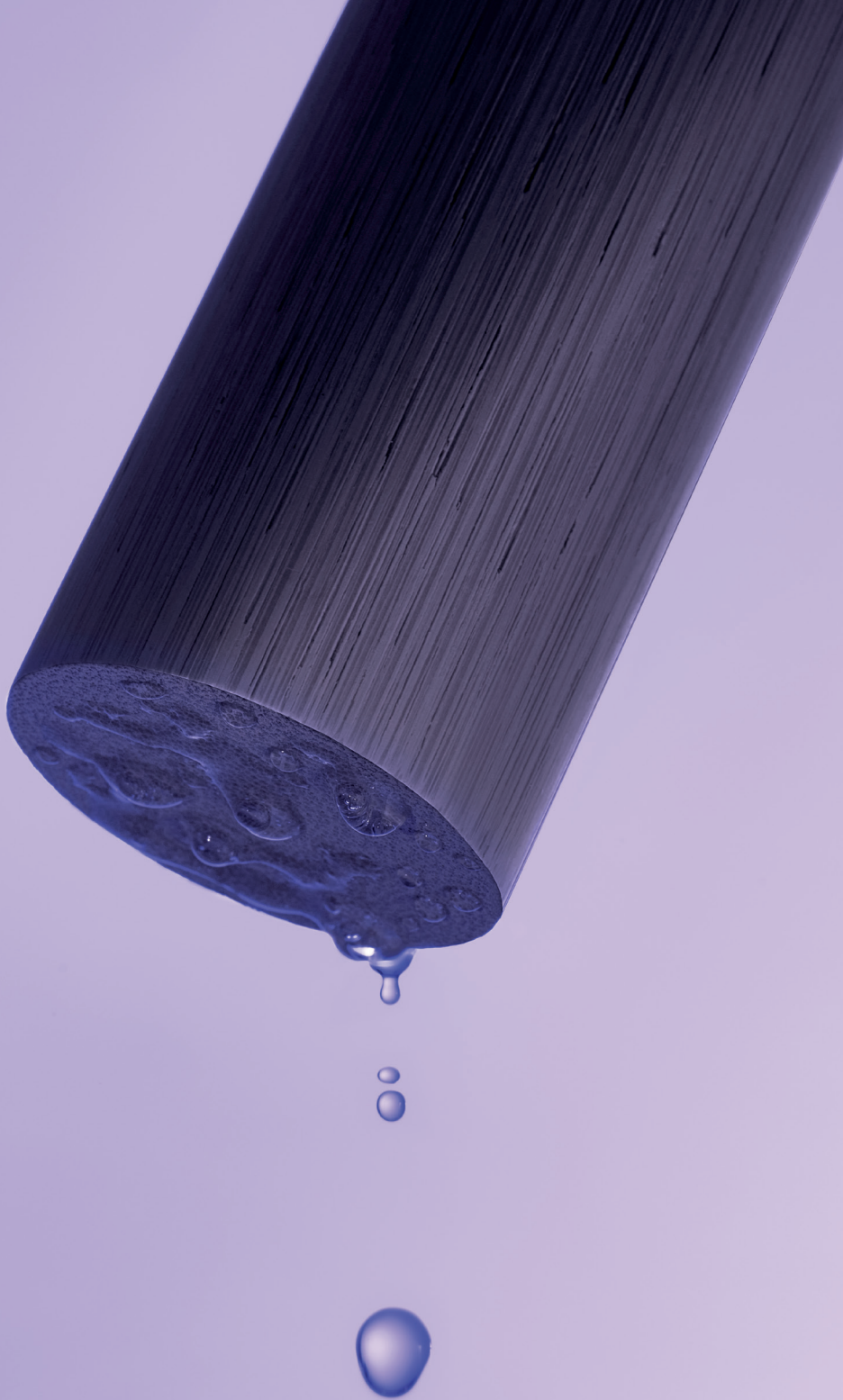
An almost forgotten raw material transforms into karuun[®]. The first nature tech material and the ecological answer to plastic.



karuun® is natural perfection

karuun® is leading a revolution in the material world. An energy-efficient process transforms the natural structure of the rattan palm into an inimitable high-tech material that is both sustainable and commercially profitable.

karuun® is the start of modern material thinking, be part of it now!



Patented processing technology

Our patented processing technology takes advantage of rattan's characteristic vascular bundles, making it possible to treat the entire cross-section of rattan rods for the first time.

Lightfast, UV-stable pigments can be injected into the capillaries of peeled rattan rods with minimal energy consumption. karuun® poles are milled square, then these pieces are glued into panels or pressed into blocks. Amazingly, the trimmed-off fibres can also be processed into different products.

Depending on the cut direction, materials with distinct properties and wide-ranging applications can be produced: cutting vertically creates the robust and malleable karuun® stripe and karuun® 3D; cutting horizontally creates the translucent and air-permeable karuun® shine.

Despite this substantial modification, the material's inherent characteristics remain intact; the pole's unmistakable fibre structure runs through the surface.

karuun's quality-controlled, patented manufacturing process is designed to be as resource-friendly as possible so as to preserve nature for future generations. To optimise the supply and process chain sustainably in keeping with our social and cultural responsibilities, we're committed to reproducing the greatest possible value creation in Indonesia.



karuun® block

The world's first blocks made from the trunk of the rattan palm – form and function in perfect harmony.

Poles of rattan are painstakingly transformed into karuun® before being milled square and pressed into blocks with a uniform fibre structure. As a prefabricated, dry and solid material that doesn't splinter or have any knots or uneven growth, karuun® block is ideally suited for all high-end applications requiring solid materials. karuun® block is fast becoming a popular choice, it stands out from other natural materials not least because of its structure, which doesn't show any splintering, knots or uneven growth when processed.

Either with dyed capillaries or left natural, both the end and face grain are visually stunning and possess remarkable tactile qualities. When exposed by diagonal or free-form seams in the blocks, the capillary structure becomes a celebrated design artefact.

karuun® block can be processed with any cutting tools, making it ideal for woodworking in the premium wood industry as well as for furniture and interior design. Its special charm though, is its natural beauty which is accentuated when karuun® block is milled or turned at different angles.

Dimensions (L x B x H): ~ 2550 x 330-350 x 170 mm
(custom sizes on request)

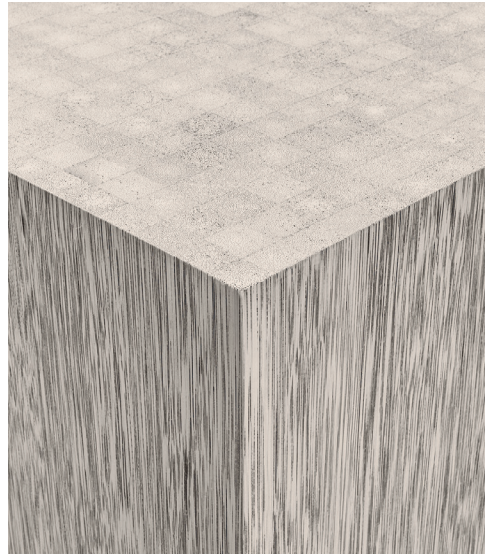
Design: various qualities and colours available, untreated

Data sheet and processing instructions available for download on karuun.com.



Explore our cases with karuun® block:

Scan the QR code to browse the latest cases and news, and discover fresh karuun® block solutions for your industry.



The advantages of karuun® block



No knots or uneven growth
karuun® block has a naturally uniform surface.



Milling and turning
Free-form transitions are enhanced by different angles.



No splintering
karuun® block can be processed and used without the risk of splinters.





karuun® stripe

karuun® stripe's innovative surface sets impressive aesthetic standards and offers limitless processing freedom.

Rattan's natural linear grain is enhanced by custom colouring options, not only amplifying the material's visual impact but also minimising visible seams, which are tricky to avoid when jointing veneer.

karuun® stripe possesses outstanding material properties at an astonishingly low weight. Particularly when it comes to processing, karuun® stripe impresses with its formability and tensile strength. karuun® stripe is laminated with a thin cellulose coating to prevent cracks forming during processing.

Distinctive qualities, such as translucency and back-lighting establish karuun® stripe as a pioneer of natural alternatives to artificial surfaces. More and more uses are being identified, in particular in the automotive and transportation sectors.



The advantages of karuun® stripe



Translucency and backlighting
The delicate capillary structure provides unparalleled translucency.



Custom colour options
karuun® comes in four capillary colourations, and a wide range of different tones can be added.



Unlimited joining
karuun® stripe is available on a galvanized roll and can be joined side-by-side without visible seams.

Thickness: 0.6/0.8 mm (coated, prepolished)
Dimensions: 2530 × 330 mm (custom sizes upon request)
Design: natural, black, red, blue stripes and custom
Lamination: thin nonwoven fabric

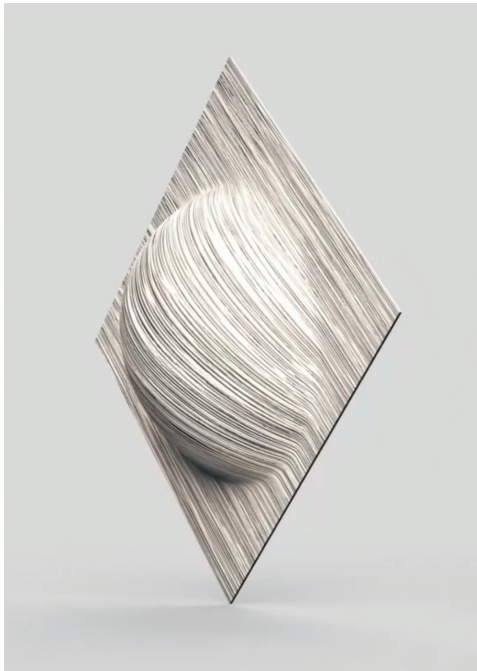
Data sheet and processing instructions available for download on karuun.com.



Explore our cases with karuun® stripe:
Scan the QR code to browse the latest cases and news, and discover fresh karuun® stripe solutions for your industry.

karuun® 3D

Robust fibres transformed into stable spherical objects – predestined to replace artificial composite materials such as fibreglass.



Unprecedented three-dimensional formability made possible by precisely aligned longitudinal fibres and capillaries, and a robust, waterproof, 3D cellulose nonwoven fabric. Squeeze, pull and stretch – thanks its to organic dynamics, karuun® 3D can be flexibly adapted for custom applications. Not only does this reduce weight, it also makes karuun® 3D an excellent alternative to plastic and an ideal material for technical veneers.

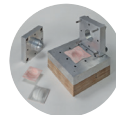
With these technical properties karuun® 3D is a particularly exciting option in the field of green mobility and as a replacement for plastic.

The advantages of karuun® 3D



Reduce weight

The product has a density of +/- 400kg/m.



Three-dimensional formability

Comparable to deep drawing: fibre alignment in a multilayer structure for adjustable performance.



Replace plastics

Multi-layer structure and precise fibre alignment create a natural composite.

Thickness: 0.8 mm (coated, prepolished)

Dimensions: custom sizes upon request

Design: natural, black, red, blue stripes and custom

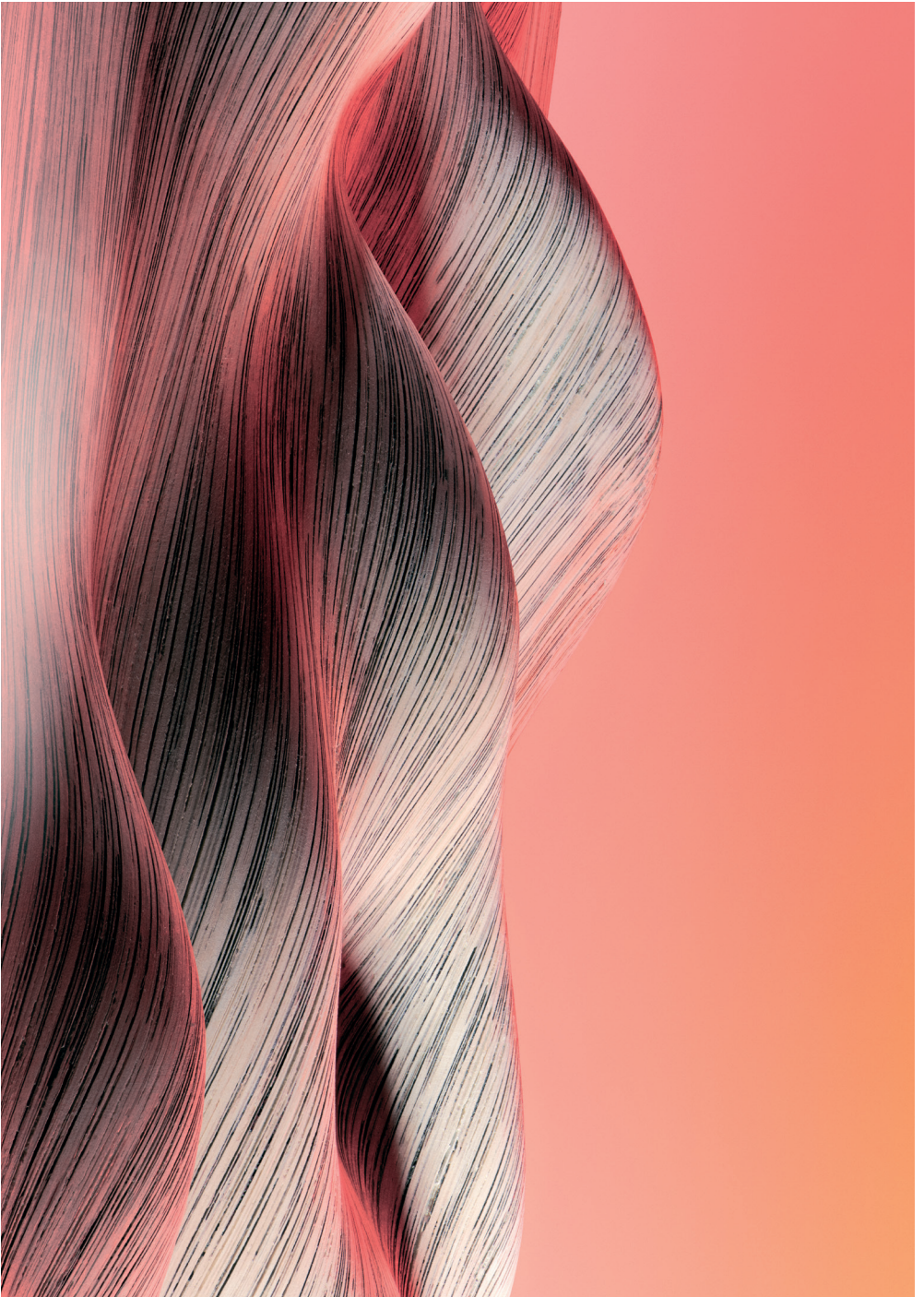
Lamination: thick 3D cellulose nonwoven fabric

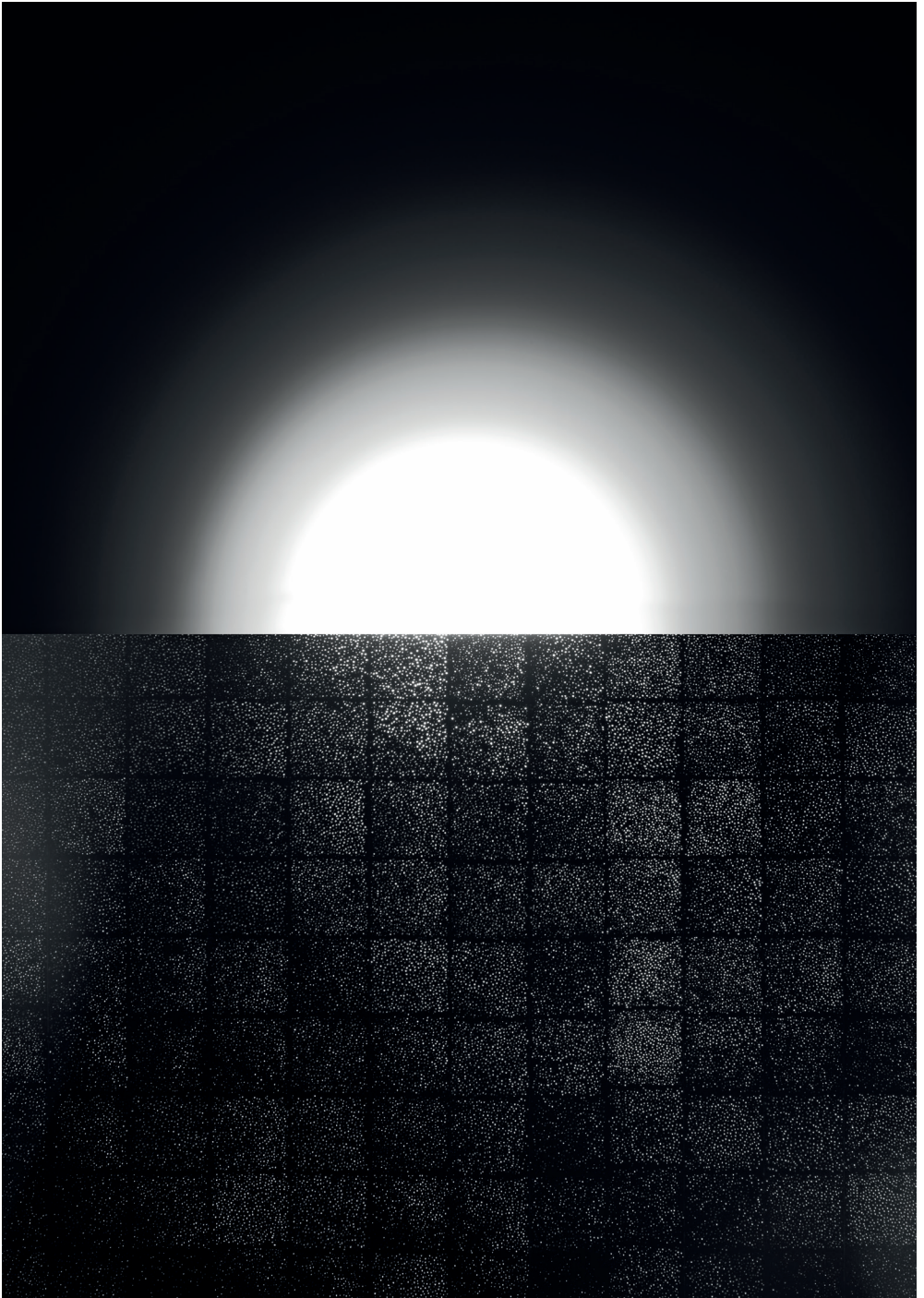
Data sheet and processing instructions available for download on karuun.com.



Explore our cases with karuun® 3D:

Scan the QR code to browse the latest cases and news, and discover fresh karuun® 3D solutions for your industry.





karuun® shine

Amazingly light yet outstandingly hard, fine to the touch and highly formable, while remaining permeable to air and light.

karuun® shine is produced by saw cutting the face wood of karuun® block. Cut this way, rattan's hollow capillaries reveal a subtly tiled pattern on a naturally perforated surface that is translucent and even slightly malleable. Depending on the angle it is viewed from karuun® shine appears to vary in thickness and translucency, and rearranging pieces in a certain way gives the impression of individual pixel-like surfaces. As a functional, natural material, karuun® shine is perfect for use in a wide range of new applications, from customised sound insulation to avant-garde lighting design and innovative surfaces for walls and floors.

karuun® shine is a light material that is permeable to light and air and has excellent stability, formability and feel. From custom-made, high-tech acoustic protection, to avant-garde lighting design and innovative flooring, karuun® shine is a versatile material with a unique capillary structure.

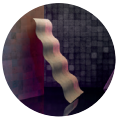
The advantages of karuun® shine



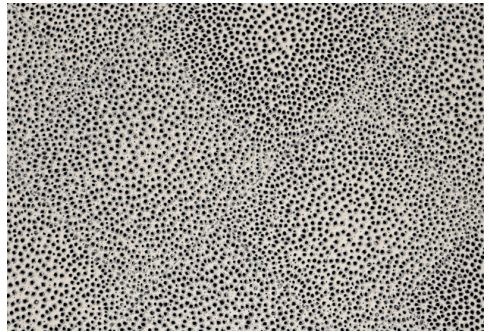
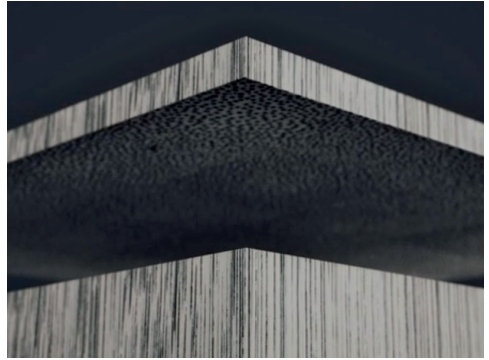
Translucency and backlighting
Amazingly light, yet incredibly durable – without losing its air and light permeability properties.



Manage acoustics
Rattan's hollow capillaries provide a naturally perforated surface.



Two-dimensional formability
A functional natural material, suitable for a broad spectrum of new applications.



Thickness: 3 / 5 mm (unpolished)
Dimensions: custom sizes upon request
Design: natural, black, red, blue dots and custom

Data sheet and processing instructions available for download on karuun.com.



Explore our cases with karuun® shine:
Scan the QR code to browse the latest cases and news, and discover fresh karuun® shine solutions for your industry.

Green mobility

Automotive & Aviation: New propulsion methods and means of transport are leading to more complete sustainable concepts. With karuun® we're committed to this evolution and we're making valuable contributions towards redefining mobility in the long term.



More about karuun® in green mobility
Scan the QR code to learn more about our current projects and cases in the automotive and aviation sectors.



A natural, high-tech material for sustainable mobility concepts

As an intelligent answer to plastic, karuun® puts commercial, social and environmental goals on an equal footing

You make an effort to be sustainable – and it shows: to preserve tropical forests and a secure livelihood in the long term for farmers at the production site in Indonesia. Short transport routes to the important production and sales market in China helps to further reduce CO₂ emissions. This way we can take care of the environment together.



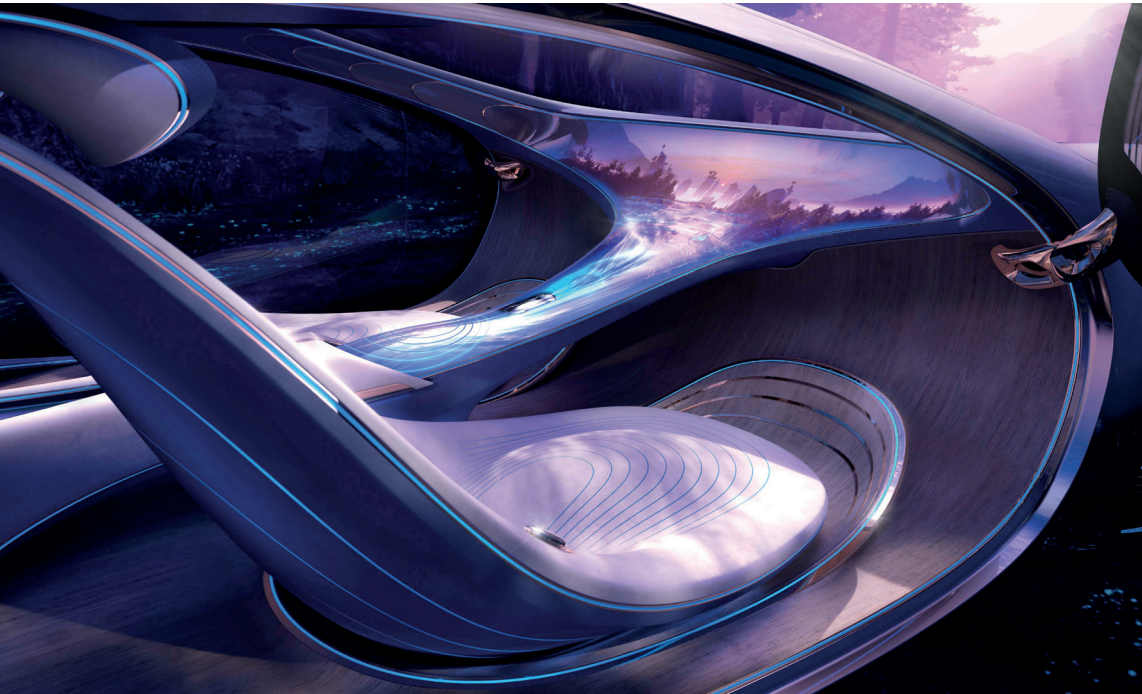
High tech from nature karuun® is tested according to automotive standards and is ready for series production

Rattan is a naturally lightweight material with enormous potential for processing: from 3D shaping and components with extreme radii to back-injection plastic. The material's robust fibres prevent splintering or blunt fractures, making karuun® 3D both astonishingly stable as well as a safe and high-performance alternative to plastic. Plus it doesn't give off any toxic vapours.



Two-Tone Design karuun's two-tone design gives you complete design freedom while simultaneously showing off a homogeneous, aesthetic structure

Compared to other natural materials, karuun® has practically no irregularities. This means that your designs can be reproduced with minimal waste. Besides its inimitable looks, karuun's noise and vibration damping properties provide fine acoustics.



Mercedes-Benz VISION AVTR

A visionary concept that rethinks e-mobility. This calls for a radically sustainable approach – this calls for karuun®.



EV revolution by NIO

Sustainability as standard: karuun® adorns interior of the new ET7, the flagship of electric car manufacturer NIO.

Sustainable architecture

Eco-friendly building projects, interior architecture and design, and furniture making: karuun® actively contributes to the efficient use of materials, space and energy to keep the ecological footprint of construction projects as low as possible.



More about karuun® in sustainable architecture
Scan the QR code to learn more about our projects and references in the fields of eco-friendly building, interior architecture and design, and furniture making.



Build sustainably

Rainforests are the earth's air conditioner

Using renewable non-wood products helps to conserve tropical forest resources, and it shows support for CO₂-neutral buildings. With karuun® you're not only creating your own sustainable home, through a fair supply chain you're also protecting the livelihood of rattan farmers in Indonesia.



Green living with karuun®

karuun® is a high-quality natural material with versatile uses

karuun® stripe for stunning interior surfaces; karuun® 3D for light, spherical objects; karuun® shine for light-suffused design and fine acoustics – all karuun® materials will leave you feeling great, as will the fact they're produced using a low-pollution method.



Bespoke design

With the two-tone appearance, you're free to create an infinite number of colour combinations, individually matched to your interior design

karuun's uniform appearance is not only pleasing to the eye, it also minimises waste. What's more, it can be processed with all common woodworking machines, methods and tools.



karuun® in the heart of Munich
Ludwig Beck is one of Munich's most prestigious department stores and it's also leading the way in the use of sustainable materials.



karuun® heimat spa
The "Ochsen" hotel in our home region, Allgäu, receives guests from all over the world and is now home to the first wellness area made of karuun®.

Replace plastic

Product design, consumer goods, sporting goods, electronic devices: Reducing plastic waste in our ecosystem by favouring eco-friendly and high-quality alternatives to plastic is close to our heart. The use of karuun® in industry guarantees a social and environmentally friendly contribution to this cause. Ensuring mindshifts that lead to action.



More about karuun® as a plastic replacement
Scan the QR code and learn more about our current projects and cases from product design, consumer goods, sporting goods or electronic devices.



The ecological alternative to plastic

An almost forgotten natural product is transformed into a revolutionary answer to plastic

karuun® is a renewable natural material that embraces a future-oriented circular economy. Every stage of the value chain is in one place, from cultivation in the Indonesian rainforest to harvesting and resource-friendly processing. karuun® gives you the freedom to make the best choice – your contribution to a better future.



Processing at automotive industry standards

karuun® is a natural material that meets all the requirements of serial production

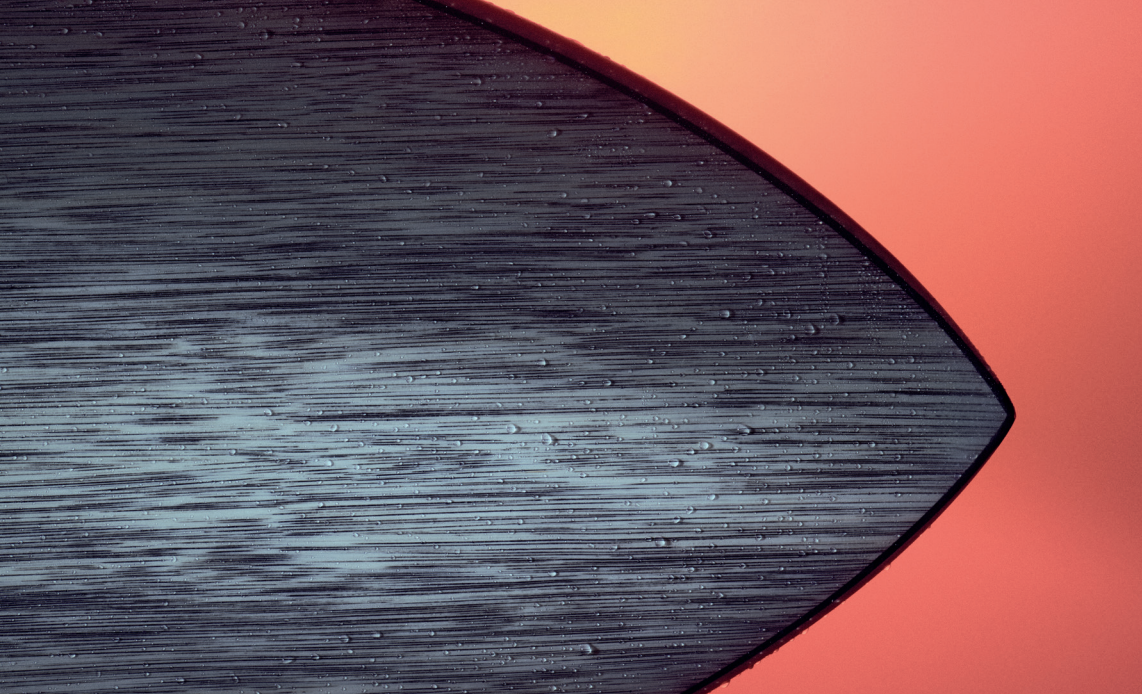
karuun® can be used with all common processes and machines in industry, so it has enormous processing potential. Possessing the properties of a natural film, karuun® stripe offer seamless joints with no waste or offcuts, while karuun® 3D can be shaped into dimensionally-stable spherical objects that could otherwise only be achieved with artificial materials.



Custom product design

The style, colours, and filling materials can all be hand-picked to create custom karuun® products

This flexibility allows product designers to express their unique creativity with sustainable materials like never before. Stunning new products can be created with this intelligent material, unlocking fresh and exciting options, especially in the premium consumer goods sector.



The surfboard, reinvented

An organic alternative to plastic shouldn't be fun for Mother Nature only, right? Thank You, karuun® surfboard!



The WHF Desk

Home office, sweet home office: the working world is changing – and so is the WHF Desk!

For people and nature

Rattan use and rainforest conservation used to exist in harmony in Indonesia, we now have an unmissable opportunity to restore this balance.



In recent decades man-made materials have basically replaced rattan products, and rattan's sustainable history has almost faded out of memory. Until now. Through conscious rattan cultivation, we can finally honour our promise to protect tropical forests and embrace a new approach to the modern circular economy. Not only are tropical forests essential to the livelihoods of many peoples and the habitats of numerous plants and animals, it also absorbs an estimated 250 billion tones of CO₂ per year. That's about 90 times the greenhouse gas emissions resulting from human activities!

Rattan depends on biodiversity. It does not grow in monocultures, so it naturally forms a symbiosis with surrounding trees. In short, it needs the rainforest to thrive. Rattan is a renewable resource which grows like a vine, climbing from tree to tree, and it is harvested by hand by local farmers – the most environmentally friendly way. By buying and using rattan for karuun®, we're increasing the value of tropical forests and providing an incentive to conserve forest resources, all while creating long-term stable incomes for local farmers.



The karuun® cycle
With the karuun® cycle, we're uniting community, commercial and environmental interests for a sustainable and responsible supply chain.

1 RATTAN



Karuun is made of rattan - a fast-growing, non-timber product.

Thrives only in biodiverse forests.

5 KARUUN PRODUCTS



More forest is needed as demand for rattan rises.

2 CULTIVATION



Harvested by hand.



Natural trees are essential. No deforestation for plantations!



3 JOBS ARE CREATED

4 SAVING THE FOREST, ENCOURAGING REFORESTATION

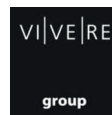
Let's Reanimate Rattan

The rediscovery of a bio-economic material to boost sustainable rattan production for completely new industrial and design applications.



As part of the scope of the develoPPP.de programme, a funding program of the Federal Ministry for Economic Cooperation and Development (BMZ), we're working together with our Indonesian partner VIVERE Group and GIZ to boost sustainable rattan production for completely new industrial and design applications. In recent years rattan products have largely been replaced by products made from artificial materials. In Indonesia, the world's largest rattan producer, this has led to many small holder farmers losing their jobs. However, regarding innovative rattan products, there is a rising demand by future-oriented companies for sustainably produced, organic materials such as the Nature Tech material karuun®.

Our partners:



Implemented by



At the end of the programme the following impacts and results are targeted:



200 smallholder farmers have **increased their net income** from sustainable rattan harvesting on average by **30%**.



A **sustainable quality management system** for innovative rattan is **established** at farmer, collector and supplier level.



200 relevant stakeholders are aware of the possible applications of rattan for modern design furniture and other products.



400 trained farmers have developed capacities in applying a **management plan, sustainable harvesting and enrichment planting** for rattan.

out for space – inspired by nature

As an interdisciplinary team we've managed to revolutionise the world of materials, combining research and design to establish karuun® in a diverse variety of markets.

Our Roots

out for space GmbH was founded in Kisslegg in 2015 and now has an international team.

Being granted a patent to refine and process rattan into intermediate goods such as panels, blocks and veneers kick-started the company. Before the company was even founded, karuun® was awarded the German Design Award in Gold. Today, the ofs-Group focuses on manufacturing, selling and developing karuun® materials to create pioneering products for forward-looking industries.

Vision

By combining research and design, out for space is blazing a new trail in sustainable material development.

Inspired by nature, traditional craftsmanship and modern technology, out for space sets exemplary standards in the manufacture of sustainable materials and innovative products. Driven by a vision to revolutionise the world of products and materials, we tackle unique projects which stretch from the rainforests of Asia to rural Allgäu, the homeland of out for space.

Mission

out for space embodies the passion for creating new space, space for greater awareness between man and nature – out for space.

out for space wants to pioneer economic change. We are convinced that sustainable economic development can only be achieved by simultaneously and fairly pursuing environmental, social, but also commercial goals.



Our Team: Felix Wurster, Julian Reuter, Fabian Schiller, Gerta Schmidt, Moritz Köhn, Felix Horn, Peter Kraft, Miriam Bröckel, Rainer Sontheim, Stephan Vidic (from left to right).

How did the idea for out for space and karuun® come about?

During a trip to Bali, Julian Reuter discovers an almost forgotten material at a small handicraft market: rattan. He watches in fascination as the craftsmen make shapes and designs that he'd never seen done with a natural product before. Realising that the cultivation and harvesting of rattan in the 70s and 80s actually helped to preserve the rainforest turned that initial fascination into a vision for the future: to reanimate the material rattan.

Julian Reuter shares this with Peter Kraft right from the start. The two product designers have been successfully collaborating on projects together since their student days, and are always on the lookout for materials and solutions that combine ecology, design and economy. They believe that:

“A product can only be as smart, social or sustainable as the material it is made of.”

They recognise the potential of the “hidden treasure”: a one-of-a-kind high-tech material that is not only sustainable but also profitable. In cooperation with the Innovation Centre Lichtenfels, the innovative material karuun® and the company out for space are simultaneously created.

Awards

karuun® is not only exceptional due to its technical properties, but also corresponds to the growing public awareness of the importance of preserving our earth's ecosystems.



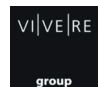
Clients and partners

The innovative and award-winning properties of karuun® have persuaded several well-known companies to work with us on customised material and product development.

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Order karuun® samples

To find out which karuun® material is best suited for your project – simply scan the QR code and request the perfect set right away.

