THE KIRI WOOD COMPANY

KIRI TEC®

KIRITEC.EU

KIRI CULTIVATION

SUSTAINABILITY FROM THE VERY BEGINNING

SUSTAINABLE PLANTATION CULTIVATION WITHIN THE EU

KIRITEC sources Kiri trees exclusively from agroforestry plantations and systems within the EU, not from forests. This creates an additional supply of wood without putting pressure on natural forests.

USE OF NON-INVASIVE HYBRID VARIETIES

Only specially bred, non-invasive hybrid varieties of the Kiri tree are cultivated on the plantations. The genetic origin of the plants is strictly monitored and documented.

EFFICIENT LAND USE

The plantations can be established on sandy soils that are unsuitable for many other agricultural products. The large leaves of the Kiri trees form nutrient-rich humus after falling, enhancing the agricultural value of the land.

EXCEPTIONAL GROWTH PERFORMANCE

The Kiri tree can reach heights of up to 6 meters in its first year. After ten years, its trunk diameter can be up to 40 cm. This allows it to produce the wood volume of other hardwood trees in a fraction of the time, helping to sustainably meet the growing global demand for wood.

CLIMATE PROTECTION THROUGH CO_2 SEQUESTRATION

Each Kiri tree can store up to 35 kg of CO_2 per year from the atmosphere. One hectare of plantation can bind up to 40 tons of CO_2 annually – many times more than mixed forest areas.

KIRI REGROWS

After harvesting, the Kiri tree sprouts anew from its rootstock. Multiple harvest cycles are possible without the need for replanting.

KIRI WOOD

KEY PROPERTIES

EXTREMELY LIGHTWEIGHT

With a weight of about 250 kg/m³, Kiri is lighter than most woods. For comparison: Oak weighs about 700 kg/m³, Beech 720, Pine 480, and Spruce 450 kg/m³. This saves transport and energy costs.

GOOD STRENGTH

Due to its honeycomb-like cell structure, Kiri is very strong and stable relative to its weight.

HIGH DIMENSIONAL STABILITY

Kiri has extremely low swelling and shrinkage behavior, making it ideal for environments with changing humidity.

INSULATING

Only 0.09 W/mK – Kiri stores a lot of air in its vacuoles and insulates more than twice as well as oak or beech.

WEATHER RESISTANT

Multi-month tests by the Burckhardt Institute at the University of Göttingen proved: no cracks, no warping, no cupping.

VIRTUALLY KNOT-FREE

Excellent care during growth enables a completely knot-free range. Its fine grain and pleasantly smooth feel make it attractive for many high-quality applications.

EASY TO PROCESS

Kiri does not splinter and is easy to process manually and mechanically, readily absorbs stains and varnishes, and glues very well.

1 Kiri tree plantation of the WeGrow Group near Talavera, Spain

2 Kiri wood warehouse at the KIRITEC site in Tönisvorst

WATCH THE KIRIBLOX® VIDEO

KiriBloX®

THE SIMPLE WAY TO BUILD WITH WOOD

THE STANDARDIZED KiriBloX® WALL MODULES ENABLE FAST AND VERY SIMPLE ASSEMBLY OF INTERIOR AND EXTERIOR WALLS, WHILE OFFERING MANY ADDITIONAL ADVANTAGES.

IMPRESSIVE BUILDING PHYSICS PROPERTIES

KiriBloX® provides high fire protection: REI 90 with a wall thickness of 22.5 cm, making it particularly safe for use in buildings.

The vertically aligned wood fibers allow for exceptional load-bearing capacity, making KiriBloX® ideal for multi-story construction.

Like Kiri wood itself, KiriBloX® modules exhibit very low swelling and shrinkage behavior. Even under changing weather conditions, the modules remain dimensionally stable and true to form.

Thanks to the high air content in the Kiri wood, the KiriBloX® system achieves excellent insulation properties. With just a 60 mm external lightweight fiber insulation board, the required U-values can be met.

Additionally, the KiriBloX® modules feature vertical cavities between the individual octagonal profiles. These cavities can be filled on-site with blown-in insulation (all approved products), further improving thermal insulation.

For the interior side of exterior walls and interior walls, cladding with vapor-permeable products is optional. If cladding is used, the vertically running triangular grooves between the octagonal profiles allow for the installation of utility lines behind the cladding.

The solid and vapor-permeable wall structure of KiriBloX® ensures consistent temperature and humidity regulation, creating a balanced, pleasant, and healthy indoor climate.

EASY TO BUILD – EASY TO HANDLE

The assembly principle is almost intuitive; if you can build with LEGO bricks, you can build with KiriBloX®. Accordingly, the training effort for professionals is minimal. Assembly times and personnel requirements are significantly reduced thanks to the plug-in system.

KiriBloX® modules are true lightweight: a KiriBloX® 150 weighs only about 11 kg, and a KiriBloX® 250 about 35 kg. The modules are easy to handle on-site and are delivered as palletized goods. Small mini cranes with grippers (2–5 m reach) are sufficient for lifting the pallets.

Due to the low weight and compact shape of the KiriBloX® modules, truck and container volumes can be almost fully utilized during transport. One truckload or container shipment includes 66 packages of KiriBloX® – each package contains 14 elements of type 150 or 8 elements of type 250. This makes transport very cost-effective and reduces associated CO_2 emissions.

MODULES

TWO MODULES – VERSATILE DESIGN POSSIBILITIES

KiriBloX® modules consist of interconnected octagonal profiles milled from Kiri tree trunks of suitable diameter.

FOR INTERIOR AND EXTERIOR USE

KiriBloX® is available as 150 and 250 modules. The 150 modules consist of 2 layers of octagonal profiles, each with a diameter of 7.5 cm, resulting in a thickness of 15 cm. They are used for partition and interior walls. The 250 modules consist of 2 layers of octagonal profiles, each with a diameter of 12.5 cm, resulting in a thickness of 25 cm. They are used for load-bearing exterior walls.

VERTICAL EXPANSION

KiriBloX® modules are also categorized into A and B modules. The A modules serve as top-end modules and, when inverted, as bottom base modules. They have a height of 105 cm and a plug-in height of 90 cm. The B modules have a height of 105 cm and a plug-in height of 105 cm and are used as intermediate modules. Two A modules and one B module together reach a total height of 285 cm.

FLEXIBLE WIDTH OPTIONS

Standard KiriBloX® modules consist of rows of five octagonal profiles. They are complemented by 3-row and 2-row partial modules, allowing for straight wall terminations in staggered assemblies, such as corner joints. For special cases, individual octagonal profiles are also available without pre-drilling in heights of 90 cm and 105 cm.

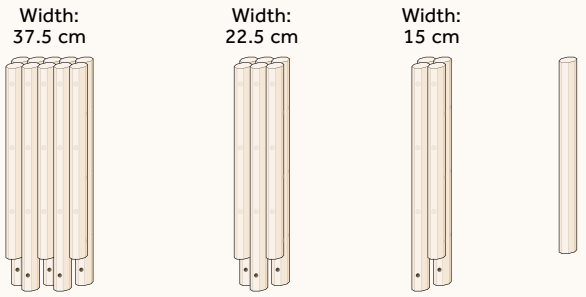
SECURE CONNECTIONS

KiriBloX® modules are connected using precisely milled system dowels made of pine wood. Since pine is harder than Kiri wood, the sharp edges of the dowels create a permanent and highly durable bond when driven into the pre-drilled holes. The dowels have a diameter of 2 cm and a length of either 15 cm or 25 cm.

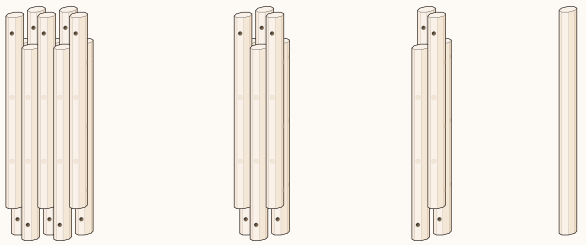
150 MODULES FOR PARTITION AND INTERIOR WALLS

Depth: 15 cm, Height: 105 cm

A-modules, stacking height: 90 cm



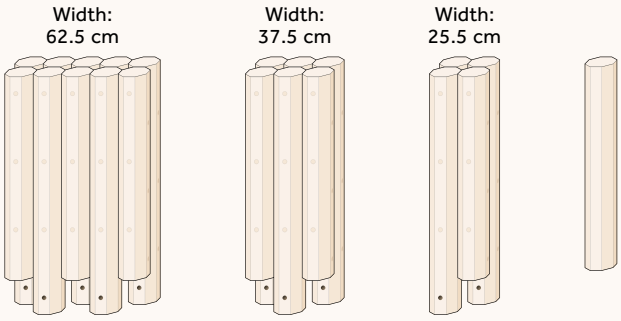
B-modules, stacking height: 105 cm



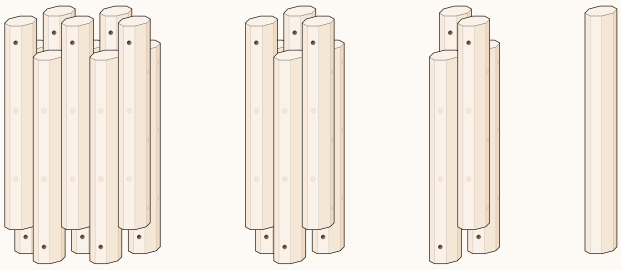
250er MODULE FÜR AUSSENWÄNDE

Depth: 25 cm, Height: 105 cm

A-modules, stacking height: 90 cm



B-modules, stacking height: 105 cm

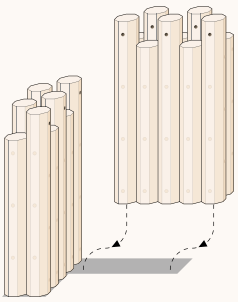


ASSEMBLY

EXAMPLE: EXTERIOR WALL CORNER WITH 250 MODULES

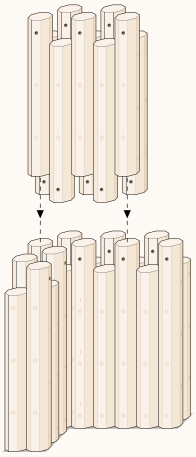
1

A250 Standard modules (5-row)



2

B250 Standard module (5-row)



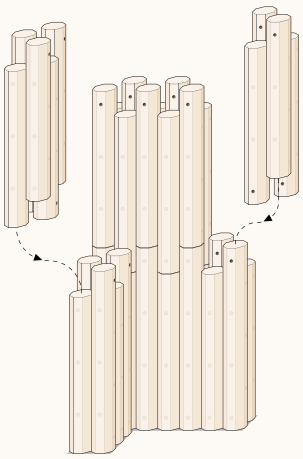
3

Dowels **250**-20

4

B250 Partial module (3-row)

B250 Partial module (2-row)



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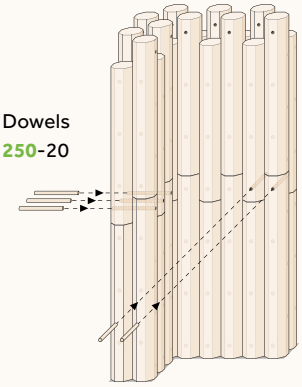
Dowels **250**-20



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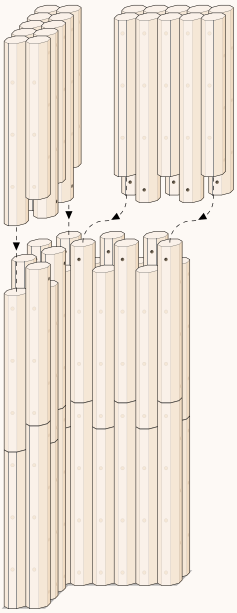
A250 Standard modules (5-row)



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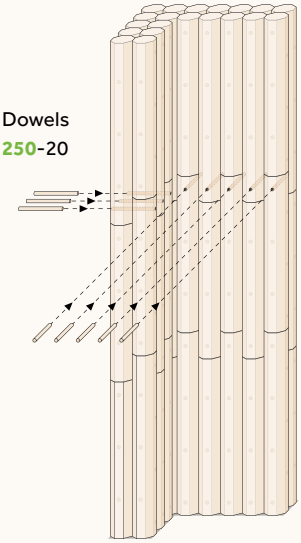
Dowels **250**-20



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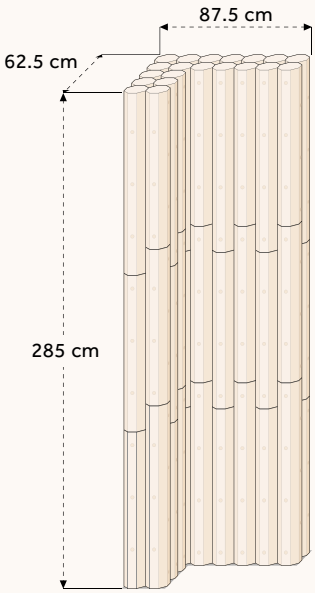


NATURE BENEFITS TOO

In addition to the ecological advantages of Kiri wood itself, KiriBloX® offers further benefits.

The modules are joined exclusively using precisely milled system dowels – without glue or metal. They can be dismantled without damage and reused in a circular manner – saving resources and permanently binding CO_2.

Production is also efficient: the solid wood utilization rate from round log to finished module is around 70%. Even young Kiri trees reach the required dimensions after about three years – a clear advantage for sustainable plantation forestry.

For KiriBloX®, smaller diameters and shorter lengths from agroforestry thinning and crown wood are specifically used. This wood would otherwise be used only to a limited extent – such as for firewood.

SECURED RAW MATERIAL SUPPLY

Wood is a renewable resource, but not all types of wood are always available in unlimited quantities. Spruce, the "bread-and-butter tree" of the timber industry, is becoming increasingly scarce due to climate change.

KIRITEC is independent of external procurement markets. The Kiri wood comes from its own production within the WeGrow Group, to which KIRITEC belongs. In addition, production is steadily increasing through cultivation partners from the WeGrow plant customer network. This ensures a secure and expandable raw material base.

1 Manufacture of octagonal profiles for KiriBloX® using industrial planers

2 View of the KiriBloX® production hall at the KIRITEC site in Tönisvorst

KIRITEC GmbH is part of the German corporate group WeGrow, headquartered in Tönisvorst, Germany. WeGrow AG is publicly listed (ISIN: DE000A2LQUV1 | WKN: A2LQUV). KIRITEC develops, processes, and markets innovative timber construction products made from Kiri wood. In doing so, KIRITEC combines material innovation with practical expertise and focuses on solutions for resource-efficient and climate-friendly construction.

Founded in 2009, the **WeGrow Group** specializes in the breeding, cultivation, and utilization of fast-growing, non-invasive Kiri tree hybrids. The group covers the entire value chain – from plant innovation and plantation management to sustainable wood production and refined processing for modern construction.

WeGrow is the world's leading supplier of Kiri tree hybrids, serving customers in 50 countries. Additionally, WeGrow is one of the leading producers of sustainable Kiri wood, managing over 500 hectares of short-rotation plantations in Germany and Spain.

1 The patented KiriBloX® system dowel

2 KiriBloX® test specimen during static load test at MFPA Leipzig

3 Model of a wooden house made of KiriBloX®

4 CEO Peter Diessenbacher in front of KiriBloX® wall assembly

PHYSICAL PROPERTIES

KiriBloX® WALL SYSTEM

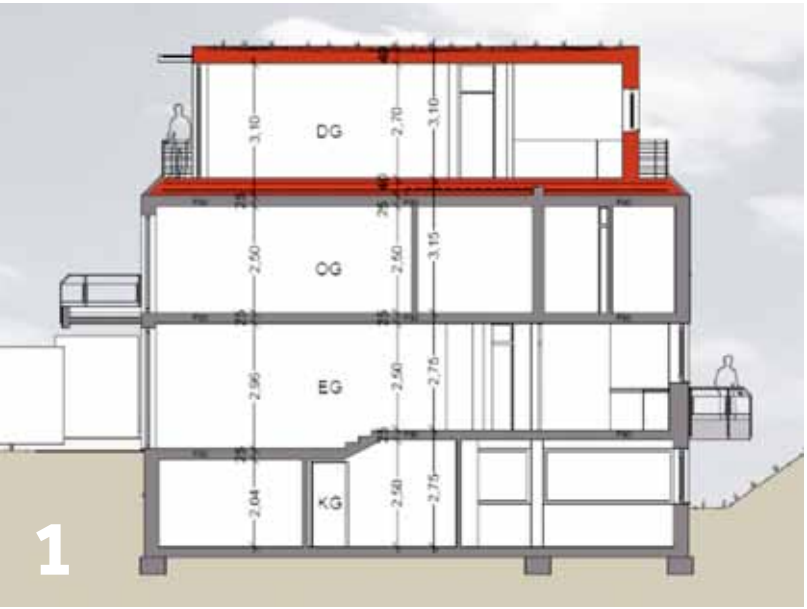
FIRE PROTECTION	Wall thickness 22.5 cm	REI 90
THERMAL INSULATION	Wall thickness 25 cm External insulation: 6 cm Gutex fiberboard Interior cladding: 20 mm plaster carrier board Middle cavities filled with mineral loose fill	Heat transfer coefficient U 0.19 W/(m²·K)
STATICS	Wall panel load-bearing capacity without superimposed load Height: 2.4 m Width: 2.4 m Thickness: 22.5 cm	Fmax = 29.34 kN
	Wall panel stiffness without superimposed load Height: 2.4 m Width: 2.4 m Thickness: 22.5 cm	341.08 kN
	Admissible wall compressive force Height: 3 m Length: 1.5 m Thickness: 22.5 cm	1,000 kN
DOWEL PULL-OUT	Diameter approx. 15 mm (profiled surface – not round)	Mean value: 289 N
	Diameter approx. 25 mm (profiled surface – not round)	443 N
SCREW PULL-OU	Chipboard screw 5 x 100 mm, partial thread, countersunk head, PZ2, insertion depth 75 mm, not pre-drilled	At 0° 1.81 kN At 60° 3.23 kN At 90° 3.80 kN
	Chipboard screw 6 x 100 mm, partial thread, countersunk head, PZ3, insertion depth 75 mm, not pre-drilled	At 0° 3.69 kN At 60° 3.23 kN At 90° 3.79 kN
	Timber screw 8 x 180 mm, partial thread, countersunk head, TX40, insertion depth 150 mm, not pre-drilled	At 0° 6.34 kN At 60° 5.04 kN At 90° 4.45 kN
	Timber screw 10 x 200 mm, partial thread, countersunk head, TX50, insertion depth 165 mm, not pre-drilled	At 0° 6.36 kN At 60° 8.02 kN At 90° 6.02 kN
	Lag screw 12 x 140 mm, partial thread, hex head, SW19, insertion depth 125 mm, pre-drilled with 8 mm to 80 mm depth	10.84 kN
COMPRESSION	According to EN 408 Test specimen single elements – 75 mm	16.46 fc,0 [N/mm²] 4587 Ec,0 [N/mm²]

EXPAND YOUR POSSIBILITIES WITH KiriBloX®

THE PROPERTIES OF THE KiriBloX® WALL SYSTEM MAKE IT IDEAL FOR A WIDE RANGE OF DEMANDING APPLICATIONS. AND FOR ONE IN PARTICULAR: BUILDING EXTENSIONS!

REFERENCE PROJECT: BUILDING EXTENSION

The need for urban densification is more relevant than ever across Europe. One way to achieve this is by building upwards: vertical extensions. In Bonn, North Rhine-Westphalia, an existing building will be extended upwards using KiriBloX® wall elements starting in November 2025. The structural advantages of the exceptionally lightweight Kiri wood are obvious. Moreover, the compact and lightweight KiriBloX® modules significantly simplify the construction process in confined spaces. Their high degree of prefabrication enables fast and efficient on-site assembly.



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1-3 Reference project in Germany, construction start November 2025
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CREATING LIVING SPACE

SUSTAINABLE AND WITHOUT SEALING NEW LAND

> *"Germany currently lacks around 1 million housing units. Extending existing buildings offers enormous potential to meet this demand – without sealing new land."*
>
> Federal Institute for Research on Building, Urban Affairs and Spatial Development (BBSR), 2024

Germany needs to build approximately 6.4 million new housing units by 2040 to meet the demand for affordable living space (BBSR, 2024). As new building land becomes scarce and expensive, urban densification and vertical extensions are gaining importance. At the same time, demands for sustainability, circular economy, and architectural quality are increasing.

THE ANSWER: KiriBloX®

KiriBloX® is a modular, lightweight, and circular construction system specifically developed to meet the challenges of dense urban environments. It enables the creation of additional living space without sealing new land – quickly, resource-efficiently, and with high aesthetic standards.

- Densification without additional land sealing
- Modular, lightweight, and circular
- Fast construction time, low loads, easy assembly
- Architecturally flexible and aesthetically refined

REFERENCE PROJECT: INTERIOR DESIGN

A reference project is planned for the use of KiriBloX® in the entrance area of a German hospital.

Other typical examples of interior design include showrooms, trade fair and museum buildings, community and educational facilities, as well as retail spaces such as shopping centers and supermarkets. In these areas, flexibility, adaptability, and sustainability are key.

Existing buildings whose previous use has become obsolete can also be efficiently repurposed through a new interior layout. The system's special advantages, low weight, fast assembly, and circularity – are particularly beneficial here as well.

FOR PROJECTS UP TO FOUR STORIES

KiriBloX® is suitable not only for extensions and interior solutions but also for multi-story new buildings such as single- and two-family homes, kindergartens, or student dormitories.

The dimensional stability and shape retention, along with the vertically aligned wood fibers of the individual modules, give the KiriBloX® wall system exceptional load-bearing capacity. This enables the realization of a wide variety of projects up to four stories high.

KIRI SAWN TIMBER

FLAWLESS AESTHETICS IN TOP FORM

KIRI WOOD FROM KIRITEC COMES EXCLUSIVELY FROM PROFESSIONALLY MANAGED CULTIVATION. THIS ENSURES IT MEETS THE HIGHEST AESTHETIC AND TECHNICAL STANDARDS.

OPTIMAL CONDITIONS

Thanks to controlled water and nutrient supply, regular pruning, and optimally timed harvesting, KIRITEC Kiri wood achieves particularly homogeneous material properties and a consistently aesthetic wood appearance.

LIGHT AND STRONG

Kiri's low weight makes it noticeably superior to other wood types in many areas. For example, it offers attractive energy-saving potential in logistics or for tiny houses/caravanning. It is also a valuable discovery for the growing lightweight construction market and for boat and shipbuilding.

INSULATION STAR AMONG WOODS

Kiri's high air content provides excellent insulation properties. Its strong insulating capacity makes it ideal for mobile construction, interior finishing, and sauna installations.

NATURALLY WEATHER-RESISTANT

Compared to other woods, Kiri is one of the most hygroscopic species. Once dried, it absorbs very little moisture again. This property makes Kiri highly weather resistant. Its stability in outdoor conditions increases the lifespan of Kiri products and reduces maintenance and repair efforts.

KIRI HOLDS ITS SHAPE

Wood works – some more, some less. Kiri, however, hardly at all. With its low shrinkage coefficient, it offers exceptionally high dimensional stability. This makes it suitable for many applications requiring high quality and precision in shape retention.

THE QUALITY GRADES

THE RIGHT QUALITY FOR YOUR PRODUCT

OUR KIRITEC SAWN TIMBER STANDARD FOR ALL QUALITY GRADES:

- Rough-sawn and trimmed on both sides
- Technically dried, 8–12% wood moisture
- Length: 2,500–3,500 mm
- Thickness: 26 / 31 / 52 mm
- Fixed widths: 80–120 mm
- Also available in variable widths
- From sustainable European plantation cultivation

The product range will be continuously expanded over the coming years.

QUALITY GRADE 1+

Flawless premium quality on both sides for the highest demands.

FRONT SIDE

- No knots
- No bark edge
- No pith tube cut

BACK SIDE

- No knots
- No bark edge
- No pith tube cut

QUALITY GRADE 1

Top quality for one-sided premium requirements.

FRONT SIDE

- No knots
- No bark edge
- No pith tube cut

BACK SIDE

- Knots up to approx. 20 mm allowed
- No bark edge
- No pith tube cut

QUALITY GRADE 2

Kiri with subtle features.

FRONT SIDE

- Knots up to approx. 20 mm allowed
- No bark edge
- No pith tube cut

BACK SIDE

- Knots allowed
- Minor bark edge portions allowed
- Superficial pith tube cut allowed

QUALITY GRADE 3

Kiri with distinctive wood characteristics.

FRONT SIDE

- Knots allowed
- Minor bark edge portions allowed
- Superficial pith tube cut allowed

BACK SIDE

- Knots allowed
- Minor bark edge portions allowed
- Superficial pith tube cut allowed

EXPAND YOUR POSSIBILITIES WITH KIRI SAWN TIMBER

FROM ARCHITECTURE TO FURNITURE, SAUNAS, AND DESIGN OBJECTS – KIRI SAWN TIMBER IS IDEALLY SUITED FOR A WIDE RANGE OF APPLICATIONS AND ENABLES CREATIVE SOLUTIONS.

1 THE ROOM OF SILENCE AT DOCUMENTA 15

Visitors to documenta 15 in Kassel can currently relax in a small temple made of Kiri wood, shaped like an elongated truncated pyramid. The "Tiny Temple" was created in collaboration with the DERIX Group, specialists in structural glued laminated timber construction. It consists of CLT panels, also known as xlam by DERIX – multiple layers of boards glued crosswise. Incidentally, entire residential and commercial buildings in modular construction could hopefully be built from this in the near future.

2 USE OF KIRI WOOD AT THE GRAND PIANO MANUFACTURER ENZENAUER

Trade magazines and forums praise the acoustic properties of Kiri wood – starting with the sonorous, rich tone heard when tapping the wood. Piano builders notice an increase in tonal richness. The grand piano manufacturer Enzenauer has recognized this potential and produces piano lids from ultra-light Kiri wood.

3 SAUNA POD BY DESIGN DUO TARANTIK & EGGER AND KÜNG WELLNESS AG

This sauna pod is a great example of upcycling. Each pod accommodates four people and fits into any garden with a footprint of just 2.5 m². The pods are weather-resistant and mobile. The interior is now available in a version made of Kiri wood. Thanks to its high insulation capacity, Kiri is particularly suitable for sauna furnishings.

4 ULTRA-LIGHT CAMPER IN TEARDROP DESIGN

The camper designed by engineer Anno Mentzel is by far the lightest and most ecological in its size class, reducing the fuel consumption of the towing vehicle. Additionally, the four liters of moisture produced per person per night pass through the wood to the outside without cooling it down. It never feels damp like in other caravans. An eco-friendly tealight stove is entirely sufficient as onboard heating.

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FURTHER INFORMATION IS AVAILABLE TO DOWNLOAD HERE.