21 SAWMILL GROUP

BROCHURE/2023

THE INTRODUCTION

FOREWORD

The following letter is dedicated to Steven He, our father, a husband, a businessman, and now the founder and director of 21 Sawmill Group.

This Brochure covers a selection of wood products that are essential facets to the construction of a building. End products that are directly produced from the limited resources found in the Surinamese tropical rainforest, which accounts over 85% of the Amazon basin.

“It will take more than one generation to realize a vision.”

His very own words to me in the year 2020 when we had our regular chat in the office. It was all just an idea without a plan that day; And I was not sold, nor interested to partake in his next enterprise. However, if that was his aspiration, he should make it happen, and I had promised to stand by him.

The following year, his idea developed further, his plans were coming together, and his mind was set to actualize this dream. Two years later, we had an actual Sawmill built.

Here are some key points: the first milestone set for 21 Sawmill, will be dedicated to the Surinamese market. This is our promise to satisfy the demand of our local community. In over three decades of building new businesses, expanding primarily into the home and building industry, we are now onto building a Surinamese brand. Reducing on the outsourcing to invest back into our in-house production line and employees is how we will foster growth in this particular sector.

The publication of this Brochure was about two months in the making. However, the establishment of a new Sawmill took over twenty years of dedication and consistency in effort.

Our products, expertise, values and objectives are summarized in this first edition.

Welcome to the introduction of 21 Sawmill Group.
We are One Family, serving another.

Yours sincerely,

Wendy He

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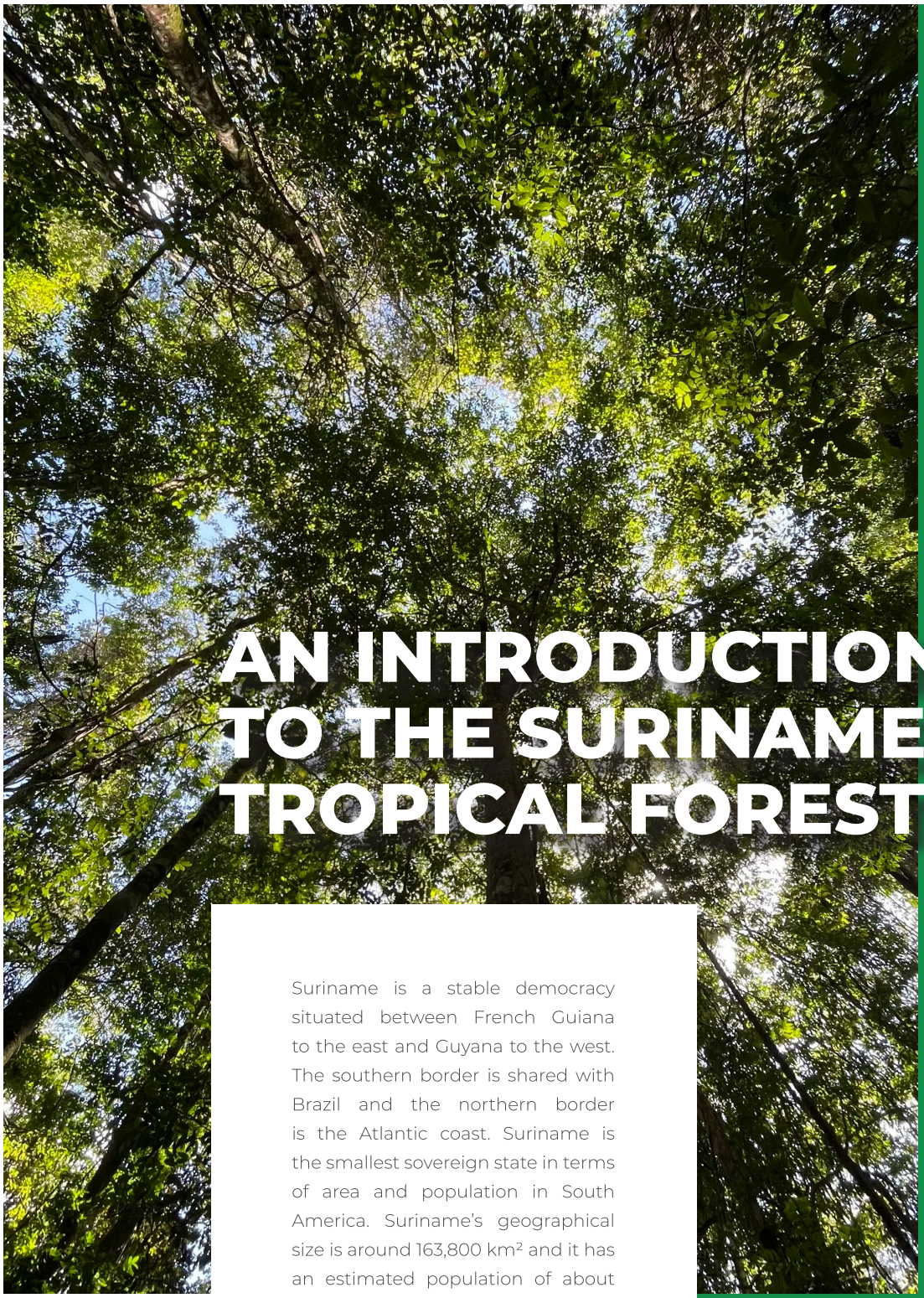


AN INTRODUCTION TO THE SURINAMESE TROPICAL FOREST

Suriname is a stable democracy situated between French Guiana to the east and Guyana to the west. The southern border is shared with Brazil and the northern border is the Atlantic coast. Suriname is the smallest sovereign state in terms of area and population in South America. Suriname's geographical size is around 163,800 km² and it has an estimated population of about 534,500 people. The country can be divided into two main geographic regions. The northern, lowland coastal area has been cultivated, and most of the population lives here. The southern part consists of tropical rainforest and sparsely inhabited savanna along the border with Brazil, covering about 80% of Suriname's land surface.

Approximately 90% of Suriname's total land area is classified as forest land (14.8 million ha). The vegetation of Suriname has been categorized into three main types: hydrophytic forest (1.3 million ha), xerophytic forest (150,000 ha) and mesophotic forest (13.4 million ha). Commercially the mesophotic forest is seen as the most valuable vegetation.

The logging activities take place in the forest belt (ca. 4.5 million ha with a productive area of 2.5 million ha) of which at present slightly over 200,000 ha is managed under the FSC SFM certificate (FSC: June 2013).

This belt is delineated as the northern and easily accessible part of the country. Several inventories, covering a total area of 683,700ha, have been carried out by the National Forest Service (LBB) and the FAO in the period 1949 till 1986. As an outcome of these inventories an average net commercial volume of 22 to 30 m3/ha has been found.

Surinamese forests contain hundreds of tree species. Of these only a small percentage is utilized for timber, at the risk of over-exploitation and thus jeopardizing sound recovery of these forest stands. Because of this, these forest stands have reduced economic value, value that would otherwise justify the overcoming of difficulties related to sustainable forest management and certification, both connected to high management costs in an environment where not all concessions are active.

Based on a first estimate, the National Forest Policy (2003) assumes a potentially annual sustainable cut of 1.0 - 1.5 million m3 based on a cutting cycle of 25 years and a logging intensity of 10 to 15m3 and if a steady expansion of the package of currently lesser-known species is realized.

The precautious approach suggests an annual allowable cut between 555,000 and 937,000 m3, still far greater than the current annual harvest: in 2010 the production was 247,000m3; in 2011 this was 366,000m3. Companies owned by foreign investors account for approximately 15% of that production. An average of 20% of the total processed and unprocessed wood is exported. The export is mainly unprocessed timber. Foreign investments account for 85% of the total export, mainly to the Asian markets.

INTRODUCTION TO WOOD SPECIES

For the tropics, the wood species of value classes I and II are suitable for heavy constructions which are in constant contact with the moist soils and or exposed in all weathers. Grades of value class III for the same purposes but shelter and not in contact with moist soil.

Those of class IV are suitable for light construction work, while the types of wood of class V are not eligible for permanent work.

Wood is not a homogeneous substance; it comes from a living organism. Now, when the tree is felled, there are large amounts of water in the trunk, which must gradually evaporate from the wood. Any wood requires careful and gradual drying out, in the pipeline under the roof or artificially, which reduces pulls and cracks and, after selection, produces a significantly better product that is much more resistant than non-dried wood. In addition, a significant decrease in weight is obtained, which is mainly for exports matters.

THE WOOD SPECIES

>>

Basra locus
Berg Gronfolo (Mondio)
Bolletrie

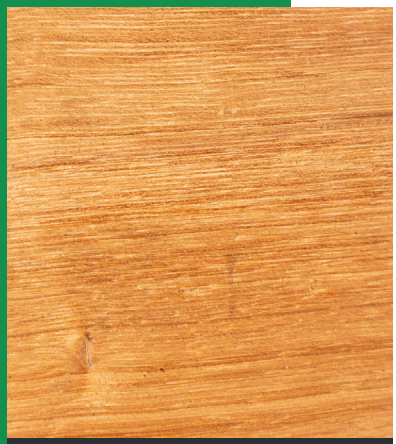
Basra locus:

Botanical name: Dicorynia paraensis Bth.
Family: Laguminosae.
S.G. 0.7-0.95

A heavy, fairly hard wood with gray colored spider mite and brown-gray heartwood. The wood shows variations in density, fineness of grain and color. The wood is strong (class II) and durable (class I-II).

It is best known for its resistance to pileworm infestation, due to the content of pebble bodies in the wood. The wood is primarily used as piles for hydraulic engineering purposes, but finds general application for other construction purposes. It is also suitable as staves for special vessels.

CODE: BAS



Berg Gronfolo (Mondio)

Botanical Name:
Qualea rosea, Qualea spp., Ruizterania spp.
Family: Vochysiaceae

Mondio is pinkish brown to red brown, sometimes olive brown. The wood contains a white substance in the pores. It has clearly demarcated sapwood.

CODE: BGR

Bolletrie

Botanical Name: Manilkara bidentata (A.D.C.) Chev.
Family: Sapotaceae;
S.G. 0.96-1.09

Very heavy, very hard wood with red-brown heartwood, in freshly cut condition with a lively red flesh color that darkens over time.

CODE: BOL

>>

Brownheart
Cedar
Greenheart

Brownheart

Botanical name: Vouacapoua Aubl.
Family: Leguminosae.
S.G. 0.87-0.97

A heavy, hard type of wood with a dark brown heartwood with fine, light brown lines, making it beautifully drawn.

CODE: BRH

Cedar:

Botanical name: Cedrela odorata Linn.
Family: Meliaceae.
S.G. 0.42-0.63

A fairly light type of wood with yellowish colored sapwood and reddish-brown heartwood. Due to the presence of essential oil in the wood, it is rarely affected by wood borers when dry, which is why it is often used for cupboards, cigar boxes, etc. working type of wood is requested. Strength class III. Durability class III-IV. Value class III.

CODE: CED

Greenheart

Botanical name: Tabebuia seratifolia Nickols.
Family: Bignoniaceae.
S.G. 1.00-1.15

It is an exceptionally heavy hard wood with green-brown heartwood.

Considered as one of the most popular tropical hardwood found in South-America also qualifying for the IPE standards. Due to its high durability it is used extensively for outdoor decking, heavy duty flooring as well as bridges and other construction purposes. The wood ranges in colour from yellow-green, golden yellow, yellow-brown to dark-brown.

CODE: GRH

>>

Hoogland Gronfolo (Mandioqueira)
Ingipipa (Tauari)
Kopi (Cupiuba)

Hoogland Gronfolo (Mandioqueira)

Botanical Name: Qualea brevipedicellata Stafl., Q. paraensis Ducke, Q. homosepala Ducke, Q. acuminata Spruce ex Warm., Q. lancifolia Ducke.
Family: Vochysiaceae

The heartwood is light grey, yellowish-light beige to brown/reddish brown in colour with light lines of the parenchyma tissue around the vessels. The clear to less clearly distinguishable spider mite has a pale yellow to yellowish color, sometimes to light brown. Sometimes growth rings are visible. In the wood there are locally white ingredients in the barrels, these are visible on the longitudinal surface as thin white lines. The heartwood has a moderate shine dry and no noticeable smell, fresh it has an unpleasant smell.

CODE: HGR

Ingipipa (Tauari)

Botanical name: Couratari guianensis
Family: Lecythidaceae

Tauari (Suriname Oak), also known as Ingipipa, is similar to North American Red Oak, but 13% harder. It ranges from tan to medium brown in color, and has a medium graining pattern.

CODE: ING

Kopi (Cupiuba)

Botanical name: Goupia glabra Aubl.
Family: Celastraceae.
S.G. 0.85-0.94

A heavy, hard wood with red-brown heartwood and lighter colored sapwood. The wood is strong and quite durable. Heartwood and sapwood can both be used. In Suriname, it is the most commonly used type of wood in residential construction, especially for exterior walls. It is also used for furniture. Freshly sawn, the wood has an unpleasant smell, which disappears when the wood is properly dried.

CODE: KOP

>>

Letter wood
Locus: (red)
Maka Kabbes (Angelim Pedra)

Letter wood:

Botanical name: Piratinera spec. diff.
Family: Moraceae.
S.G. 0.95-1.33

An exceptionally heavy and hard type of wood. The heartwood is dark reddish brown with irregularly shaped dark spots. There are different types, of which the coarser and the finer speckled species, the so-called Manletterhout, are the most valuable. The heartwood makes only a little part of the trunk. The wide, light colored sap-wood is of no value.
The wood is very durable and strong. It is mainly due to its beautiful shine and drawing used for luxury items and for fine, expen-sive furniture.

CODE: LET

Locus: (red):

Botanical name: Hymenaea Courbaril Linn.
Family: Leguminosae.
S.G. 0.88-0.96

A heavy, hard type of wood with red-brown heartwood and light grey-brown sapwood. The wood is strong (Class I-II) and quite durable (Class II). The wood cracks and works little. It is used for furniture, interior panelling. Due to its low activity it has also proven to be excellent for ship decks, relative to task decks, it has been found to perform better in terms of wear, only in wet conditions condition the deck is smoother. The forest inhabitants also like to use it for making canoes.

CODE: RLO

Maka Kabbes (Angelim Pedra)

Botanical Name: Hyme-nolobium excelsum
Family: Fabaceae

Angelim Pedra is red brown and the sapwood is clearly demarcated. The grain is straight or interlocked and the texture is medium.

CODE: MKB

>>

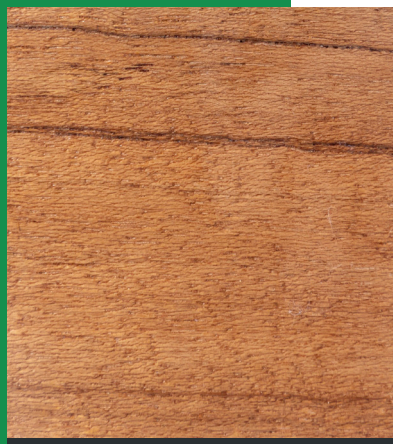
Purpleheart
Quarie types
Red kabbes

Purpleheart:

Botanical name: Peltogyne pubescens.
Family: Leguminosae.
S.G. 0.85-1.07

A heavy, hard wood with a reddish-purple heartwood, which gradually fades in the air and light beautiful dark brown hue.
The wood is strong (class II) and durable (class II), but is less resistant to wood lice (white ants). The wood is suitable for building houses and for the construction of cars. Because of its beautiful color it is also much sought after as furniture wood and for turning and carving. There are several varieties of Purperhart, of which Lasten is the best known. This one has a less beautiful shine than the real Purple Heart.

CODE: PRH



Quarie types:

Botanical Name: Vochysia and Qualia Spec.
Family: Vochysiaceae.

The wood belonging to these species is usually rose red to yellowish brown.
The main types that belong to this are:

- Wane quarie: Vochysia densiflora Warm. S.G. 0.60.
- Wiswis-quarie: Qualea Dinzii Duche. S.G. 0.66-0.70.

Of these, the best types of wood are Gronfoloes and Wane kwarie, of which the Gronfoeloe is something better than the Wane Kwarie. In terms of strength, they can be counted as class II-III and durability up to class III-IV. It is suitable for house construction, also for exterior walls, provided that well dried. The other quarie species should be ranked half a class lower, but find despite the fairly frequent occurrence still little application.

CODE: WNW (wane quarie)
WWK (wiswis-kwarie)

Red kabbes:

Botanical name: Andira coriacea Pulle.
Family: Leguminosae.
S.G. 0.88-0.99

Red kabbes is a heavy, hard wood with red colored heartwood. It is coarse in grain and free brittle, preventing fall fractures. The wood is strong (class II) and quite durable (class II). For for common construction purposes it is a useful wood, as well as for furniture.

CODE: ROK

>>

Snakewood
Soemaroeba
Walaba

Snakewood:

Botanical Name: Loxopterygium Sagotii Hook F.
Family: Anacardiaceae.
S.G. 0.65-0.78

The wood is quite heavy and moderately hard. The sapwood is brown-grey, the heartwood usually contains alternating lighter and darker colored areas, creating a beautiful drawing.

The wood is strong (class II) and moderately durable (class II-III). It is mainly for panelling suitable while the beautifully drawn pieces are often used by the furniture industry.

CODE: SLH

Soemaroeba:

Botanical name: Simaruba amara Aubl.
Family: Simarubaceae.
S.G. 0.45-0.53

A light, soft yellowish-white wood. Easy to edit. It is not strong (class IV) and not durable (class IV-V). Due to the bitter substance in the wood, it is not so easily attacked by insects, provided it is not in contact with a damp surface. It works and cracks little. It is gladly used for all kinds of musical instruments, matchwood, crates, lighter packing boxes, etc. It is also excellent for making all kinds of utensils.

CODE: SMB

Walaba:

Botanical name: Eperua falcata Aubl.
Family: Leguminosae.
S.G. 0.85-0.94

Walaba is a heavy, hard wood with brownish-red heartwood and a lighter colored sapwood. The heartwood contains an oily substance. It is strong (class II) and very durable (class I). Due to its durability, it is excellent for telephone and fence posts, rafters of houses, etc.; Certain varieties split very easily, which wood then used for making webbing for roofing. The oily substance can be removed by running out, which means that it is used a lot in Demerara, among others used for barrel staves. It is also very suitable as parquet. Walaba also supplies excellent firewood and charcoal. It became during the First World War used in Suriname as a raw material for light gas production. In Demerara, British West Indian islands it is used in large quantities as firewood and charcoal.

CODE: WAL

>>

Wanna
Yellow Kabbes (Amarjosa)

Wanna:

Botanical name: Ocotea Rubra. Knife.
Family: Lauraceae.
S.G. 0.52-0.63

A fairly light and relatively soft type of wood, with grey-brown heartwood and lighter colored sapwood. It wood is strong (class II) and durable (class I-II).

The wood is used extensively for all possible purposes and performs excellently. In addition to copy, it is for domestic use and for export a popular type of wood. In the past, Wane was also widely used for making water vessels that had a long life.

CODE: WAN

Yellow Kabbes (Amarjosa)

Botanical name: Vatairea guyanensis
Family: Fabaceae, Legumi-nosae (Papilionoideae)

Yellow Kabbes (Amarjosa) is bright yellow when freshly sawn, becoming yellow brown to dark brown or red brown. It has clearly demar-cated sapwood.

CODE: GKB

OUR PRODUCTS

PROFILE LIST

This is a list whose cross-section shows a worked shape.

Example of a profile list and an applied profile list.

These frames are placed as door frames, window frames and also as ceiling frames.

We manufacture moldings of hardwood such as Basralocus and Ingipipa.

The profile frames are placed both inside and outside.

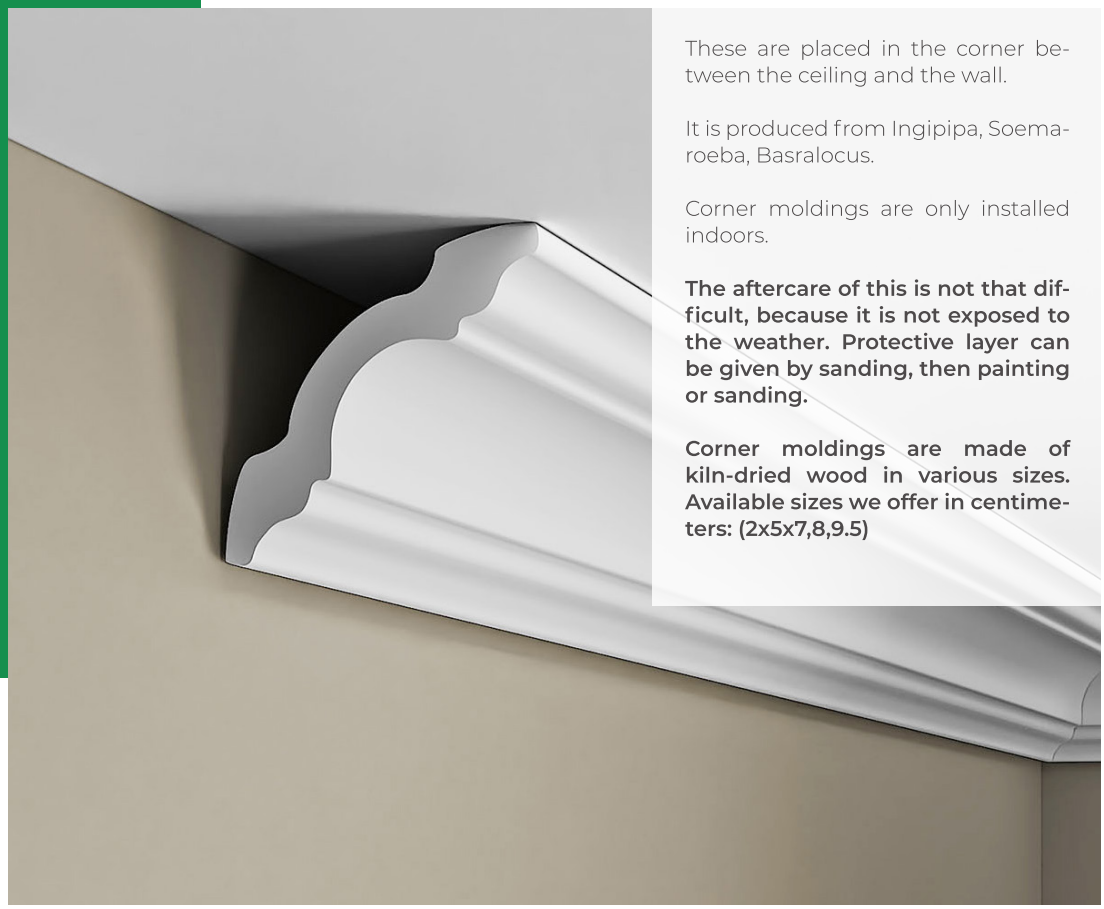
If it is installed indoors, it is recommended to give the profile frame a protective layer, because wood, even when dried, absorbs moisture very slowly. With a protective layer, the product can be enjoyed for a long time to come. Giving a protective layer can be done by sanding it, then painting or varnishing it. If the profile frame is placed indoors, it does not necessarily have to be given a protective layer, because it is not exposed to the weather.

Profile frames are manufactured from kiln-dried wood in various dimensions. Available sizes to profile lists, in centimeters: (1x1,2,3,4,5,6) (1.5x1.5,2,3,4,5,6) (2x2,3,4,5,6)

CORNER MOULDING

This is a list whose cross-section shows a worked shape.

Example of corner moldings



These are placed in the corner between the ceiling and the wall.

It is produced from Ingipipa, Soemaroeba, Basralocus.

Corner moldings are only installed indoors.

The aftercare of this is not that difficult, because it is not exposed to the weather. Protective layer can be given by sanding, then painting or sanding.

Corner moldings are made of kiln-dried wood in various sizes. Available sizes we offer in centimeters: (2x5x7,8,9.5)

Example of scrap

WOOD CLADDING for walls & ceilings

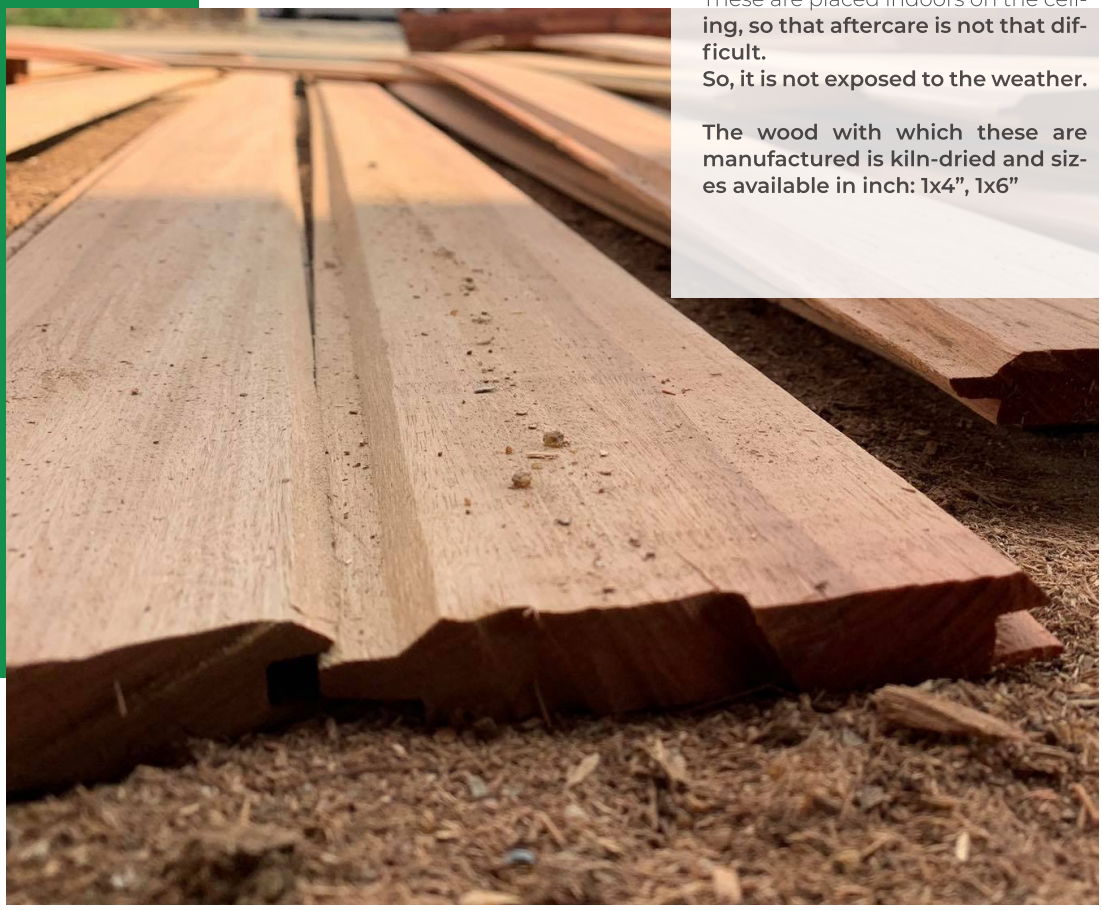
This is a list whose cross-section shows a worked shape.

Ceiling laths are placed on the ceiling for a nice look. It is also used for lining wall and partition wall.

These are made from Copi, Basralocus, Ingipipa, Yellow Kabbes.

These are placed indoors on the ceiling, so that aftercare is not that difficult.
So, it is not exposed to the weather.

The wood with which these are manufactured is kiln-dried and sizes available in inch: 1x4”, 1x6”



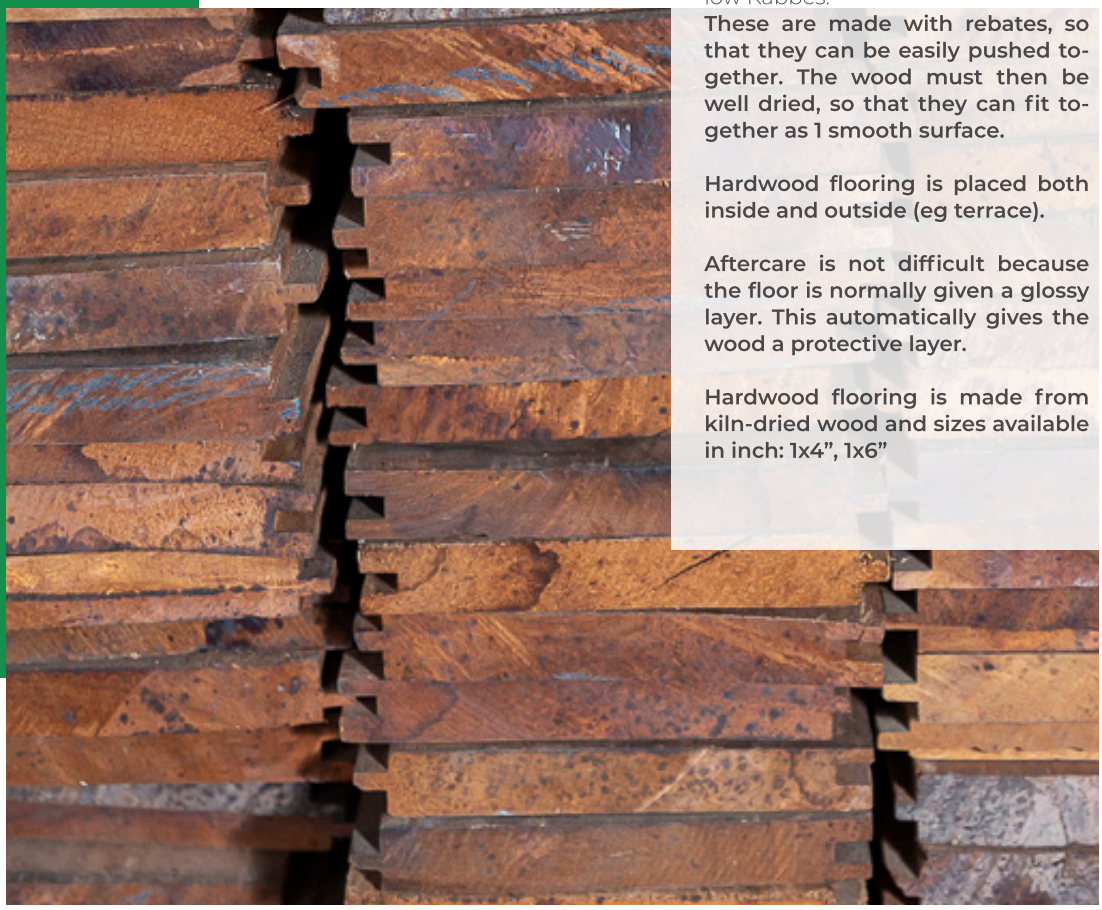
Example of (installed) Hardwood flooring

HARDWOOD FLOORING

This is a list whose cross-section shows a worked shape.

Hardwood flooring is placed on the floor in houses, office buildings, retail premises, etc.
These give the place a nice look.

We manufacture hardwood flooring from Copi, Basralocus, Ingipipa, Yellow Kabbes.



These are made with rebates, so that they can be easily pushed together. The wood must then be well dried, so that they can fit together as 1 smooth surface.

Hardwood flooring is placed both inside and outside (eg terrace).

Aftercare is not difficult because the floor is normally given a glossy layer. This automatically gives the wood a protective layer.

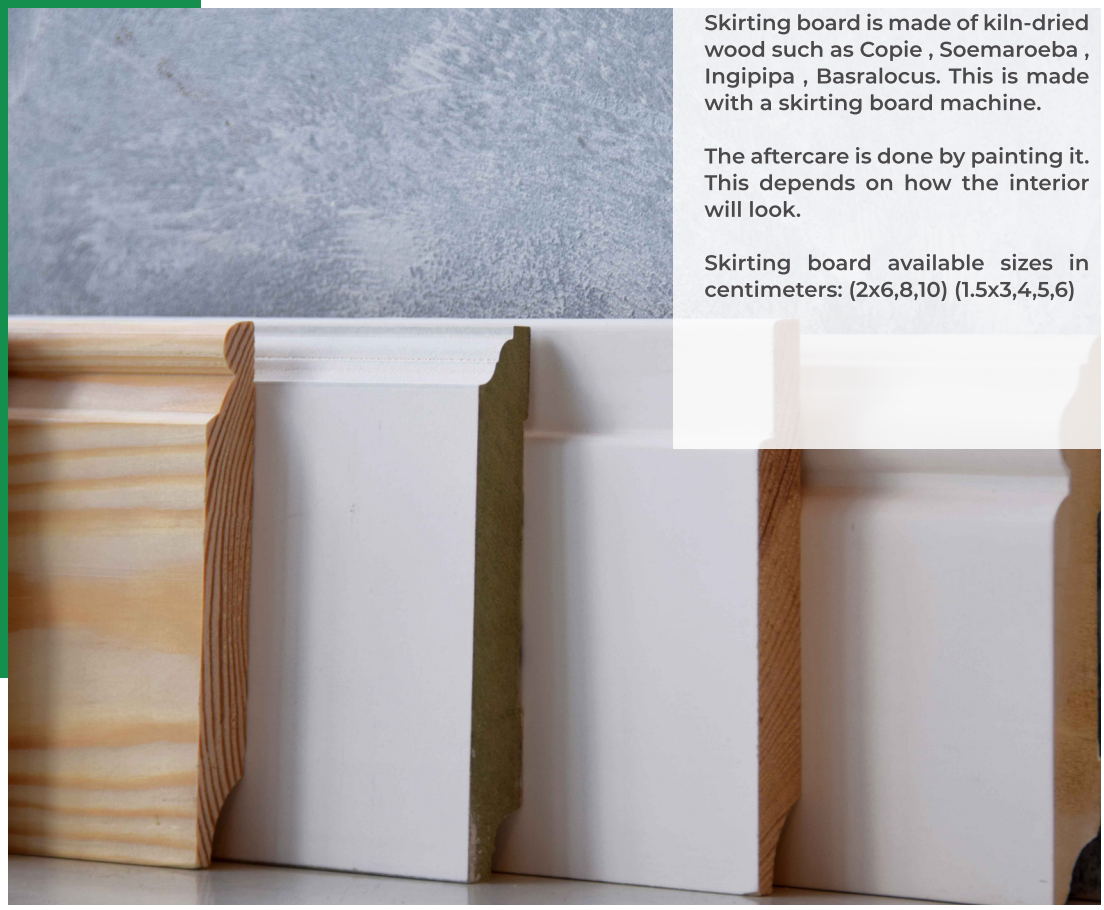
Hardwood flooring is made from kiln-dried wood and sizes available in inch: 1x4", 1x6"

Example of how plinth is installed.

SKIRTING BOARD

A skirting board is a frame mounted against a wall at floor height, which must form the transition between floor and wall. A skirting board generally protects the wall against damage, but also serves as a decoration for the finishing of the floor and an interior

As indicated, the skirting board is placed at floor height. Other models can also be used.



Skirting board is made of kiln-dried wood such as Copie , Soemaroeba , Ingipipa , Basralocus. This is made with a skirting board machine.

The aftercare is done by painting it. This depends on how the interior will look.

Skirting board available sizes in centimeters: (2x6,8,10) (1.5x3,4,5,6)

This is how rabbet wood is placed.

RABBET

A rabbet is a plank that has a groove at the bottom and a scalloped edge at the top. This allows the rabbet parts to be pushed together. Rabbet parts are usually used for exterior panelling, and are usually applied horizontally

Rabbet is used for cladding the facade of the house. But the other parts of the house can also be covered with this.
Old buildings can also be restored with this.

The National Assembly in Suriname. The building is finished with Greenheart and Ingipipa.

Rabbet is made from Copie , Basralocus, Ingipipa .

By giving it a layer of stain, for example, the wood is protected against the weather.
This can be repeated over time if necessary.

Depending on the wishes of the customer, rebate can be manufactured in various dimensions. Sizes available in inch: 1x4”, 1x6”

DOORS

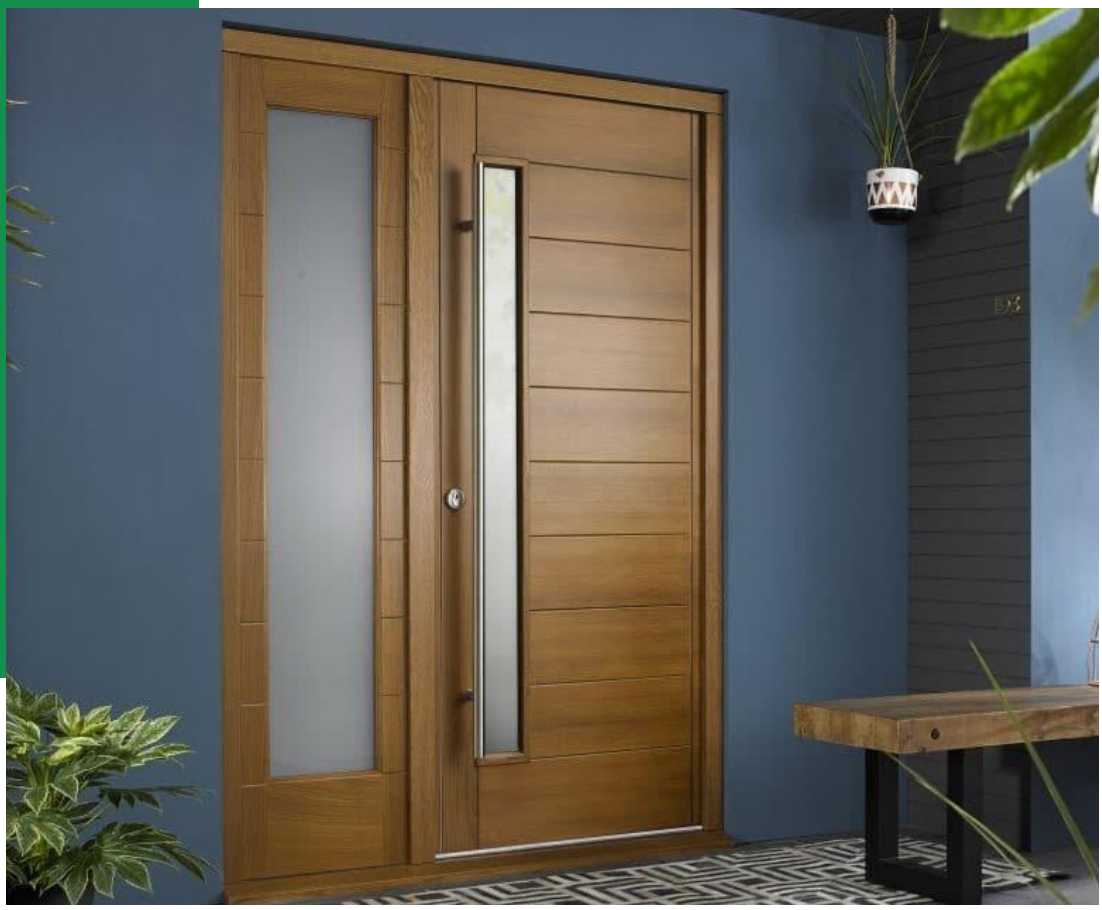
Doors are used as front door, room door, garage door, etc. These are made of various types of wood such as: Basralocus, Ingipipa , Soemaroeba , Yellow kabbes , Cedar. The wood is kiln dried.

If the door is used as a front door (outdoor use), it is recommended to give it a protective layer because it is often exposed to the weather. This can be done by, for example, varnishing it or giving it a desired color.

Unless desired, this is not necessary if the door is used indoors, eg as a room door, connecting door, etc., because it is not exposed to the weather.

We manufacture doors for interior and exterior uses using tropical hardwood and softwood.
To uphold the standards of our products, we use A-grade(Prime) select for 80% of our products, and the remaining 20% stems from B-grade select (Standard).

We recommend to always seal and treat the doors with a protective coating of wood finish to uphold its durability. When the door is exposed directly to weather conditions, we recommend treating the doors more frequently. Changes in color, texture and reduce in shine are great indicators to resurface a door.



Panel door with glass. Best used indoors. Recommended spaces are the office, living room, wash room, kitchen and backdoor. Wood type: Ingi Pipa.

Panel door. Best used indoors, for the bedroom or closet. Minimize on direct contact with sunlight and water. Wood type: Soemaroeba.

Panel door with glass. Front door of 1 meter width. Wood type: Basralocus.

Panel door with glass. For internal and external use. Recommended spaces are the office, backdoor, kitchen, and washroom. Wood type: Brownheart.

Triple-layered panel door. For internal and external use. Recommended spaces are the front door, office, living room. Wood type: Basralocus.

Greenheart Round Columns
- used in construction.

Purple Heart sawn and dried lumber

Introducing 21 Sawmill Group

We are 21 Sawmill Group and this is our founding story.

21 Sawmill Group was founded in 2021 in Suriname by our leading director Steven He. The establishment of a new sawmill was initially started to act as a supporting organ for our woodworking company, under the name of XINLI Wood Processing.

He is an entrepreneur and business-man with over 30 years of contribution to countless projects in the building sector. His first encounter in the lumber industry can be dated back in his twenties, when he first worked as the lead captain for the round logs exploitation in Suriname.

21 Sawmill Group is a new identity with its foundation rooted in Suriname. The company will have an operational system on its own, contributing to the round logs exploitation in full accordance with the Foundation for Forest Management and Production Control in Suriname.

Our goal is to position ourselves as a sustainable, value adding and the most reliable partner for the source of lumber in the Americas.

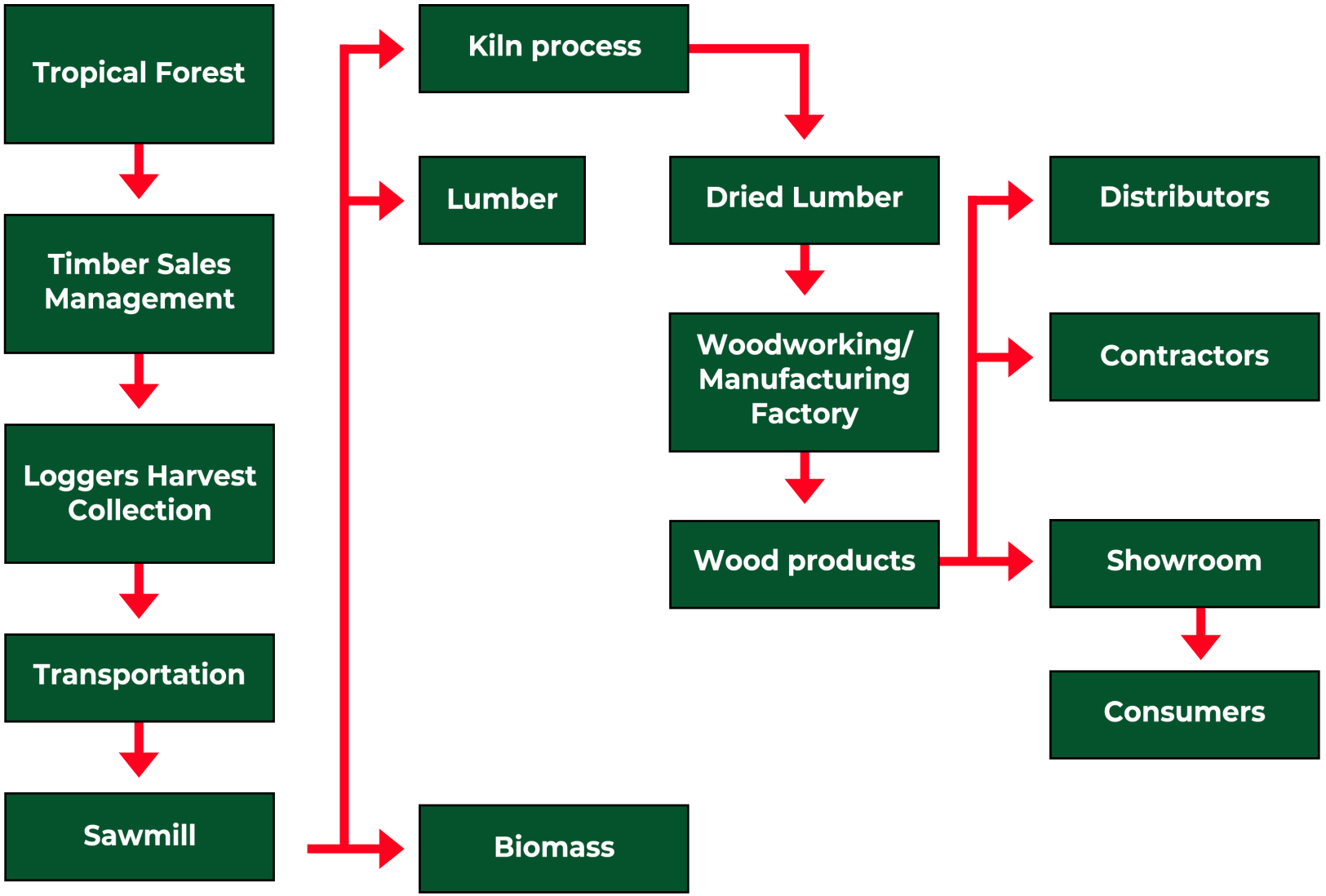
Here is a table of our accessible in-house supply chain procedure.

Starting from lumber exploitation to delivering various end products for our customers.

More about the Sawmill:
21 Sawmill Group currently uses various types of saws and saw machines:

- Primultini Bandsaw
- Frame Saw
- Wood-Mizer portable sawmills
- Gangsaw
- Edger

The supply chain flow chart for 21 Sawmill Group



COLOPHON

This brochure is published by 21 Sawmill Group in association with XINLI Wood Processing

Aggregation & Design alterations:
Creative Communications & Marketing NV (CCMnv)

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Marketing opportunities for potential Surinamese wood species, author: Sietze van Dijk
In accordance to the operation and production standards of SBB (Foundation for Forest Management and Production Control)

Translation:
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Photography:
Jason Leysner
XINLI Wood Processing Stock photography

Year published:
2023

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