

Innovating Nature, Building the Future



TIMBRA by GWP
Innovating Nature Building Futures



Sierra



Elevating Wood to a New Standard

TIMBRA by GWP

is redefining
wood sustainability,
bridging nature
with technology.

TIMBRA by GWP was born from GWP Wood by Nature®'s expertise combining technology and sustainability in the transformation of tropical wood. A new generation of wood, more durable, **more stable** from a natural process (only heat and steam), with no chemicals involved.

TIMBRA by GWP introduces new wood species that meet the demands of contemporary architecture, blending performance, aesthetics and environmental responsibility.

TIMBRA by GWP redefines standards and delivers high-quality solutions for architects, designers and builders.





Thermal Modification

Where Wood meets **Technology**

The union between technology and nature creates a balance that enhances the performance, the beauty and the durability of wood.

TIMBRA by GWP is taking **Wood**
to the next level **in modern society** ■

1. Thermal Modification

Thermal modification alters wood at a cellular level. It's an innovative process that enhances the properties of wood, improving its durability, dimensional stability and mechanical performance, without the use of chemical products.

Exposed to controlled high temperatures 428°F in a low-oxygen environment, the wood undergoes structural transformation, becoming more resistant to moisture, fungi and insects. Additionally, its natural color becomes darker and more homogeneous, enhancing its natural beauty.

2. A Sustainable Innovation

Thermal modification revolutionizes wood treatment by enhancing its performance and expanding its usage in modern architecture and design. Combining durability, aesthetics and environmental responsibility, it marks a key advancement in sustainable materials, elevating wood to new levels of innovation and elegance.

Our process allows us to turn more abundant wood species into viable, sustainable alternatives. By doing so, we aim to contribute to reducing overharvesting of more popular timber while promoting biodiversity and responsible forestry.

➤ Essence of Nature, Protecting the Future

The fusion of technological innovation and natural elements enhances the beauty and performance of wood while promoting environmental responsibility.

TIMBRA by GWP - Benefits of Thermally Modified Wood



Durability

Higher resistance to moisture absorbency, fungi and insects.



Natural Aesthetics

Richer color and elegant finish.



Stability

Less expansion and contraction, ideal for any climate.



Sustainability

No chemicals, just heat and steam.



Warranty

A technology that enhances wood's durability and stability without the use of harmful chemicals, ideal for both indoor and outdoor applications.



Process **TIMBRA by GWP**

Up to Class A with BURBLOCK FR

1.

Initial Heating

Removes moisture and prepares the raw material.

- The wood is placed in a specially built system and gradually heated.
- Initial temperature ranges between 212°F and 320°F.
- Moisture content is reduced down to approximately 2%.

2.

Modification Process

Stabilizes and modifies the content and structure of the wood cells.

- A high temperature is applied around 428 °F.
- Low-oxygen environment.

3.

Cooling and Rehydration

Prevents warpage and enhances durability.

- Temperature is gradually reduced.
- Controlled rehydration is performed with steam.
- Final moisture content is adjusted to between 5% and 9%: (65/20), balancing the wood's stability.

4.

Process Results

- Significantly higher resistance to decaying biological agents, such as fungi and insects.
- Increased durability and dimensional stability with highly reduced moisture absorption capacity.
- A browner tone, enhancing the final appearance of the wood.

Enhancing Fire Retardancy



TIMBRA by GWP, in partnership with BURNBLOCK®, offers a non-toxic fire retardant solution that ensures high safety standards without compromising aesthetics or product performance.

Applied through a high-pressure autoclave impregnation, the treatment penetrates completely inside the timber, delivering long-lasting fire retardant across a wide range of wood species.

Key Benefits

➤ Eco-Friendly

Prevents ignition and flame spread.

➤ Fire Retardant

Biodegradable and non-toxic.

➤ Smart Reaction

Chars and releases water under heat.

➤ Aesthetic Integrity

Preserves wood's natural look and finish.

Tested, Certified and Trusted

Tested and trusted worldwide, BURNBLOCK® complies with international fire safety US standards and enables **TIMBRA by GWP** wood to achieve class A (ASTM E2768-11) classification. No special preparation of the wood is required for the application.

This precise process ensures maximum fire retardant maintaining product integrity, making **TIMBRA by GWP** the reliable choice for high-performance, fire retardant solution in wood materials.

Protect your projects with
innovative and safe solutions.



Collection

↘ Advance
↘ Excellence



Discover our distinct product Selections tailored to suit every architectural and technical requirement, each level offering enhanced quality and innovation.

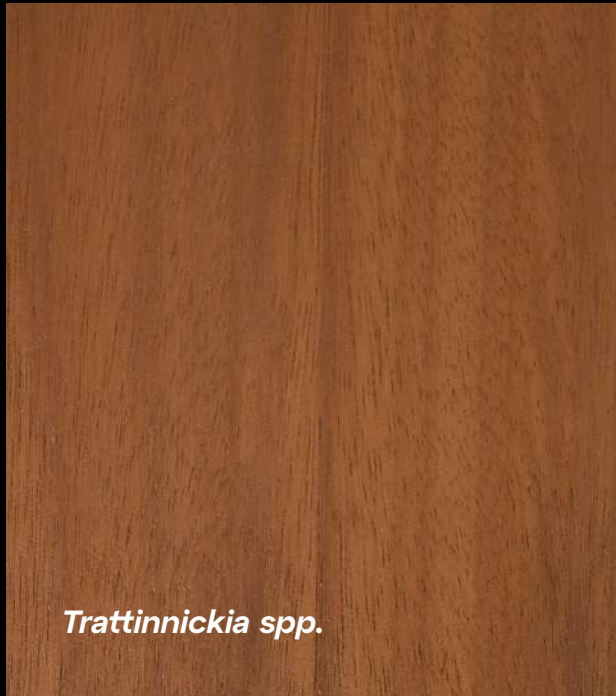
Two Lines.
One Technology.
Infinite Possibilities

Elevated Durability, Iconic Charm

- CLADDING
- WINDOWS
- STREET FURNITURE

Perfection, Elevated to Excellence

- DECKING
- CLADDING
- FLOORING
- WINDOWS
- STREET FURNITURE



Trattinnickia spp.

Advance

- Visual appearance with irregular grain
- Pleasant tactile texture
- Reliable mechanical performance
- Substantial dimensional stability



Couratari spp.

Excellence

- Robust structure with high wear resistance
- Suitable for highly demanding environments
- Combines robustness with design flexibility
- Ensures long-term reliability

Product Data **Advance**

NORTH AMERICA



ADVANCE

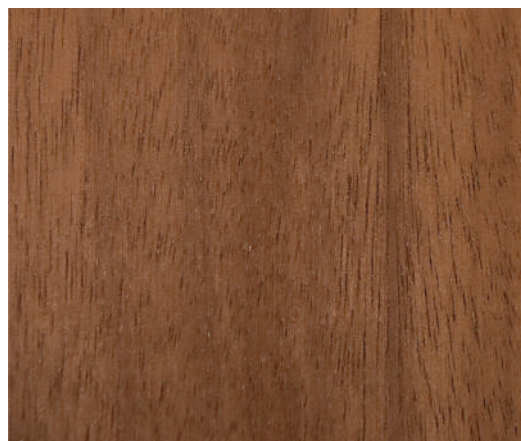
Product Data

- CLADDING
- WINDOWS
- STREET FURNITURE

Scientific Name: Trattinnickia spp.

Family: Burseraceae

Origin: South America



Intensely Thermally Modified Product:

Minimum Average Density (20/65) [kg/m3]	453
Durability Class	I
Modulus of rupture (MOR) [MPa]	36,8 (6,8)*
Modulus of elasticity (MOE) [GPa]	7,1 (0,6)*
Compressive Strength [MPa]	37,2 (4,1)*
Static Hardness (Janka) [N]	2063,6
Tangential Shrinkage [%]	2,74
Radial Shrinkage [%]	2,99
Tangential Swelling [%]	2,57
Radial Swelling [%]	3,72

* Values in parentheses correspond to standard deviation

FSC® or PEFC certified in accordance with EUDR, UKFRC, EPBC ACT, BEL and Lacey Act



Official partner of natural fire retardant solutions
Class A (ASTM E2768)



**ELEVATED
DURABILITY**

**ICONIC
CHARM**



The mark of
responsible forestry
FSC® C121009

Ask us about our Certified Products

TIMBRA by GWP
Innovating Nature Building Futures

Product Data **Excellence**



NORTH AMERICA



EXCELLENCE

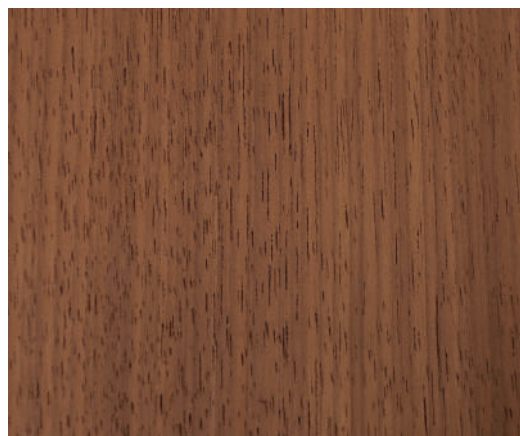
Product Data

- DECKING
- CLADDING
- FLOORING
- WINDOWS
- STREET FURNITURE

Scientific Name: Couratari spp.

Family: Lecythidaceae

Origin: South America



Intensely Thermally Modified Product:

Minimum Average Density (20/65) [kg/m3]	706*
Durability Class	I
Modulus of rupture (MOR) [MPa]	94,8 (9,8)*
Modulus of elasticity (MOE) [GPa]	12,3 (1,6)*
Compressive Strength [MPa]	71,3 (5,2)*
Static Hardness (Janka) [N]	6947,8
Tangential Shrinkage [%]	5,22
Radial Shrinkage [%]	4,07
Tangential Swelling [%]	5,75
Radial Swelling [%]	3,89

*A 6% variation due to raw material nature may endure

**Values in parentheses correspond to standard deviation

FSC® or PEFC certified in accordance with EUDR, UKFRC, EPBC ACT, BEL and Lacey Act



Official partner of natural fire retardant solutions
Class A (ASTM E2768)



PERFECTION

ELEVATED TO EXCELLENCE



The mark of
responsible forestry
FSC® C121009

Ask us about our Certified Products

TIMBRA by GWP
Innovating Nature Building Futures

When
it comes
to wood,
Sustainability
is Key

Forest Today
Life Tomorrow

With a certified harvesting method, TIMBRA by GWP stands at the forefront of sustainable building practices.



The mark of
responsible forestry
FSC® C121009



Ask for our certified products

TIMBRA by GWP is a brand owned by the GWP Group and holds the code FSC® C12009.
We are qualified to provide certified products.

All **TIMBRA by GWP** products are carefully and 100% legally sourced, certified and sustainable. Can be provided, on request, with the **FSC®** - Forest Stewardship Council®, or the **PEFC** - Program for the Endorsement of Forest Certification and our internal due care the **Legal Wood Program** - our internal Due Care Chain of Custody environmental compliance program. Our Program **The Legal Wood** ensures timber legality through a rigorous auditing process from the forest floor to your door.

Thermal modification is a sustainable technology that significantly enhances wood's properties without compromising the environmental sustainability of the product. This advanced process improves resistance and dimensional stability, making wood an ideal choice for applications requiring high durability.



Today

Sustainable Forest Management
with Expertise and Precision.



Tomorrow

Technology for a Sustainable Future.



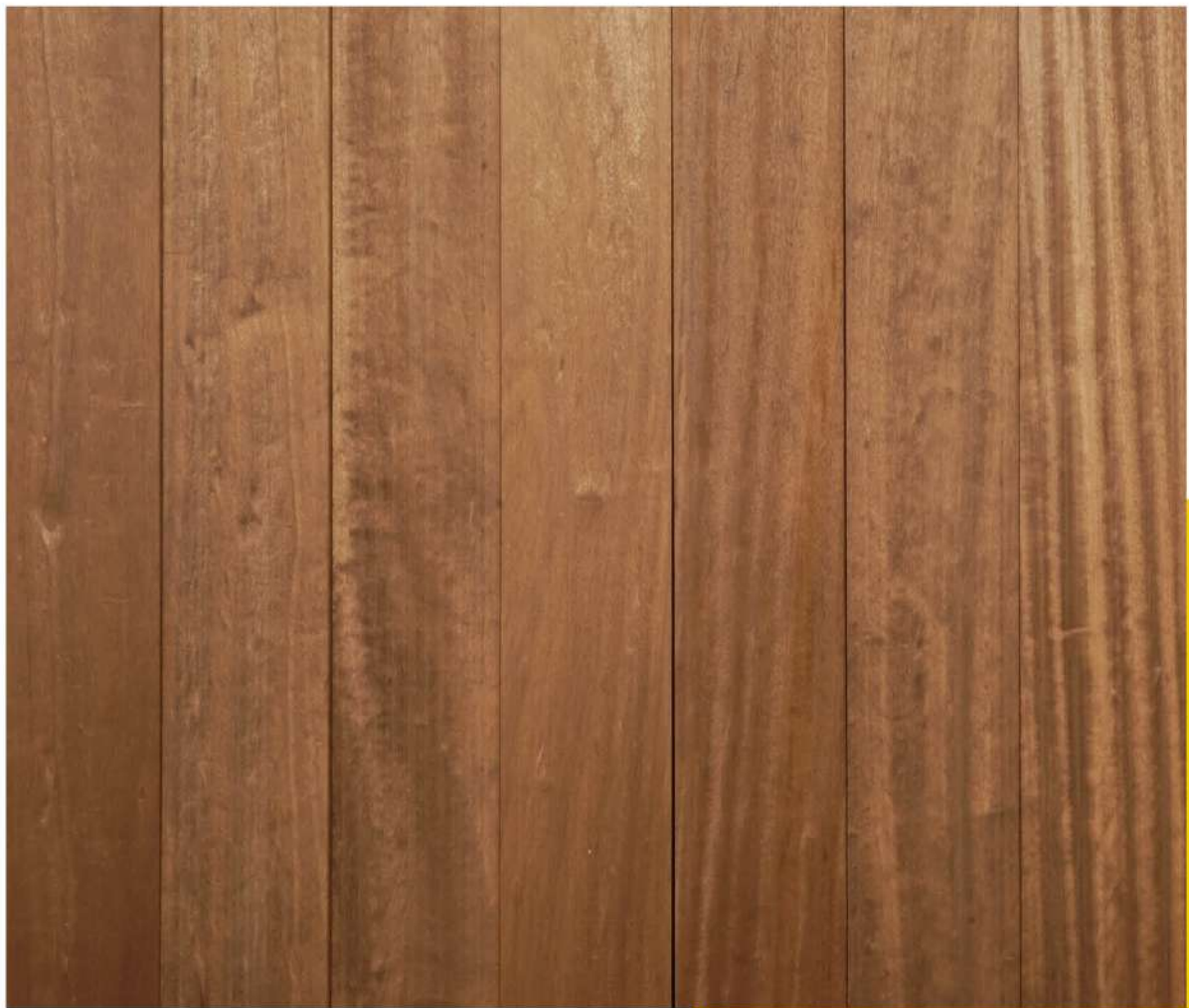
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Achieve Carbon Neutrality.

Product Grading Rules **Advance**

NORTH AMERICA
TECHNICAL BULLETIN
GR.TT ADV US V.06

Product Grading Rules **Advance**



Grade Selection

The purpose of this document is to provide a simplified but thorough explanation of the grading rules for TIMBRA by GWP hardwood Thermally Modified products.

TIMBRA by GWP products undergo intense thermal modification. It makes the Advance selection exceptionally durable - Durability Class I (EN350) - and stable while emphasizing its warm dark-brown colour.

Grade selection and specification will have a significant impact on both the appearance and performance of wood products in any given application. When thermally modified hardwoods are specified or purchased without clearly defining grade expectations, there is no assurance of the quality and consistency of the product delivered, and no accountability standard set for the supplier. And since grade affects price, what looks like a good deal on paper might not look nearly as good on your project. If the product is being used in structural applications such as decking, grade has a direct impact on mechanical properties and load performance.

In the absence of industry established and defined quality control standards for thermally modified hardwood, cladding, decking and lumber, **TIMBRA by GWP** has developed and published grading standards and product specification language which we apply to our production.

TIMBRA by GWP has created this guide to assist clients and end users in determining grade expectations and value requirements as well as to understand some of the common grades that might be encountered in the market. We strongly encourage clients and consumers to utilize these standards in their decision making process and to specifically reference these standards in their purchase orders.

Grading Rule Definitions

As with most natural wood products, Thermally Modified hardwoods possess natural "Appearance Characteristics" that add to their unique beauty.

Those that are appreciated include colour variation and distinctive grain patterns. Other characteristics in all types of lumber that develop naturally or through manufacturing are known as "Physical Characteristics", "Sound Defects", "Unsound Defects" and "Milling Defects".

The grading of Decking into categories as it is processed by **TIMBRA by GWP** to determine, to a large extent, the value and potential use for each board. The following is a summary of the typical characteristics one might find in a wood grade specification.

It is important to note that industry standard allows for 5% sub grade in all production to allow for human error in the grading process.

Characteristics

■ Appearance

1. Color Variation
2. Mixed Grain
3. Drying Checks
4. Reverse Grain
5. Birdseye
6. Pin Knots
7. Water Stain

■ Physical

8. Discoloration
9. Sticker Marks
10. Molder Knife Marks
1. Bow
2. Crook
3. Cup
4. Twist

Defects

■ Milling

1. Hit or Miss/Skip
2. Torn grain
3. Non-compliant profiling

■ Sound

1. Pin holes
2. Sound knots

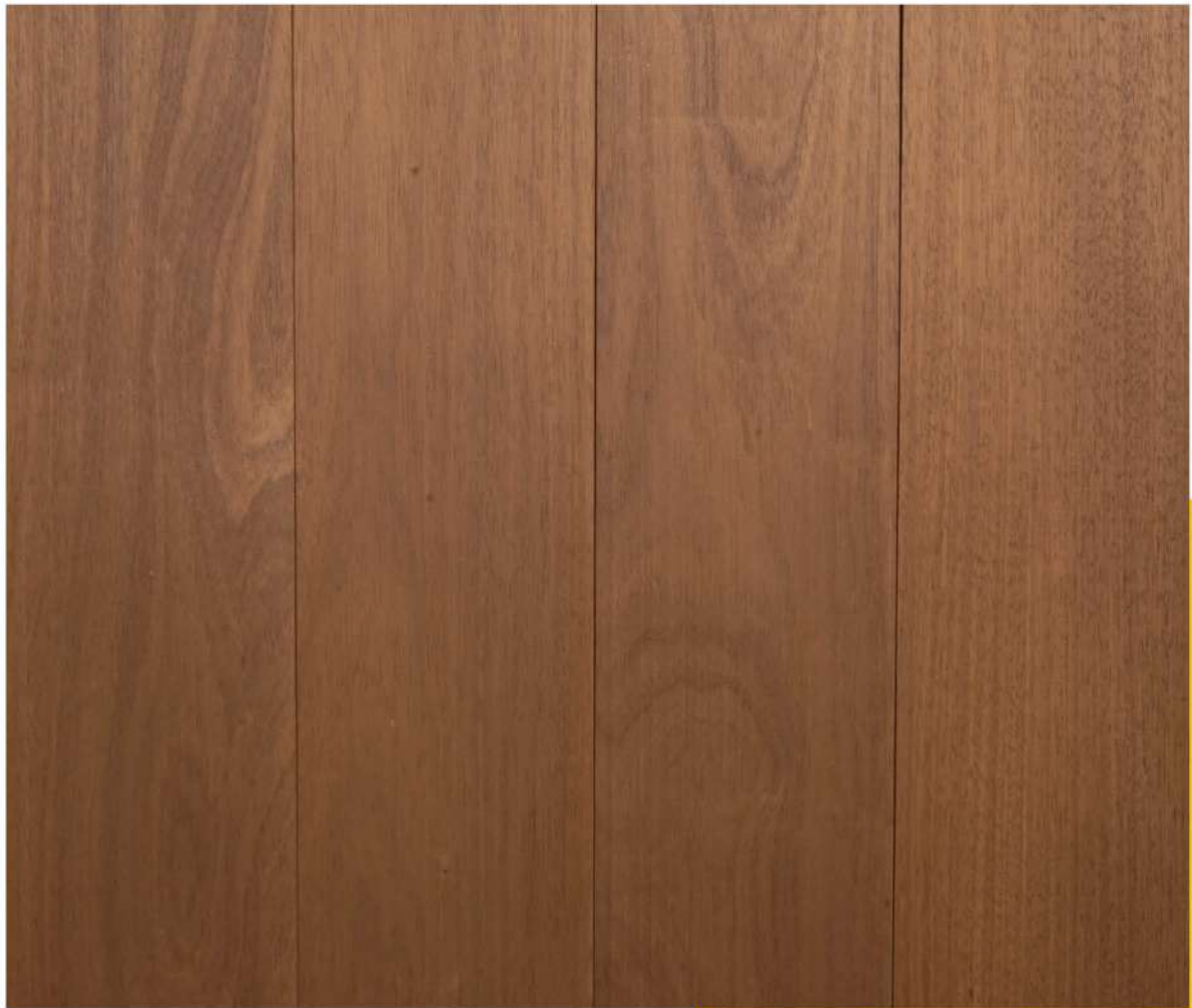
■ Unsound

1. Large borer holes
2. Splits
3. Unsound knots
4. Shake
5. Sapwood

Product Grading Rules **Excellence**

NORTH AMERICA
TECHNICAL BULLETIN
GR.TT EXCELL US V.05

Product Grading Rules **Excellence**



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5. Sapwood

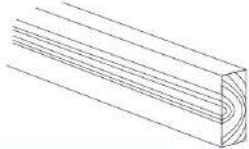
GRADED BY

		BETTER FACE	BACK FACE
HIT & MISS		Not allowed	≤20% area
FEED-ROLLER MARKS		Not allowed	≤30% area
WANE		Not allowed	Max 1/5 of width and 1/3 of the thickness of the board
MECHANICAL DEFECTS		Not allowed	Not allowed
SURFACE CHECKS		Up to 0.04" wide and 0.79" long	Up to 0.04" wide and 1.97" long
SHAKES		Not allowed	
RING SHAKES		Not allowed	
END SPLITS		Up to 1.18"	Up to 2.36"
KNOT HOLE		Not allowed	
BARK KNOTS		Not allowed	Unlimited

GRADED BY

		BETTER FACE	BACK FACE
DEAD KNOTS/ BLACK KNOTS		Not allowed	Unlimited
UNSOUND/ BROKEN KNOTS		Not allowed	Unlimited
KNOT SHAKE		Not allowed	Unlimited
PIN KNOTS		Up to Ø 0.6"	Unlimited
ARRIS KNOTS		Not allowed	Unlimited
EDGE KNOTS		Allowed up to 1/2 of the thickness of the board	Unlimited
KNOT CLUSTER		Not allowed	Unlimited
PARTIALLY INTERGROWN KNOTS		Not allowed	Unlimited
SCAR		Up to 0.16 in ²	Unlimited
PITCH POCKET		≤30% area	Unlimited

GRADED BY

		BETTER FACE	BACK FACE
BARK/ROT/ MOULD		Not allowed	
INSECT HOLES		Not allowed	Unlimited
GLASS WORN MARKS		Not allowed	Unlimited
STICK MARKS		Not allowed	≤20% area
CUP		Allowed up to 1% of the width of the board	
TWIST		Allowed up to 5% of board width per 3.28 ft in length, has to be reversible during installation	
BOW		Allowed up to 0.08" per 3.28 ft in length	
SPRING CROOK		Allowed up to 0.3" per 3.28 ft in length	
TOLERANCES		Thickness: +/- 0.02" Width: +/- 0.04" Length: +/- 0.04" per 3.28 ft in length	

All defects that are allowed on the back face and not limited by size, are tolerated to the extent that they will not jeopardize the integrity, usability, and visual wholeness of the installed product.

Wood Wear

NORTH AMERICA
TECHNICAL BULLETIN
TB.TT WW US V.O1

Wood Wear

Thermally modified wood does not necessarily need surface treatment

Like any other wood, **TIMBRA by GWP** products will naturally turn gray over time. This process begins as it is exposed to the installation environment and can take anywhere from a few months to a few years, depending on the intensity of UV radiation among other weathering factors. However, regular finishing minimizes natural wood cracks, ensures water and dirt repellency, and creates a visually even appearance.



Advance - After Installation | Unoiled wood exposed to UV light



Excellence - After Installation | Unoiled wood exposed to UV light



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Our Global Manufacturing Hub

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Sierra

www.sierra.com

Contact a Sierra
Distributor Near You