RESAWN TIMBER CO.

Material Characteristics & Expectations Guide

Describing Material Behavior, Performance, and Visual Outcomes

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Introduction

RESAWN's Material Characteristics & Expectations Guide describes how wood products may appear upon delivery and how they may behave over time, including both inherent and process-driven conditions. This document outlines material characteristics by species and type and is intended to establish clear expectations regarding appearance, performance, and natural behavior.

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**Sections 3 and 4 contain product-specific content. The complete guide includes all process-driven material characteristics and species- and material-specific characteristics. As a project progresses from specification through purchasing, the guide may be edited to include only content relevant to the products selected for that project.*

SECTION 1: Purpose and Scope

This guide outlines general material characteristics and identifies species- and type-specific conditions that may influence how materials appear and behave over time. It is intended to ensure that architects, contractors, and building owners understand the attributes of the materials they are specifying, purchasing, and installing.

Wood products are evaluated based on expected species, grade, and manufacturing characteristics rather than complete visual uniformity. Natural variation in color, grain, texture, movement, weathering, and other characteristics described throughout this guide are inherent to the material, contribute to its visual character, and are not considered defects.

This document is limited to material characteristics and expectations. Product applications, technical specifications, system design, installation methods, and weathering and maintenance requirements are addressed in separate RESAWN documentation.

This guide must be reviewed prior to material purchase and installation and considered alongside applicable project documentation, which together form the basis for material evaluation.

SECTION 2: Wood Behavior and Considerations

Wood is a natural, hygroscopic material. Its performance and appearance are influenced by environmental exposure, design decisions, installation methodology, and ongoing site conditions.

Natural variation in color, grain, texture, density, and movement is expected within and between boards. Wood products may expand, contract, weather, check, and change in appearance over time as they acclimate to their environment.

The following sections outline common wood characteristics and establish baseline expectations for exterior cladding and decking applications.

Understanding how wood behaves is essential to achieving both long-term performance and aesthetic quality.

2.1 Natural Variation

Wood exhibits inherent variation in color, grain pattern, texture, and character marks. These differences occur within and between boards and are influenced by species, cut, grade, and growing conditions. Variation is expected and contributes to the overall visual character of an installation; these characteristics are not considered defects.

Differences in surface texture and density may also result in uneven absorption of finishes, leading to tonal variation that may become more pronounced over time and exposure.

Samples, mock-ups, and photography are representative only and will not capture the full range of variation present in a completed installation. Installed material will vary in color, grain, texture, and overall appearance.

2.2 Moisture Content and Movement

Wood continuously exchanges moisture with its surrounding environment, causing expansion and contraction primarily across the grain. This movement is influenced by:

- Ambient humidity and temperature
- Solar exposure and weathering
- Board orientation and installation conditions

As wood acclimates, the following may occur:

- Expansion and contraction
- Gapping between boards
- Changes in board alignment

These conditions are inherent to wood behavior and are not considered defects. Proper design and installation must accommodate natural wood movement to minimize undesirable aesthetic or performance outcomes.

Natural variation in color, grain pattern, and finish absorption is inherent to wood and visible both within and between boards; differences in grain orientation, texture, and exposure conditions contribute to the tonal movement and visual character of the completed installation

2.3 Wood Movement Terminology

Understanding common forms of wood movement helps establish clear expectations regarding natural wood behavior.

- Cupping: curvature across the width of a board
- Bowing: curvature along the length of a board
- Crook: curvature along the edge of a board
- Twist: rotational distortion along the length of a board

These conditions may occur to varying degrees and are influenced by moisture imbalance, grain orientation, manufacturing processes, installation conditions, and environmental exposure. The presence and degree of movement may vary throughout an installation and over time as wood responds to changing environmental conditions. Natural movement alone does not indicate material failure or a defect.

Cupping: more moisture cycling + UV exposure at the top exposed edges

Twisting: mild signs as shadow lines shift from top to bottom.

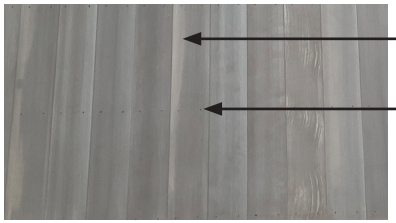
Bowing: board is showing signs of movement along length of board

2.4 Sapwood and Heartwood

Wood contains two primary zones that may influence appearance and performance characteristics.

Heartwood: The inner portion of a log, typically darker in color and generally more durable and dimensionally stable.

Sapwood: The outer portion of a log, typically lighter in color and more permeable, making it more reactive to moisture and finish absorption.



Sapwood

Heartwood

Sapwood

Heartwood

Variation between sapwood and heartwood may be visible within a single board or across multiple boards. These differences may appear as changes in color, grain pattern, texture, finish absorption, or weathering behavior and are a natural characteristic of wood.

In certain modified wood products, manufacturing and coloration processes may alter the visual distinction between sapwood and heartwood. As a result, sapwood may not always appear lighter than heartwood, and color alone should not be relied upon to identify these zones.

Variation associated with sapwood and heartwood contributes to the natural character of wood and is not considered a defect.

2.5 Surface Checking and Splitting

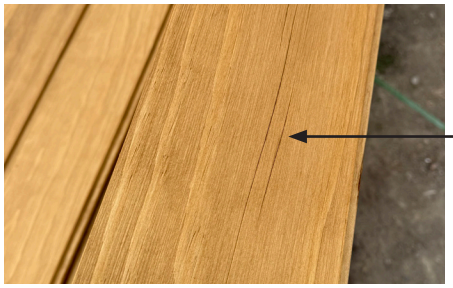
As wood dries and acclimates, minor surface checking and end splitting may occur. These are natural responses to moisture loss, environmental exposure, and wood movement over time.

- Surface checking refers to small separations in the wood fiber, typically along the grain
- Splitting may occur at board ends or at areas of stress concentration

The presence, size, and frequency of checking and splitting will vary based on species, grain orientation, modification process, exposure conditions, and environmental cycles. Certain modification processes, including thermal, chemical, impregnation, and charring treatments, may increase the visibility or frequency of checking and end splitting due to changes in the wood's cellular structure and moisture response.

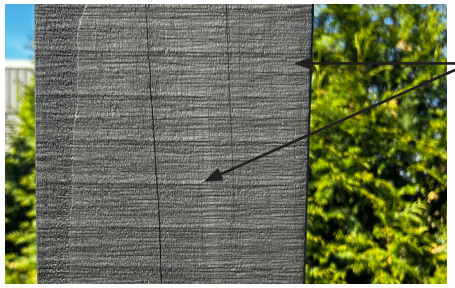
These conditions are expected in wood applications and are not indicative of material failure.

Exposed end grain may absorb moisture and finish at a different rate than face grain, resulting in localized darkening, color variation, or increased splitting at board ends. These conditions are inherent to wood and should be anticipated, particularly in exposed applications.

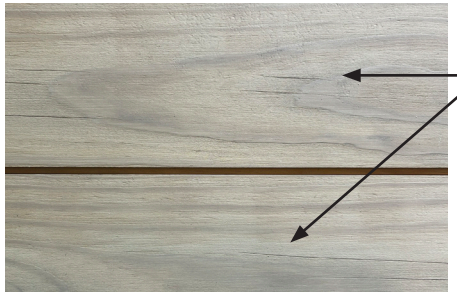


Surface checking

Splitting at board end



Surface checking



Surface checking

2.6 Weathering

Exterior wood will undergo natural weathering over time due to exposure to sunlight, moisture, and other environmental conditions. This process results in changes to color, texture, and overall surface appearance.

The rate and extent of weathering will vary based on:

- Species and material type
- Finish system and level of protection
- Exposure conditions, including orientation, shading, and moisture

Weathering may occur unevenly across a single elevation due to differences in exposure.

Surface conditions such as raised grain, minor erosion, or increased texture may develop over time as part of the weathering process. These changes are expected and do not indicate material failure.

These conditions apply to all wood species and material types described in this document.

Comprehensive guidance on weathering behavior, long-term appearance, and maintenance requirements is provided in ***RESAWN's Weathering and Maintenance Guidelines*** and must be reviewed and followed where applicable.

Approximate weathering after one year of exterior exposure. This example reflects natural color change discussed through RESAWN's weathering program and project review process

Southeast-facing elevations typically weather more rapidly due to increased sunlight and environmental exposure. Variation in weathering between this facade and the opposing northwest-facing elevation is expected over time

Time and weather expose the outline of a patio table left in place

Differences in exposure create shifts in color and texture over time, which can also serve as visual cues for maintenance and recoating

2.7 Design Implications

Wood behavior must be anticipated and accommodated through proper design and installation. The following principles are intended to highlight key considerations. Comprehensive and project-specific guidance is provided in the ***RESAWN Exterior Design Guide*** and must be reviewed and followed.

- **Allow for Movement**
  Provide consistent board-to-board spacing to accommodate expansion.

- **Provide Ventilation and Drainage**
  A continuous rainscreen cavity is required to promote drying.

- **Maintain Proper Offsets**
  Cladding must be held off adjacent materials and surfaces to reduce moisture exposure and prevent wicking.

- **Support Proper Fastening**
  Fastener placement, spacing, and substrate engagement must account for movement and ensure long-term holding performance.

These parameters are direct responses to the natural behavior of wood in exterior environments.

2.8 Summary

Wood is a dynamic material that will respond to its environment over time. Successful applications rely on acknowledging and designing for this behavior rather than attempting to eliminate it.

When properly detailed, installed, and maintained, wood will perform reliably while developing a natural tone that reflects its exposure and environment

SECTION 3: Process-Driven Material Characteristics

Modified Wood

Modified wood products are produced through processes that alter the cellular structure of the wood to improve durability, dimensional stability, and resistance to moisture-related movement. These processes influence both the appearance and performance of the material. The resulting characteristics are inherent to modified wood and should be expected in service.

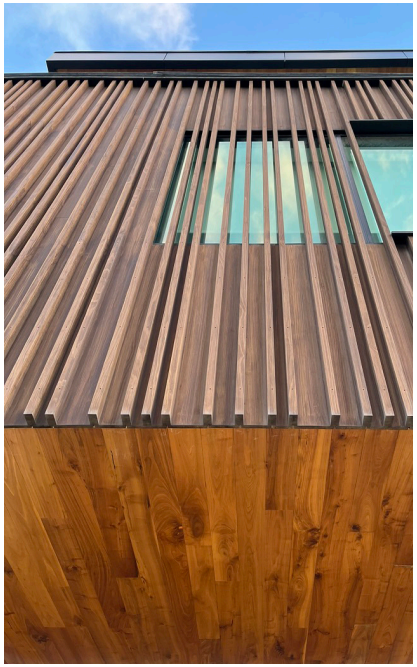
Modified wood products may include processes such as thermal, chemical, or impregnation modification.

Modified wood may exhibit:

- Heat and modification processes may draw natural resins or extractives to the wood surface, resulting in localized darkening, spotting, or tonal variation
- Increased contrast between sapwood and heartwood
- Elevated brittleness in performance, particularly during handling, fastening, and machining
- Greater susceptibility to surface checking and splitting under exposure conditions
- Reduced moisture absorption compared to non-modified species

These characteristics are a direct result of the modification process and are not considered defects.

Design, detailing, and installation requirements must be reviewed in the ***RESAWN Exterior Design Guide*** and followed accordingly.



Example of expected tonal variation, sapwood-to-heartwood contrast, and localized resin/ extractive visibility in modified wood cladding. Improved dimensional stability supports refined slat profiles and consistent spacing, while natural variation and surface character remain inherent to the material

SECTION 3: Process Driven Material Characteristics

Charred Wood (Shou Sugi Ban)

RESAWN's charred wood products pay homage to the traditional Japanese techniques commonly referred to as "shou sugi ban" or "yakisugi." While historically specific in definition, these terms are now widely used nomenclature for modern charred wood designs. The controlled charring process alters the surface of the wood and defines the material's appearance, texture, and performance. Variation resulting from the charring process is inherent and should be expected as part of the material's character.

Charred wood products may be provided in multiple finish types, including full charcoal surfaces and brushed char finishes, where portions of the carbonized surface are removed to expose underlying grain and texture.

Charred wood products may exhibit:

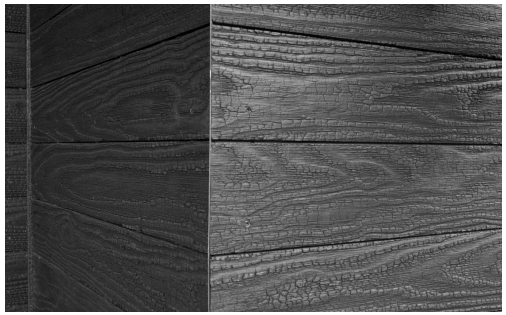
- Textured or carbonized surface layers
- Variation in char depth, tone, and surface appearance
- Enhanced grain definition and contrast between growth rings
- Surface residue or transfer, particularly during handling and installation
- Increased sensitivity to abrasion, impact, and physical contact
- Checking, cracking, or localized surface separation that may be accentuated by the charring process

These characteristics are inherent to the charring process and are not considered defects.

Due to the nature of charred surfaces, joinery, edges, and board interfaces may present differently than non-charred wood products, with transitions appearing less crisp or uniform depending on the finish type and degree of brushing. This is a natural result of the charring process and should be anticipated as part of the overall design aesthetic.

Design, detailing, and installation requirements must be reviewed in the ***RESAWN Exterior Design Guide*** and followed accordingly.

Full charcoal finish produces a deep, carbonized surface with natural variation in tone and texture; an inherent result of the charring process



Close-up View: Surface checking is expected characteristics of charred wood, resulting from the controlled burning process and contributing to its unique texture

Brushed char reveals underlying grain and tonal variation, creating contrast and movement that are natural outcomes of the charring and finishing process

SECTION 3: Process Driven Material Characteristics

Laminated Vertical Grain Wood Products (Abodo®)

Certain Abodo Vulcan® cladding products utilize a laminated vertical grain construction method intended to improve dimensional stability, grain consistency, and long-term exterior performance. This manufacturing approach influences both the appearance and behavior of the material. Resulting characteristics are inherent to the product and should be expected in service.

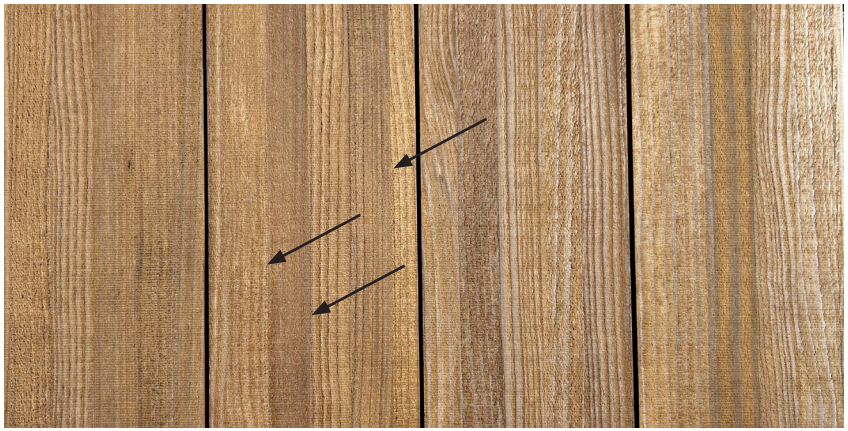
Laminated vertical grain wood products may exhibit:

- Subtle variation in grain alignment, texture, or light reflectivity between laminated sections
- Minor visibility of lamination lines or glue seams at edges, ends, or select viewing angles
- Localized fiber pull or minor surface disruption near lamination seams may occur during fabrication, cutting, sanding, fastening, or installation
- Surface checking that occurs independently of the lamination process as part of natural wood movement and environmental exposure

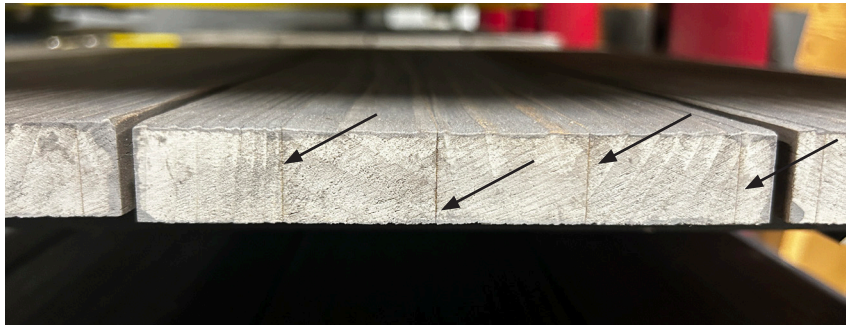
These characteristics are inherent to laminated wood construction and do not indicate product failure or delamination.

Design, detailing, and installation requirements must be reviewed in the ***RESAWN Exterior Design Guide*** and followed accordingly.

Not all Abodo Vulcan® cladding products utilize laminated vertical grain construction. Refer to individual product specifications and technical data sheets for product-specific construction, grading, and performance characteristics.



Example of laminated vertical grain Abodo Vulcan® cladding exhibiting natural tonal variation, grain reflectivity changes, and localized surface texture differences between laminated sections; variation of this nature is expected and does not indicate product failure or delamination



Example of laminated vertical grain Abodo Vulcan® cladding showing subtle variation between laminated sections and minor lamination seam visibility at board edges; these characteristics are inherent to laminated wood construction and contribute to the visual character of the material

SECTION 4: Species and Material Types Characteristics

ABODO VULCAN® CLADDING (Thermally Modified Wood)

Abodo Vulcan® cladding is a thermally modified wood product designed for improved durability and dimensional stability in exterior applications. Product characteristics will vary depending on the specific construction method, grade, texture, and finish system selected.

Material Characteristics and Expectations

Natural variation in color, grain, and texture is expected (refer to Section 2).

Abodo Vulcan® cladding products are available in multiple constructions, including:

- Laminated vertical grain products
- Flatsawn products

Laminated vertical grain products generally exhibit a more refined and consistent linear grain appearance, while solid sawn products may exhibit greater grain movement, cathedral grain patterns, and broader tonal variation.

Depending on product type and grade, Abodo Vulcan® cladding may exhibit:

- Tonal variation between boards
- Sapwood presence and associated color contrast
- Variation in grain pattern, reflectivity, and texture
- Visible lamination lines at board edges in laminated products
- Character markings associated with grade selection

Process-Driven Characteristics

Abodo Vulcan® cladding is thermally modified to reduce moisture absorption and improve dimensional stability.

As a result of the modification process, products may exhibit:

- Reduced moisture absorption compared to non-modified wood
- Improved dimensional stability
- Increased brittleness during cutting, fastening, or installation
- Surface checking, end checking, or localized cracking that may be accentuated by the modification process
- Tonal variation or darkening associated with thermal treatment

These characteristics are inherent to thermally modified wood products and are not considered defects.

Laminated vertical grain products additionally exhibit characteristics associated with laminated construction methods (refer to Section 3).

Clear (laminated) vertical grain Abodo Vulcan® cladding demonstrating the refined linear grain, tonal consistency, and clean appearance characteristic of laminated vertical grain construction

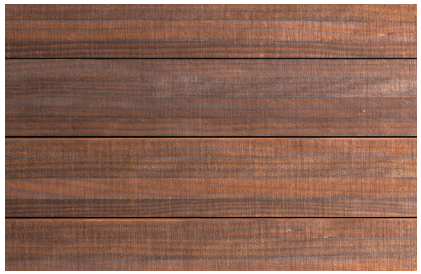
SECTION 4: Species and Material Types Characteristics

ABODO VULCAN® CLADDING (Thermally Modified Wood) continued

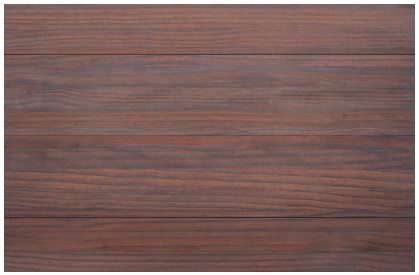
Finish and Surface Appearance

Abodo Vulcan® cladding is available with a range of factory-applied and site-applied finishes. Final appearance will vary based on wood texture, grain orientation, finish system, and environmental exposure.

- Surface texture, including fine sawn and smooth face profiles, influences reflectivity and perceived color
- Grain orientation and density variation may influence finish absorption and tonal consistency
- Abodo Vulcan® products are available in both clear vertical grain and character grades
- Most exterior Abodo Vulcan® products require a field-applied maintenance coat following installation; finish requirements vary by product and finish system and must be confirmed prior to installation



Abodo Vulcan® cladding with a fine sawn surface exhibiting increased grain visibility, tonal variation, and reduced reflectivity; textured surfaces may reduce the visual prominence of minor wear and checking over time



Abodo Vulcan® cladding with a smooth face surface exhibiting a more refined appearance with increased reflectivity and more pronounced grain and tonal variation

Weathering and Long-Term Behavior

Abodo Vulcan® cladding will naturally weather over time due to exposure to sunlight, moisture, and environmental conditions.

Expected weathering characteristics may include:

- Color shift and tonal evolution
- Uneven weathering across different elevations or exposure conditions
- Surface texture changes over time
- Minor movement, checking, or localized surface changes associated with environmental cycling

While thermally modified wood demonstrates improved dimensional stability compared to non-modified wood, natural movement and weathering will still occur.

Refer to Section 2 and ***RESAWN's Weathering and Maintenance Guidelines*** for detailed information regarding long-term performance, appearance, and care.

Clear (laminated) vertical grain Abodo Vulcan® cladding with SiOO:X finish system, designed to accelerate natural weathering and promote a consistent silver-grey patina over time while enhancing long-term exterior durability

SECTION 4: Species and Product Standards

ABODO VULCAN® DECKING (Thermally Modified Wood)

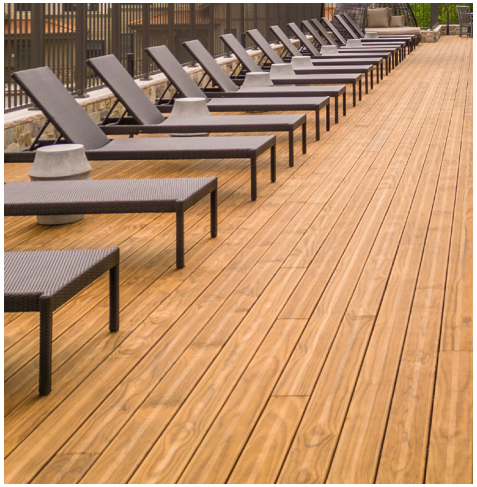
Abodo Vulcan® decking is a flatsawn thermally modified wood product designed for exterior performance under foot traffic and environmental exposure.

Material Characteristics and Expecations

Natural variation in color, grain, and texture is expected (refer to Section 2).

Abodo Vulcan® decking may exhibit:

- Moderate tonal variation between boards
- Variation in grain pattern and reflectivity
- Cathedral grain patterns characteristic of flatsawn material
- Occasional sapwood presence and associated color contrast
- Surface texture variation depending on profile and finish system
- Improved dimensional stability compared to non-modified wood



Abodo Vulcan® decking shown in an exterior pool environment; thermally modified flatsawn construction provides improved dimensional stability and durability while maintaining the natural grain variation, tonal movement, and weathering characteristics inherent to real wood

Process-Driven Characteristics

Abodo Vulcan® decking is thermally modified and preservative treated to reduce moisture absorption and improve dimensional stability in exterior applications.

As a result of the modification process, products may exhibit:

- Reduced moisture absorption compared to non-modified wood
- Improved dimensional stability
- Increased brittleness during cutting, fastening, and installation
- Surface checking, end checking, and localized cracking that may be more visually pronounced in flatsawn products due to grain orientation and exposure conditions
- Tonal variation or darkening associated with thermal treatment
- Reduced resin content compared to non-modified softwoods

These characteristics are inherent to thermally modified wood products and are not considered defects.

ABODO VULCAN® DECKING (Thermally Modified Wood) continued

Finish and Surface Appearance

Abodo Vulcan® decking is supplied with a factory-applied initial coat to the face, with additional sealing applied to the back and long edges. Most applications require a field-applied second coat following installation. Finish requirements vary by product and finish system and must be confirmed prior to installation.

Final appearance will vary based on wood texture, grain orientation, finish system, environmental exposure, and maintenance practices.

- Surface texture and profile influence traction, reflectivity, and visual depth
- Prefinished products may still exhibit tonal variation between boards
- Ribbed or reeded profiles may reduce the visual prominence of checking, wear, and abrasion over time
- Differential finish absorption may occur due to natural variation in grain orientation and density
- Exposed end grain and field cuts may absorb finish differently than face grain and must be properly sealed during installation

Weathering and Long-Term Behavior

Abodo Vulcan® decking will naturally weather over time due to exposure to sunlight, moisture, foot traffic, and environmental conditions.

Expected weathering characteristics may include:

- Color shift and tonal evolution
- Uneven weathering across different exposure conditions
- Surface texture changes over time
- Wear patterns associated with foot traffic and use
- Minor movement, checking, or localized surface changes associated with environmental cycling

While thermally modified wood demonstrates improved dimensional stability compared to non-modified wood, natural movement and weathering will still occur.

Routine cleaning and maintenance are required to maintain appearance and long-term performance. Mold, algae, mildew, and environmental buildup may occur on exterior walking surfaces and should be addressed through normal maintenance procedures.

Refer to Section 2 and ***RESAWN's Weathering and Maintenance Guidelines*** for detailed information regarding long-term performance, appearance, and care.

Example of weathered Abodo Vulcan® decking exhibiting natural tonal variation, surface texture evolution, and wear patterns associated with exterior exposure and foot traffic. Ribbed profiles may reduce the visual prominence of checking, wear, and surface abrasion over time.

SECTION 4: Species and Product Standards

ACCOYA® CLADDING (Acetylated Wood)

Accoya® is an acetylated wood product manufactured through a chemical modification process that improves durability and dimensional stability for exterior applications. While the acetylation process enhances performance, Accoya® remains a natural wood product and will continue to exhibit inherent variation, natural weathering characteristics, and process-driven visual attributes.

Material Characteristics and Expectations

Natural variation in color, grain pattern, texture, density, and character marks is expected (refer to Section 2).

Accoya® cladding may exhibit:

- Natural variation in grain visibility, finish absorption, and tonal appearance
- Sapwood and heartwood contrast depending on finish type and exposure conditions
- Tonal variation between boards and across elevations
- Localized variation resulting from grain orientation, surface texture, or environmental exposure
- High dimensional stability relative to many non-modified wood products

Variation in appearance is expected and contributes to the overall visual character of the installation.

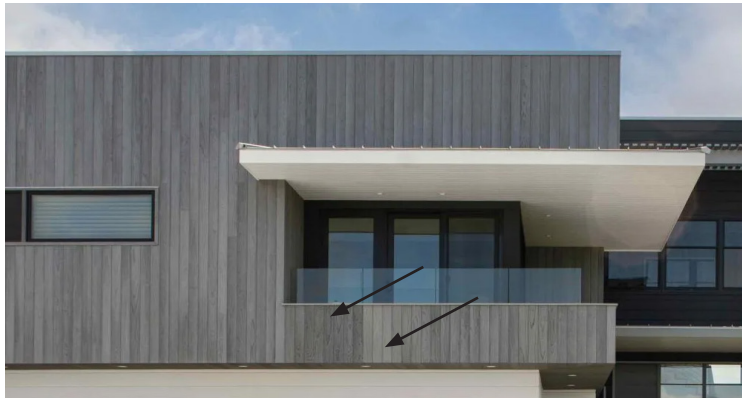
Process-Driven Characteristics

The acetylation process (refer to Section 3) modifies the wood at a cellular level to reduce moisture absorption and improve dimensional stability.

Accoya® products may exhibit:

- Reduced moisture absorption through acetylation
- Improved dimensional stability and long-term durability
- Increased brittleness relative to non-modified wood, which may influence cutting, drilling, fastening, and installation handling
- Resin and extractive migration that may contribute to localized darkening or tonal variation at the surface
- Sticker marks* or processing-related tonal variation, particularly on unfinished or lightly finished products during initial exposure periods

**Refer to Section 4, ACCOYA® Sticker Marks, for additional information.*



Example of tonal variation and board-to-board contrast in Accoya® cladding.; variations in grain orientation, finish absorption, and board sequencing may become more pronounced when boards are not adequately intermixed during installation

ACCOYA® CLADDING (Acetylated Wood) continued

Finish and Surface Appearance

Accoya® cladding may be supplied unfinished, prefinished, charred, or as Through-Body Color Accoya® (Accoya Color Grey).

Prefinished products may exhibit:

- Variation in finish absorption and final appearance due to natural density and grain variation
- Tonal movement that may become more pronounced over time and exposure
- Greater visibility of grain contrast, sticker marks, or tonal variation in lighter finish systems

Unfinished products may exhibit:

- Accelerated natural weathering when exposed to UV and moisture
- Surface mold, algae, mildew, or organic growth in shaded or high-moisture environments
- Increased tonal variation and surface evolution over time

Prefinished Accoya® cladding exhibiting natural tonal variation, grain visibility, and board-to-board color shift inherent to modified wood products

*Through-Body Color Accoya® (Accoya Color Grey) products may exhibit:

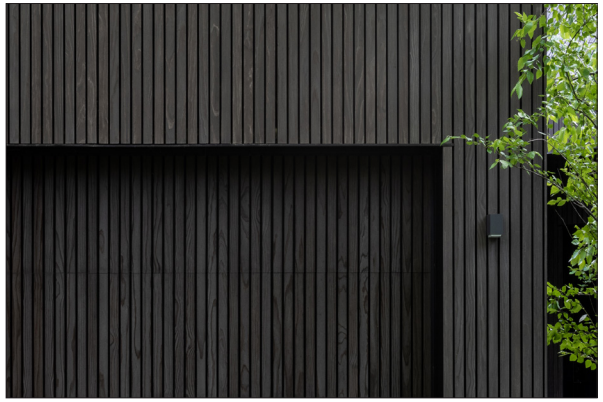
- Through-Body pigmentation rather than a surface-applied color only
- Localized lightening, whitening, or white-toned surface areas resulting from grain orientation, milling, weathering, or environmental exposure conditions
- Surface mold, algae, or environmental growth may occur in prolonged damp or shaded conditions, as Through-Body Color Accoya® (Accoya Color Grey) does not contain surface-growth inhibitor

Differences in color and tone will generally blend and soften over time with UV exposure and natural weathering.

**The following applies to OXFORD, MARENGO, and GREY MATTER.*

Charred Accoya® products (refer to Section 3) may additionally exhibit:

- Increased contrast between earlywood and latewood grain patterns
- Surface residue, edge variation, and less uniform transitions compared to non-charred wood products



Charred Accoya® cladding exhibiting variation in char depth, tone, and grain visibility; brushed charred finishes emphasize surface texture and grain contrast

ACCOYA® CLADDING (Acetylated Wood) continued

Weathering and Long-Term Behavior

Accoya® cladding will naturally weather over time due to exposure to sunlight, moisture, and environmental conditions.

Changes in color, tone, texture, and surface appearance, including uneven weathering across an installation, are expected as part of the natural aging process.

Environmental conditions including orientation, solar exposure, moisture retention, vegetation, overhangs, and airflow may significantly influence weathering rate and appearance.

While Accoya® demonstrates improved dimensional stability relative to many non-modified wood products, natural movement and visual evolution will still occur throughout the service life of the material.

Refer to Section 2 and ***RESAWN's Weathering and Maintenance Guidelines*** for detailed information regarding long-term performance, appearance, and care.

SECTION 4: Species and Product Standards

ACCOYA® Sticker Marks (Acetylated Wood)

What are Sticker Marks?

Sticker marks are visible tonal variations that may appear on Accoya® cladding following the acetylation and drying process. They typically appear as lighter bands or rectangular areas corresponding to sticker placement used during manufacturing and drying.

Sticker marks may be more visible on unfinished products, lightly pigmented finishes, Through-Body Color Accoya® products, smooth-planed surfaces, or areas receiving uneven UV exposure.

Example of sticker staining on unfinished and prefinished Accoya® cladding; visible tonal variation associated with sticker placement during the acetylation process may appear differently depending on finish type, surface texture, and lighting conditions

Why Do Sticker Marks Occur?

During manufacturing, Accoya® boards are separated using small wooden battens (“stickers”) to allow airflow and consistent penetration of the acetylation treatment throughout the wood cross-section.

During this process, natural extractives and resins within the wood may migrate toward the surface, contributing to localized darkening and tonal variation. Areas beneath sticker contact points experience slightly different exposure conditions during processing, resulting in lighter surface areas where the stickers contacted the board.

The visibility, contrast, and extent of sticker staining may vary naturally from board-to-board and order to order depending on grain orientation, density, finish type, and environmental exposure conditions.

Newly unwrapped Accoya® cladding showing visible sticker marks and tonal variation associated with the acetylation process

Sticker marks on newly installed boards will generally diminish over time **with UV exposure and natural weathering.**

ACCOYA® Sticker Marks (Acetylated Wood) continued

Impact of UV Exposure: Testing and Results

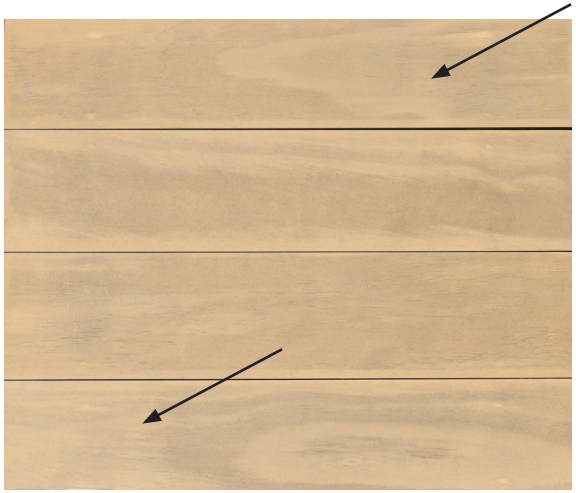
Test Setup

- One panel of sticker-marked Accoya boards was prepared and coated with a light-toned oil finish. Lighter toned finishes are more susceptible to reveal sticker marks then darker tones
- Boards were then installed outdoors in a south-facing orientation to maximize direct UV exposure
- Panels were photographed at Day 1, 90 days, and 120 days

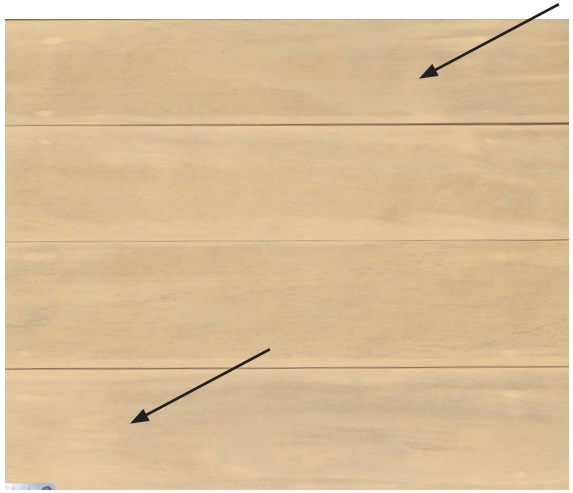
Results

- Stickers marks on Accoya® boards do fade
- By 90 days, the majority of marks had faded significantly across both finish types
- By 120 days, marks had nearly disappeared entirely with only faint ghosting remaining in isolated areas
- Sticker marks are not a permanence issue and are a characteristic of a new installation that resolves in time

Oil test finish: Day 1



Oil test finish: Day 90



Oil test finish: Day 120

Light finishes will show sticker marks more prominently at first, but both light and dark finishes resolve with UV exposure; darker pigments simply accelerate the process and camouflage marks in the interim.

SECTION 4: Species and Product Standards

ACCOYA® DECKING (Acetylated Wood)

reSAWN's Accoya® decking products are acetylated wood decking materials designed for exceptional durability and dimensional stability in exterior applications. Accoya® decking is offered in two decking designs: KOWHAI® and OXFORD®.

Material Characteristics and Expectations

Natural variation in color, grain pattern, texture, density, and character marks is expected (refer to Section 2).

Accoya® decking may exhibit:

- Board-to-board tonal variation
- Visible grain pattern and cathedraling
- Occasional knots, mineral streaking, or character marks
- Variation in finish absorption and weathering behavior
- Surface checking and minor cracking, particularly in exposed exterior environments

As a flatsawn wood product, Accoya® decking is more prone to visible checking than vertical grain products. Surface checks may become more apparent during seasonal moisture cycling and weather exposure.

Process-Driven Characteristics

The acetylation process (refer to Section 3) modifies the wood at a cellular level to reduce moisture absorption and improve dimensional stability.

Accoya® decking may exhibit:

- Reduced moisture absorption through acetylation
- Improved dimensional stability and long-term durability
- Increased brittleness relative to non-modified wood, which may influence cutting, drilling, fastening, and installation handling
- Resin and extractive migration that may contribute to localized darkening or tonal variation at the surface
- *Sticker marks or processing-related tonal variation, particularly on unfinished, lightly finished, or Through-Body Color Accoya® products during initial exposure periods

**Sticker marks and processing-related tonal variation are inherent to the acetylation process and are not considered defects. Refer to Section 4, ACCOYA® Sticker Marks, for additional information.*

Example of surface algae and environmental growth on weathered exterior decking in a prolonged damp and shaded exposure condition; routine cleaning and maintenance are required for all exterior wood decking applications.

ACCOYA® DECKING (Acetylated Wood) continued

KOWHAI® Decking (Unfinished Accoya®)

KOWHAI® is reSAWN's unfinished natural Accoya® decking product. As an unfinished exterior wood product, KOWHAI® will naturally weather over time when exposed to sunlight, moisture, and environmental conditions.

KOWHAI® decking may exhibit:

- Natural greying and tonal change with UV exposure
- Uneven weathering across an installation
- Surface mold, algae, or environmental growth in damp or shaded conditions
- Visible sticker marks that gradually lessen with exposure and weathering

Because KOWHAI® is unfinished, surface appearance will evolve more rapidly than coated or factory-finished wood products.

OXFORD® Decking (Through-Body Color Accoya®)

OXFORD® is reSAWN's unfinished Through-Body Color Accoya® decking product. The grey coloration penetrates beyond the surface of the board as part of the manufacturing process.

OXFORD® decking may exhibit:

- Localized whitening, lightening, or grey tonal shift resulting from abrasion, grain orientation, or environmental exposure
- Greater visibility of tonal movement and sticker marks due to the lighter Through-Body grey coloration
- Surface mold, algae, or environmental growth in prolonged damp or shaded conditions, as Through-Body Color Accoya® products do not contain surface-growth inhibitors

Through-Body coloration does not eliminate natural wood variation or weathering behavior. Exposure conditions, maintenance practices, and installation orientation will influence long-term appearance.

Weathering and Long-Term Behavior

All Accoya® decking products will undergo natural weathering over time due to sunlight, moisture, foot traffic, and environmental exposure.

Changes may include:

- Surface erosion and texture change
- Color fading or greying
- Increased checking and raised grain
- Uneven weathering across an installation

These changes are expected in exterior wood decking applications and are not considered defects.

Refer to Section 2 and ***RESAWN's Weathering and Maintenance Guidelines*** for detailed information regarding long-term performance, appearance, and care.

SECTION 4: Species and Product Standards

KEBONY® CLADDING (Modified Wood)

RESAWN's Kebony® cladding products are modified wood cladding materials designed to improve durability and dimensional stability through a bio-based treatment process. reSAWN currently offers CHARRED BLACK KEBONY® and FULLY CHARRED KEBONY® cladding products for exterior and interior wall cladding applications.

Material Characteristics and Expectations

Natural variation in color, grain pattern, texture, and character marks is expected (refer to Section 2).

Kebony® cladding products may exhibit:

- Visible tonal variation within and between boards
- Variation in grain visibility and surface texture
- Surface checking and end checking, particularly in exposed exterior conditions
- Natural variation in char appearance, reflectivity, and texture
- Extractive or tannin leaching during early weathering periods, which may result in temporary brown runoff or staining on adjacent materials

These characteristics are natural to wood and are not considered defects.

Process-Driven Characteristics

The Kebony® modification process (refer to Section 3) improves durability and dimensional stability but does not eliminate natural wood behavior.

Kebony® cladding products may exhibit:

- Reduced moisture-related movement
- Increased surface checking associated with modified and charred wood exposure conditions
- Variation in char depth and carbonization across the board surface
- Surface texture variation resulting from brushing and finishing processes
- Increased brittleness relative to non-modified wood, which may influence cutting, drilling, fastening, and installation handling

Charred Kebony® cladding exhibiting tonal variation, visible grain texture, and natural surface evolution associated with brushed charred finishes and exterior exposure

KEBONY® CLADDING (Modified Wood) continued

Process-Driven Characteristics

The Kebony® modification process (refer to Section 3) improves durability and dimensional stability but does not eliminate natural wood behavior.

Kebony® cladding products may exhibit:

- Reduced moisture-related movement
- Increased surface checking associated with modified and charred wood exposure conditions
- Variation in char depth and carbonization across the board surface
- Surface texture variation resulting from brushing and finishing processes
- Increased brittleness relative to non-modified wood, which may influence cutting, drilling, fastening, and installation handling

Finish and Surface Appearance

CHARRED BLACK KEBONY® products utilize a brushed charred finish that exposes portions of the underlying wood grain and surface texture.

CHARRED BLACK KEBONY® may exhibit:

- Visible grain definition and tonal contrast beneath the charred surface
- Variation in brushing intensity and surface reflectivity
- Areas of lighter or heavier char within and across boards
- Surface evolution and softening of the charred appearance over time with UV and environmental exposure

FULLY CHARRED KEBONY® products feature a heavier and more fully carbonized surface appearance with increased texture and visual depth.

FULLY CHARRED KEBONY® may exhibit:

- Greater variation in char depth and surface texture
- More pronounced surface cracking and checking within the charring layer
- Increased surface residue or transfer during handling and installation
- Less uniform board-to-board appearance due to the nature of the full char process

Weathering and Long-Term Behavior

Kebony® cladding products will naturally weather over time due to sunlight, moisture, and environmental exposure.

Changes in color, texture, surface appearance, and charring definition, including uneven weathering across an installation, are expected as part of the natural aging process and are not considered defects.

- Weathering rate and tonal transition will vary depending on exposure conditions
- Surface checking may become more pronounced over time
- Charred surfaces may soften, fade, or evolve in tone and texture with exposure
- Temporary extractive runoff or staining may occur during early exposure and weathering periods

Refer to Section 2 and ***RESAWN's Weathering and Maintenance Guidelines*** for detailed information regarding long-term performance, appearance, and care.

SECTION 4: Species and Product Standards

KEBONY® DECKING (Modified Wood)

Kebony® decking is a modified wood product designed for exterior walking surfaces requiring durability, dimensional stability, and minimal maintenance.

Material Characteristics and Expectations

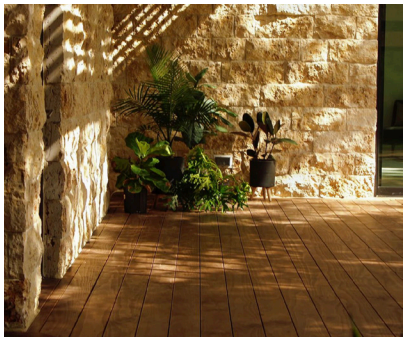
Natural variation in color, grain, and texture is expected (refer to Section 2).

- Initially brown in tone with moderate tonal variation
- More consistent than many untreated softwoods
- Grain pattern and surface texture contribute to overall traction and appearance

Process-Driven Characteristics

The modification process (refer to Section 3) improves durability and dimensional stability but does not eliminate natural wood behavior.

- Improved durability and dimensional stability
- Reduced moisture-related movement compared to non-modified wood
- Modified wood treatment influences both long-term appearance and walking surface performance



Newly installed unfinished Kebony® decking prior to weathering; the material's initial brown coloration will naturally transition to a silver-grey patina over time, with weathering rate and appearance influenced by exposure conditions

Finish and Surface Appearance

Kebony® decking is typically supplied unfinished and intended to weather naturally over time.

- Walking surfaces will develop wear patterns, abrasion, and sheen variation associated with foot traffic and exterior exposure
- Areas subject to concentrated traffic, furniture placement, or standing moisture may weather differently than surrounding areas
- More pronounced surface cracking and checking within the charring layer
- Temporary extractive runoff or staining may occur during early exposure and weathering periods

Weathering and Long-Term Behavior

This material will undergo natural weathering over time due to exposure to sunlight, moisture, and environmental conditions.

Changes in color, texture, and surface appearance, including uneven weathering across an installation, are expected and are not considered defects.

- Kebony® characteristically transitions from brown to a silver-gray tone over time
- Weathering rate and tonal transition will vary depending on exposure, moisture, and walking surface conditions
- Surface texture and appearance will continue to evolve with use and environmental exposure

Refer to Section 2 and ***RESAWN's Weathering and Maintenance Guidelines*** for detailed information regarding long-term performance, appearance, and care.

SECTION 4: Species and Product Standards

CYPRESS (Natural Wood)

Cypress is a naturally durable softwood valued for its distinctive grain character, warm coloration, and suitability for exterior applications. Compared to many modified wood products, Cypress exhibits more active natural wood behavior, including a greater tendency toward movement, distortion, checking, and variation in appearance. Grain orientation, board dimensions, and environmental exposure all influence how the material will perform and weather over time.

The characteristics described below are inherent to the species and should be expected as part of its natural character and long-term behavior.

Material Characteristics and Expectations

Cypress will exhibit variation and behaviors typical of natural wood (refer to Section 2).

- Reddish, pink, and light tonal variation
- Occasional light-colored areas or sapwood contrast
- Greater potential for end splitting and checking

Charred Cypress cladding exhibiting natural tonal variation, visible grain contrast, and the evolving surface character associated with brushed charred finishes

Material Characteristics and Expectations continued

- Increased likelihood of bowing, crooking, twisting, and distortion, particularly in wider or longer boards
- Active grain patterns that may contribute to less predictable board movement and appearance
- Natural variation in density, grain orientation, and texture

Finish and Surface Appearance

- May be supplied unfinished, prefinished, or charred
- Variation in density and grain may influence finish absorption and tonal consistency

Charred products (refer to Section 3):

- Variation in char depth, tone, and texture
- Brushing increases grain visibility and contrast
- Surface appearance will differ significantly from non-charred Cypress products

Weathering and Long-Term Behavior

This material will undergo natural weathering over time due to exposure to sunlight, moisture, and environmental conditions.

Changes in color, texture, and surface appearance, including uneven weathering across an installation, are expected and are not considered defects.

- Surface texture and tone will evolve over time
- Movement, checking, and distortion may become more apparent with exposure and environmental cycling

Refer to Section 2 and ***RESAWN's Weathering and Maintenance Guidelines*** for detailed information regarding long-term performance, appearance, and care.

SECTION 4: Species and Product Standards

SYLVA™ (Thermally Modified Hardwood)

Sylva™ is a thermally modified hardwood designed for improved durability and dimensional stability in exterior applications. The modification process enhances the wood's resistance to moisture-related movement while contributing to the rich coloration and distinctive appearance characteristic of thermally modified hardwoods.

Material Characteristics and Expectations

Natural variation in color, grain, and texture is expected (refer to Section 2).

- Uniform grain with moderate tonal variation
- Improved dimensional stability compared to untreated hardwood

Process-Driven Characteristics

Thermal modification enhances durability and dimensional stability but does not eliminate natural wood behavior (refer to Section 3).

- Reduced moisture absorption
- Increased dimensional stability
- Increased brittleness relative to non-modified wood

Finish and Surface Appearance

Sylva™ cladding is available in a range of finishes and surface conditions, including non-charred and charred products.

Charred products:

- Variation in char depth, tone, and surface texture
- Brushed finishes increase grain contrast

Weathering and Long-Term Behavior

This material will undergo natural weathering over time due to exposure to sunlight, moisture, and environmental conditions.

Changes in color, texture, and surface appearance, including uneven weathering across an installation, are expected and are not considered defects.

- Surface tone and texture will evolve over time

Refer to Section 2 and ***RESAWN's Weathering and Maintenance Guidelines*** for detailed information regarding long-term performance, appearance, and care.

Sylva™ cladding exhibiting natural tonal variation, grain patterning, and contrast between boards; variations in color, texture, and finish absorption are inherent to natural wood and contribute to the overall visual character of the installation.

Sylva™ cladding exhibiting natural tonal variation, grain visibility, and color evolution associated with exterior exposure and weathering; variations in tone, texture, and board appearance are inherent characteristics of thermally modified wood products and may become more pronounced over time

SECTION 4: Species and Product Standards

ALASKAN YELLOW CEDAR (Natural Wood)

Alaskan Yellow Cedar is a durable softwood valued for its stability, fine grain, and naturally elegant appearance. While often more uniform than many softwood species, natural variation in color, sapwood presence, grain pattern, and weathering behavior should be expected.

Material Characteristics and Expectations

Cedar will exhibit variation and behaviors typical of natural wood (refer to Section 2).

- Light yellow to golden tones with subtle variation
- Visible sapwood may occur within and between boards, creating lighter areas and increased color contrast
- Natural variation in grain pattern, texture, and density
- Generally more uniform in appearance than many other cedar species, while still exhibiting inherent variation characteristic of natural wood

Finish and Surface Appearance

- Variation in density may influence finish absorption
- Prefinished products may exhibit tonal variation

Weathering and Long-Term Behavior

This material will undergo natural weathering over time due to exposure to sunlight, moisture, and environmental conditions.

Changes in color, texture, and surface appearance, including uneven weathering across an installation, are expected and are not considered defects.

- Unfinished material will naturally weather to a silver-gray tone over time
- It is not possible to predict or guarantee a specific weathering timeline or final appearance

Refer to Section 2 and ***RESAWN's Weathering and Maintenance Guidelines*** for detailed information regarding long-term performance, appearance, and care.

Clear Vertical Grain Alaskan Yellow Cedar exhibiting a refined linear grain pattern with moderate tonal variation; even within vertical grain selections, variation in color, texture, and finish absorption is expected and contributes to the natural character of the installation

Alaskan Yellow Cedar exterior ceilng exhibiting natural tonal variation and grain contrast across boards; color variation, subtle sapwood presence, and shifting appearance under changing light conditions are inherent characteristics of natural wood products

SECTION 4: Species and Product Standards

WESTERN RED CEDAR (Natural Wood)

Western Red Cedar is a naturally durable softwood valued for its warm coloration, pronounced grain character, and versatility in exterior applications. Compared to many modified wood products, Western Red Cedar exhibits greater natural variation and movement, making an understanding of species-specific characteristics important when evaluating appearance and long-term behavior.

Material Characteristics and Expectations

Cedar will exhibit variation and behaviors typical of natural wood (refer to Section 2).

- Reddish, pink, tan, and brown tones
- Lower-density material, contributing to increased surface wear and texture change over time

Finish and Surface Appearance

Western Red Cedar may be supplied unfinished, prefinished, or charred.

- Variation in density may influence finish absorption and tonal consistency

Charred products:

- Variation in char depth, tone, and surface texture
- Brushed finishes increase grain contrast

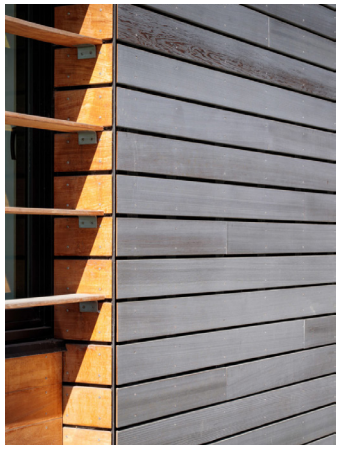
Weathering and Long-Term Behavior

This material will undergo natural weathering over time due to exposure to sunlight, moisture, and environmental conditions.

Changes in color, texture, and surface appearance, including uneven weathering across an installation, are expected and are not considered defects.

- Surface erosion and texture change may be more pronounced due to lower density
- Charred surfaces may soften or shift in tone over time

Refer to Section 2 and ***RESAWN's Weathering and Maintenance Guidelines*** for detailed information regarding long-term performance, appearance, and care.



Western Red Cedar cladding exhibiting natural tonal variation and differential weathering associated with exposure, orientation, and moisture conditions; surface texture, grain pattern, and color evolution will vary across boards and over time

Charred Western Red Cedar exhibiting natural variation in char depth, grain exposure, and surface reflectivity; charred finishes will continue to evolve with exterior exposure and may weather differently across elevations and environmental conditions

SECTION 4: Species and Product Standards

WESTERN HEMLOCK – CVG (Natural Wood)

Western Hemlock is a fine-textured softwood commonly specified in Clear Vertical Grain (CVG) grades for its refined linear grain pattern and clean appearance. While often more uniform than many softwood species, Western Hemlock remains a natural wood product and will exhibit inherent variation in color, grain, mineral streaking, and other naturally occurring characteristics.

Material Characteristics and Expectations

Western Hemlock will exhibit variation and behaviors typical of natural wood (refer to Section 2).

- Light, uniform tones with subtle variation
- Fine, straight grain typical of vertical grain material
- Mineral streaking and color streaking may be present and can be prominent in some boards
- May include minor streaking, pin knots, or naturally occurring character marks
- Natural variation in density, texture, and finish absorption

Finish and Surface Appearance

Western Hemlock may be supplied prefinished or charred.

- Smooth surfaces emphasize uniformity
- Variation in density may result in subtle tonal variation

Charred products:

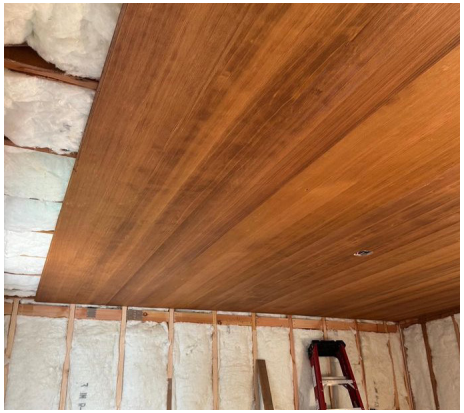
- Exhibit variation in char depth, tone, and surface texture
- Brushed finishes increase grain visibility and contrast

Weathering and Long-Term Behavior

Typically used in interior or protected applications.

- Exposure may result in subtle tonal shifts over time
- Charred surfaces may soften or evolve in texture

Refer to Section 2 and ***RESAWN's Weathering and Maintenance Guidelines*** for detailed information regarding long-term performance, appearance, and care.



Western Hemlock exhibiting natural tonal variation, grain contrast, and finish absorption variation across boards; color shift and subtle board-to-board variation are inherent characteristics of natural wood products and may become more pronounced under changing lighting conditions

Clear Vertical Grain Western Hemlock exhibiting a refined linear grain appearance with subtle variation in tone and texture; even within higher grade vertical grain material, natural variation between boards remains inherent and contributes to the overall visual character of the installation

SECTION 5: Material Evaluation Resources

During the design, specification, and planning phases, this guide and the related documentation listed below, may be used as educational, reference, and expectation-setting tools. Upon execution as part of a RESAWN Sales Order, however, these documents become part of the contractual framework governing material evaluation, appearance expectations, installation considerations, and long-term performance expectations. If a box is checked, the referenced document is deemed applicable to the project and forms part of the project documentation package associated with the sale. By proceeding with the Sales Order and execution of Section 6, the signing party acknowledges that these documents have been reviewed, and accepted by the responsible project stakeholders prior to material purchase and installation.

Project Checklist

- ☐ Product Data Sheets (Technical Specifications)
  Defines product applications, profiles, finishing and sealing requirements, and technical performance data.

- ☐ Exterior Design Guide
  Provides design considerations for exterior wood applications, including system design, detailing, and environmental exposure.

- ☐ Installer's Guide to Exterior Wood Cladding
  Outlines installation methods, fastening requirements, and field best practices for exterior cladding systems.

- ☐ Weathering & Maintenance Documentation
  Describes expected weathering behavior, finish performance, and recommended maintenance practices over the lifespan of the material.

- ☐ Mock-up Program Review
  Documents that the RESAWN Mock-Up Program was presented to the project team and either accepted or declined.

- ☐ Custom Profile Drawing(s)
  Identifies projects that include a custom profile. Following receipt of deposit, a profile drawing will be issued and serve as the approved reference for profile geometry, production, and material evaluation.

- ☐ Custom Finish
  Documents the approved color, finish, and visual expectations for custom-finished material and serves as the basis for evaluating final product appearance; custom color development may introduce additional variability due to the absence of prior testing or established performance precedent.

- ☐ Material Samples and Visual References
  Documents that material samples, project photography, and/or other visual reference materials were provided and reviewed; variation within the final product may differ from the examples presented.

It is the responsibility of the purchaser, and their related project team, to ensure that all applicable resources identified in the checklist have been received, distributed to relevant parties, and fully reviewed prior to material purchase, fabrication, and installation.

SECTION 6: Acknowledgment

This section is intended for formal execution only in connection with an active RESAWN Sales Order. Prior to execution, this guide may be used during design development, specification review, and project planning as an educational and expectation-setting document. Once signed, however, this acknowledgment becomes part of the contractual sales documentation associated with the project and material purchase.

By signing below, I acknowledge that I have read and understand ***RESAWN's Material Characteristics & Expectations Guide,*** including all inherent material characteristics, natural variation, movement, weathering behavior, and process-driven conditions associated with wood and wood-based products.

I further acknowledge that all applicable RESAWN technical, installation, maintenance, finish, specification, and project-specific documentation identified in Section 5 has been reviewed by the responsible project stakeholders prior to material purchase, fabrication, and installation.

I understand and accept that variation in color, grain, texture, finish absorption, movement, weathering, and other natural or process-driven characteristics described within this documentation are expected conditions of the material and are not considered defects.

I agree that material evaluation, acceptance, and performance expectations shall be governed by the standards, limitations, and conditions described within this document and all applicable referenced documentation.

_____

Print Name

_____

Signature

_____

Date