

PRIMARY PRODUCTS

PACIFIC HEMFIR

WOOD THAT WORKS

www.PacificHemFir.com



Pacific HemFir is produced from one of the most plentiful tree species in British Columbia. Known for its versatility and performance, HemFir is a wood wonder offering extraordinary value to a wide range of applications. Like the region it represents, Pacific HemFir is beautiful, sustainable and strong. That's why they call it **wood that works.**

Beautiful. Sustainable. Strong.

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Pacific HemFir Partners / **IBC**

OVERVIEW

Introducing Pacific HemFir. **Wood that works.**

Pacific HemFir has it all: superior technical performance; a sustainable and plentiful supply; incredible versatility; treatability; and a beautiful appearance thanks to its straight grain and consistent, light colour. These attributes make Pacific HemFir an excellent choice for everything from structural and industrial applications like framing lumber, heavy timbers and engineered components to joinery and appearance applications known for their ‘wow’ factor.

Pacific HemFir is a combination of Western hemlock (*Tsuga heterophylla*) and Amabilis fir (*Abies amabilis*), two of the most important and popular coniferous species in British Columbia. Growing intermixed, these high value species are nearly identical in appearance and performance, and are harvested, manufactured and marketed together as Pacific HemFir.

Trees of both species are large, commonly reaching heights of 35m to 55m and diameters up to 90 cm or more. They grow tall,

branch-free trunks, a natural growth characteristic that produces large amounts of clear and factory lumber from the log. The wood fibre has high strength and stiffness, combined with even density. It seasons well, hardening as it dries and ages to give excellent durability throughout its lifespan, remaining true to its original freshly milled, pale pastel colour. This desirable softwood is porous and accepts stains well, naturally delivering added richness, utility and value.

Plentiful, workable and versatile.
Choose Pacific HemFir for your next project.



Images Courtesy of Western Forest Products

**B.C. LEADS
IN SUSTAINABILITY
GLOBALLY:**

85%, OR 47 MILLION
HECTARES, OF
INDEPENDENTLY
CERTIFIED FORESTS

A FRACTION OF 1%,
OR 0.35%, OF FORESTS
HARVESTED ANNUALLY

200 MILLION SEEDLINGS
PLANTED ANNUALLY

SUSTAINABILITY

Pacific HemFir. The **sustainable, renewable** choice.

From sapling to sustainable end product, Pacific HemFir is a renewable building material that provides environmental benefits throughout its lifecycle. Grown and harvested within the context of British Columbia’s leading sustainable forest management regime, Pacific HemFir is a natural solution that helps mitigate climate change, locking in carbon over the wood product’s lifetime.

Pacific HemFir is responsibly harvested to sustain and protect forests and their ecosystems. It is sourced directly from the coastal and interior regions of B.C., which adhere to the most stringent forest management standards and practices in the world.

B.C.’s globally-recognized sustainable forest management regime includes strict forest laws, skilled forestry professionals, comprehensive monitoring, compliance and enforcement. Practices protect key environmental values including soil conservation, water quality, fish habitat, critical wildlife habitat and reforestation.

At home and abroad, government, industry and consumers alike are recognizing that wood products sourced from sustainably managed forests are critical in protecting this renewable natural resource and tackling climate change. B.C.’s established track record as a reliable supplier of quality products from sustainably managed forests positions Pacific HemFir as a leading solution for building products.

Not only can healthy forests help in the fight against climate change, sustainably grown and harvested wood products have further lifecycle benefits through their carbon-locking capabilities.

Plus, science shows that it is possible to construct zero-carbon buildings—and even make them a carbon sink—by using renewable materials such as wood. This means that B.C. forest products—particularly fast-growing Pacific HemFir—are the eco-friendly choice, especially compared to non-renewable, carbon intensive materials such as steel or concrete.

Building with sustainable, renewable Pacific HemFir supports a low carbon future, meeting the environmental, social and economic needs of current and future generations.



Images Courtesy of naturallywood.com

PACIFIC HEMFIR
REPORT CARD:

A+ VALUE

A+ VERSATILITY

A STRENGTH

PERFORMANCE

Pacific HemFir. The **smart** choice.

There's a reason why Pacific HemFir is called wood that works. Strong, stiff, dense and durable are just some of the attributes that make Pacific HemFir a high value wood with superior technical performance. When combined with its plentiful supply and sustainability benefits, it's clear why Pacific HemFir is the smart choice.

Pacific HemFir is prized for its high strength to weight ratio, ideal for structural applications particularly where appearance is key. Its beauty is captured in warm, honey-coloured paneling and impressive ceiling spans. The wood will bend but not break which—with its even density and resulting high nail and screw holding ability—offers added safety benefits, especially in areas that are seismically sensitive.

A preferred choice where pressure treated wood is required, Pacific HemFir offers dependable performance thanks to its even density which allows for easy drying and the uniform penetration of preservatives

during the treatment process. This property makes it well suited to outdoor applications like decking and landscape features and gives Pacific HemFir durability and excellent wear resistance on high-traffic areas.

Its strength together with its stiffness make Pacific HemFir a preferred material for use in horizontal components and longer spans—one reason Pacific HemFir is pressure treated and used in industrial applications such as bridges and piers.

In fact, HemFir's strength values have recently been updated in the Canadian Standards Association's CSA O86,

Engineering design in wood standard. This new standard for timbers makes it much easier for engineers, architects, regulators and other users to specify Pacific HemFir in industrial applications where structural calculations are required.

Together these qualities make Pacific HemFir an exceptional fit for most structural, appearance and industrial uses. It can meet many of the structural load bearing and load carrying requirements of residential, light commercial and heavy construction.



Images Courtesy of Western Forest Products and naturallywood.com

PACIFIC HEMFIR
FEATURES:

FINE, STRAIGHT GRAIN

CONSISTENT,
LIGHT COLOUR

EXCELLENT STAINABILITY

DESIGN ATTRIBUTES

Pacific HemFir. The beautiful choice.

Pacific HemFir is a natural beauty with its fine grain, pale golden colouring, lack of pitch and fashion savvy stainability. Not only does this make Pacific HemFir an excellent choice for appearance and joinery applications, but its innate strength and other notable attributes make it ideal for structural applications where aesthetics are key.

Pacific HemFir has beautiful, consistent, light-coloured tones ranging between creamy, nearly white to a warm, light straw. Some Pacific HemFir may have a slight lavender cast—which gives it a natural appeal—especially around the knots and in the transition area between the spring and summerwood’s growth rings. The heartwood is not distinct. Sometimes small, delicate dark grey or black streaks appear in the wood.

Pacific HemFir is non-resinous and because of its light color,

freedom from pitch, excellent machining properties and fine, straight grain, it takes any stain, finish or preservative like a pro. This combination of light colour and excellent stainability also means that Pacific HemFir can easily be made to look like many other high value wood species such as teak or oak.

Its even texture gives Pacific HemFir a refined appearance and enables it to sand smoothly and glue easily.

Nature and Art Become One

Enveloped by evergreens, the Audain Art Museum prominently features Pacific HemFir throughout, providing a seamless transition from the surrounding natural landscape.

The project’s architect, David Shone, Patkau Architects, says the firm carefully selected appearance grade Pacific HemFir for its warmth, beautiful aesthetic qualities and fabrication capabilities.

Openings in the matte black metal exterior are overlaid with inviting, luminous Pacific HemFir casing. Public spaces in the interior, which are visible from the exterior, continue to feature the honey-hued wood. Together this creates a charming effect, giving visitors the sense that the wood is glowing out of the black cladding, mimicking a larger-than-life lantern in the forest. At night and in winter, this impression is particularly stunning as the building radiates warmth.

The use of native Pacific HemFir “resonates with the powerful alpine landscape in which the museum sits and reinforces a connection to the region that inspired much of the art collection within,” says Shone.

The Audain Art Museum—a building truly in harmony with nature.

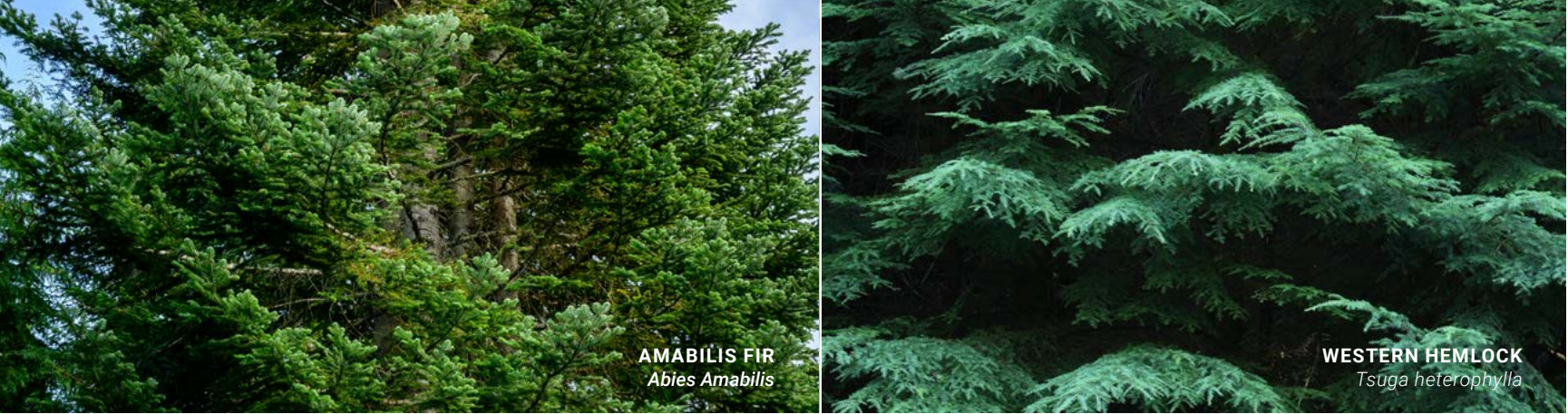
LEARN MORE

Does your project need performance
and extraordinary beauty?
Look no further than Pacific HemFir.

Audain Art Museum, Whistler, B.C.
Patkau Architects | Derek Lepper Photography
Image Courtesy of naturallywood.com

Comparative Physical Properties of Pacific HemFir

			HEMFIR	
	HIGH RANGE ◆	LOW RANGE ●	AMABILIS FIR	WESTERN HEMLOCK
Physical Properties				
Density (12%-kg/m³)			445	480
Specific Gravity (12% m.c.)			0.39	0.43
Bending Strength (MOR)(MPa)			68.9	81.1
Stiffness (MOE)(x103MPa)			11.4	12.3
Compression parallel to grain (MPa)			40.8	46.7
Compression perpendicular to grain (MPa)			3.6	4.5
Shear (MPa)			7.5	6.5
Cleavage (N/mm)			36.8	37.5
Dimensional stability			9.2	7.8
(Shrinkage % green to O.D.)			4.4	4.2
Hardness (N)			1820	2740
Durability				
Natural durability (approx. life in contact with ground)	>10 yrs	≤ 10 yrs	●	●
Treatability (preservatives or fire)	permeable – moderately resistant	resistant – extremely resistant	◆	◆
Drying				
Drying rate	rapid – moderate	fairly slow – very slow	◆	◆
Tendency to check during drying	absent or easily controllable	controllable with some care	◆	◆
Tendency to distortion during drying	absent – slight	moderate	◆	●



Images Courtesy of naturallywood.com

	HIGH RANGE ◆	LOW RANGE ●	HEMFIR	
			AMABILIS FIR	WESTERN HEMLOCK
Workability				
Machining (planing/turning/moulding/ mortising/boring, etc.)	good – excellent	fair	◆	◆
Blunting	very little/slight – little/slight	moderate	◆	◆
Nailing/resistance to splitting	well – excellent	poor – satisfactory	◆	◆
Screw/nail holding	good – excellent	satisfactory	◆	◆
Gluing	w/out difficulty – exceptional	difficult – satisfactory	◆	◆
Finishing				
Natural colour: whitsh ¹ , lt. buff ² , yellwsh-brn ³			1,2,3	1,3
Paint finishing	good – excellent	poor – satisfactory	◆	◆
Stain finishing	good – excellent	poor – satisfactory	◆	◆
Tendency to resin exudation	absent or infrequent after drying	acceptability depends on finish to be used and visual standards required	◆	◆
Miscellaneous Properties				
Tendency to corrode ferrous metals	likely	unlikely	●	●
Becomes stained in contact with ferrous metals	likely	unlikely	●	●

WOOD PRESERVATIVES:

ARE PACIFIC HEMFIR'S
SUPERPOWER

ARE SAFE FOR PEOPLE
AND THE ENVIRONMENT

EXTEND THE LIFESPAN OF
PACIFIC HEMFIR PRODUCTS

TREATABILITY

Pacific HemFir. The **preferred** choice.

Pacific HemFir performs like a pro under pressure. Its superior pressure treating performance allows for easy drying and good penetration of preservatives. Pressure treating increases Pacific HemFir's durability and prolongs the lifespan of Pacific HemFir products, offering a solution that is both sustainable and economical.

Pressure treated Pacific HemFir products are reliable because they last. In fact, Pacific HemFir is the preferred choice where pressure treated wood is needed because it readily accepts preservatives when the wood is properly prepared. With pressure treating, Pacific HemFir becomes resistant to insects and fungi that cause degradation to untreated wood.

An excellent choice for outdoor applications requiring resistance to decay, Pacific HemFir's exceptional strength and wear resistance on high-traffic areas make it ideal when it comes to decking, landscape features and other outdoor projects.

It is well suited for the load bearing requirements of residential and light commercial construction. Its strength, together with its stiffness, make Pacific HemFir timbers a preferred material for use in horizontal components and longer spans—one reason Pacific HemFir is pressure treated and used in industrial applications such as bridges and wharves.

A formidable opponent to unwelcome traffic noise, the Pacific HemFir SoundShield fencing system stands up to rocks and other highway debris. Treated HemFir products are the ideal solution in climates where roads are treated with salt.

Pressure treated Pacific HemFir products not only provide durability and longevity, they are also sustainable. Renewable Pacific HemFir stores carbon throughout the lifespan of the wood products, helping to create a low carbon future.

Strong, beautiful and cost-effective by nature. Pacific HemFir's pressure treating performance bolsters its reputation as wood that works.

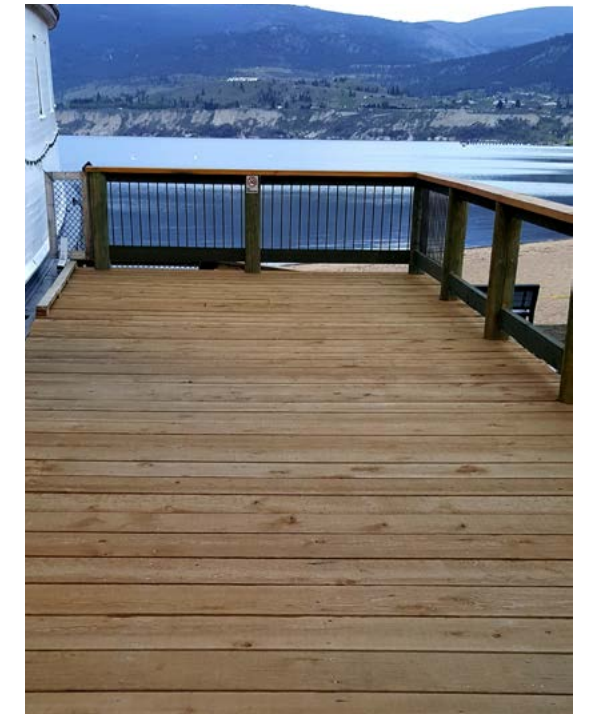


Image Courtesy of MicroPro Sienna

Whistler Day Lodge, Whistler, B.C.
Merrick Architecture | KK Law Photography
Image Courtesy of naturallywood.com

Lumber Grades

No matter the lumber grade, Pacific HemFir gets an A+. The species grows tall, branch-free trunks—a natural growth characteristic that produces large amounts of both structural and appearance grade lumber from the log, making Pacific HemFir readily available in clear, factory and construction categories.

When lumber is used in structural applications, it must perform properly to ensure that it is safe. In Canada, this assurance is achieved via a complex system of product standards, engineering design standards and building codes, which are put into effect through grading oversight, technical support and a regulatory framework.

All lumber produced by British Columbia sawmills is manufactured under Canada's transparent and strictly regulated lumber quality control regime.

Lumber is carefully graded by highly skilled graders who have been trained and tested by one of Canada's authorized lumber grading agencies. Inspectors from the independent grading agencies visit the mills at least once every month to ensure that the lumber is being manufactured, graded and sorted in compliance with the provisions of the relevant grading rules. For example, those set out in the National Lumber Grades Authority (NLGA) Standard Grading Rules For Canadian Lumber or those set out by the Pacific Lumber Inspection Bureau (PLIB). The choice of rule normally will

depend on the intended end use of the product and the export market.

The grade specifications provide buyers with a dependable measure for determining the product's value and evaluating the quality of the delivered product. B.C. mills can grade and sort lumber products to almost any grading rule. Under the national lumber quality control system, lumber can be manufactured and graded to any recognized standard or to specifications designed to meet the specific requirements of the customer and/or intended end use.



Image Courtesy of Western Forest Products

Table 1: Clear Grades

Grades	Description and Recommended Use
No.2 Clear and Better	This top grade is generally free from defects although some pieces have a limited number of imperfections. Widely used where long length clear cuttings are required such as for paneling and ladders. Also suitable for interior and exterior trim, cabinet work, doors, mouldings and other joinery applications, especially where a natural finish is required.
No.3 Clear	Similar in quality and use to No.2 grade but containing a slightly higher number of imperfections.
No.4 Clear	A lower, more economical clear grade which permits more imperfections but is still suitable for a high recovery of clear cuttings by ripping and cross-cutting.



Image Courtesy of Canada Wood Group

The strength and beauty of Pacific HemFir is clear to see. These large trees produce significant quantities of clear grade lumber, which is further sorted into three grades, or quality levels. The highest grade is virtually void of any defects. When remanufactured, it will yield a high percentage of full-length clear cuttings. The other grades contain some small defects but of a type that does not impair the product for the recovery of appearance-quality fibre.

In the clear and nearly clear appearance grades, Pacific HemFir products are fine grained and even textured, giving them an elegant appearance that lends formality to wood interiors. That is why Pacific HemFir is often specified for high quality joinery, case goods and millwork, which includes windows, doors, mouldings, paneling and other finishing work.

Table 2: Factory Grades

Grades	Description and Recommended Use
Flitches (greater than 2")	Suitable for high quality joinery and factory work such as solid and louvered doors, shutters, screens, windows, room dividers and furniture.
Factory Flitch	Yields a minimum of 80% of total volume in clear wood cuttings after ripping and cross-cutting to remove defects.
Shop Flitch	Yields a minimum of 60% of total volume in clear wood cuttings.
Shop Lumber (2" or less)	For use where clear cuttings of various widths and shorter lengths are desired in thickness of 2" or less.
No.1 Shop and Better	Yields not less than 50% cuttings which are clear on both faces.
No.2 Shop	Yields a minimum of 33-1/3% clear cuttings.
Moulding Stock (A)	67% recovery of moulding grade when ripped into 1" strips.
Moulding Stock (B)	50% recovery of moulding grade when ripped into 1" strips.



Image Courtesy of Western Forest Products

Pacific HemFir is a dominant choice for remanufacturing. Owing to its unique combination of attributes, Pacific HemFir factory grade lumber is a preferred choice for manufactured woodwork. Pacific HemFir is made into handsome solid wood doors, louvers, shutters, moulding, case goods, furniture and more.

There are several different grades of lumber recovered from the factory zone of the log, all of which are intended for ripping or cross-cutting to recover clear fibre. This type of lumber is generally referred to as flitches (if greater than 2 inches in thickness) or shop (if 2 inches or less in thickness). There are also grades intended for specific end uses, the most common of which is moulding stock. These grades can be more cost effective than using clears, particularly for uses that can utilize a higher percentage of short cuttings.

Table 3: Construction Grades

Grade Rule	Grades	Description and Recommended Use
NLGA	Light Framing	General framing lumber in sizes up to 4"x4".
	Standard and Better	Studs, plates and rafters in wood frame construction. Also used for general construction.
	Utility	Studs, blocking, bracing in wood frame construction. Also used for general and/or temporary construction plus packaging, pallets and other industrial uses.
	Structural Light Framing and Joists and Planks	Stress graded lumber intended for structurally designed applications. Up to 4" in thickness and 12" in width.
	No.2 and Better	Structural members in wood frame or general construction where high strength properties are required such as joists, rafters, trusses and beams.
	No.3	General construction where appearance and high strength are not critical as well as industrial/remanufacturing uses such as packaging and pallets.
PLIB R-List	Merchantable Lumber	Construction type lumber intended for use as is, where structural design stresses are not required and/or where it is to be remanufactured and re-graded to other grading rules.
	Select Merchantable and No.1 Merchantable	Intended for remanufacturing and/or general construction where a sound, strong, good quality of knotty wood fibre is desired.
	No.2 Merchantable	Similar to Select and No.1 grades except allowing slightly larger knots and other growth characteristics.
	No.3 Merchantable	A utility type grade suitable for temporary construction and industrial manufacturing.



Image Courtesy of Canada Wood Group

Pacific HemFir provides extraordinary value. British Columbia mills produce a wide range of Pacific HemFir products in construction grades. It is not uncommon to manufacture to the customer's in-house standards. There are some specialty products produced from Pacific HemFir's knotty fibre such as siding and decking.

However, the greatest volume of construction lumber is manufactured to either the National Lumber Grades Authority (NLGA) or Pacific Lumber Inspection Bureau (PLIB) grading rules. The choice of rule typically depends on the intended end use of the product. Specifically, whether a structural product with known engineering properties is required, or whether the wood is intended for remanufacture or general construction where strength is not critical. Lower-grade knotty Pacific HemFir products are useful for those utilitarian applications in construction where economy governs.



Image Courtesy of Canada Wood Group

Table 4:
Standard North American Sizes of Surfaced Lumber

Thickness				Width			
Nominal (in.)	ACTUAL		Metric Equivalent (mm)*	Nominal (in.)	ACTUAL		Metric Equivalent (mm)*
	Dry (in.)	Unseasoned (in.)			Dry (in.)	Unseasoned (in.)	
1		3/4	20				
2	1-1/2	1-9/16	38	3	2-1/2	2-9/16	64
3	2-1/2	2-9/16	64	4	3-1/2	3-9/16	89
4	3-1/2	3-9/16	89	5	4-1/2	4-5/8	114
				6	5-1/2	5-5/8	140
				7	6-1/2	6-5/8	165
				8	7-1/4	7-1/2	184
				10	9-1/4	9-1/2	235
				12	11-1/4	11-1/2	286

*Metric Equivalent relates to Dry dimensions

Pacific HemFir measures up.
It is produced in a wide variety of sizes and lengths—kiln dried, air seasoned or unseasoned—to meet the customers’ structural specifications.

Pacific HemFir is ideally suited to structural framing applications, ranging from single family homes to commercial buildings, thanks to the wood fibre’s specific combination of strength and stiffness. Kiln dried and air seasoned Pacific HemFir lumber is subject to minimal shrinkage and checking, performing exceptionally well in hot and dry, as well as low humidity, climates. Pacific HemFir is preferred because of its high nail and screw holding ability, resistance to splitting, ease of sawing without splintering, ability to hold a variety of glues and adhesives, and high strength to weight ratio.



Images Courtesy of Western Forest Products and Canada Wood Group

Table 5: Large Size Timbers

Grades	Recommended Use
Beams and Stringers (Rectangular Timbers)	
No.1 and Better	Bridges, decks, warehouses and all heavy construction where superior strength is required. Exposed framing where fine appearance is demanded. Graded primarily for members stressed in bending but also used as tension and compression members.
No.2 Structural	Ranks only slightly below Select Structural in strength and appearance. Similar uses where high strength is required but appearance is less important.
Standard	General construction and mine timbering.
Utility	Temporary heavy construction and shoring.
Posts and Timbers (Square Timbers)	
No.1 and Better	Columns, posts and struts in heavy construction such as warehouses, docks and other large structures where superior strength is required. Exposed framing where fine appearance is demanded. Graded for structural members in compression parallel to grain but may also be used in tension or bending.
No.2 Structural	Ranks only slightly below Select Structural. Similar uses where high strength is required but appearance is less important. Graded primarily for structural members parallel to grain but may also be used in tension or bending.
Standard	General construction and mine timbering.
Utility	Temporary heavy construction and shoring.

When it comes to large size timbers, Pacific HemFir is a giant hit. It is readily available in large sizes, thanks to the trees’ ability to produce big logs.

Pacific HemFir large size timber is produced in three stress grades (Select Structural, No.1, and No.2) and two non-stress grades (standard and utility). No.1 or No.2 are the most common grades specified for structural purposes. No.1 may contain varying amounts of Select Structural, depending on the manufacturer. Select Structural is specified when the highest quality appearance and strength are desired. All stress grades are available across two classifications: rectangular beams and stringers and square post and timbers.



PACIFIC HEMFIR SUPPLIERS

Where to Buy

Pacific HemFir is available in a wide variety of products and profiles, and can be milled rough or finished.

Riverside
Forest Products

T: (1) 604.580.4500

LEARN MORE

Skeena
Sawmills

Lumber Sales:
T: (1) 604-800-5990

LEARN MORE

Teal Jones

Whitewood
Lumber Sales:
T: (1) 604-587-8700

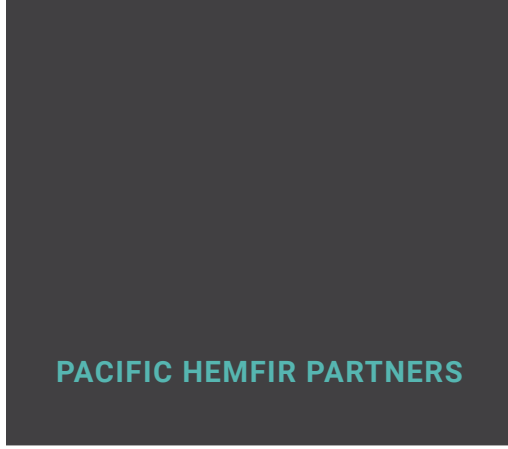
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T: (1) 604-648-4500

LEARN MORE

Contact the companies listed here for more information on Pacific HemFir products and retailers.



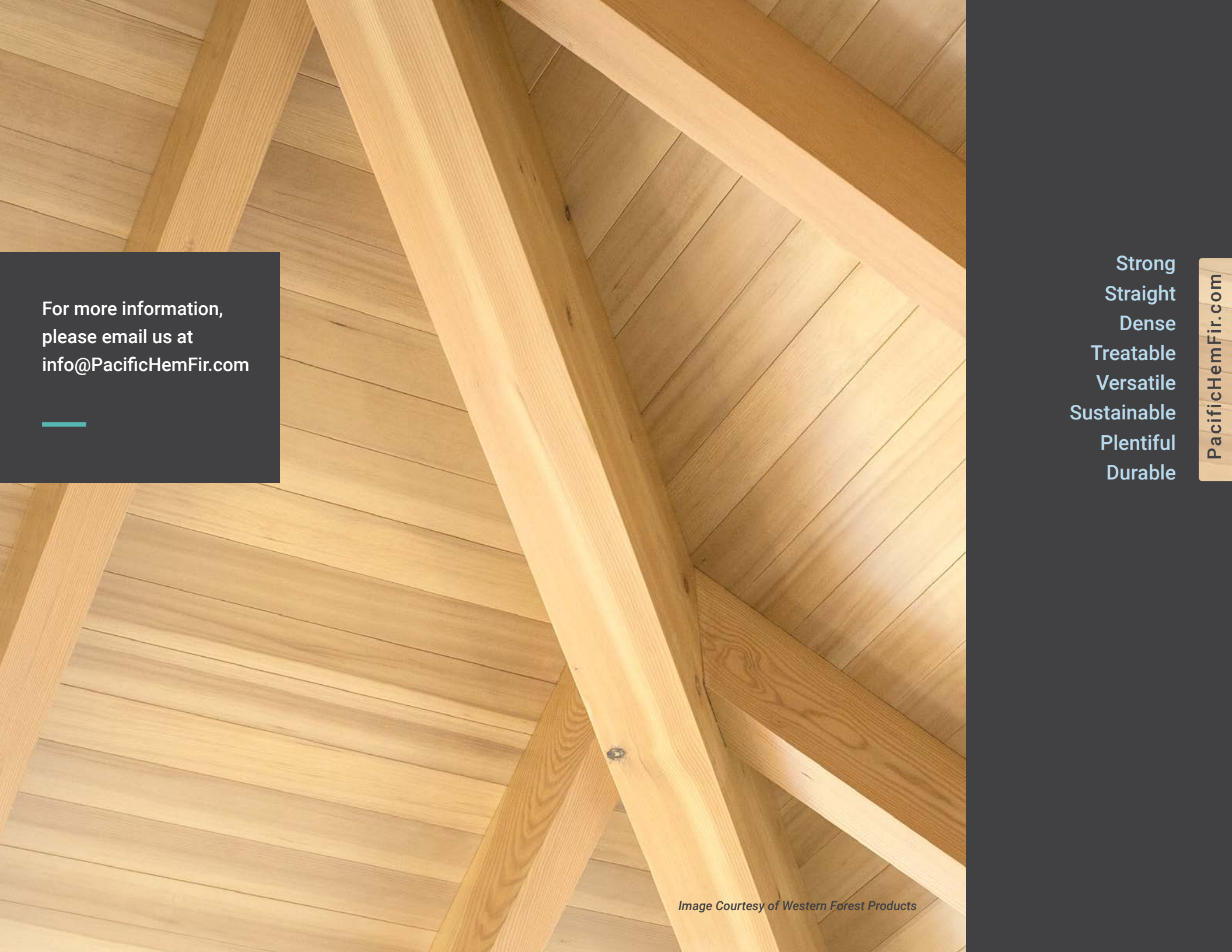
PACIFIC HEMFIR PARTNERS

Partially Funded by
Financé partiellement
par



In
partnership
with





For more information,
please email us at
info@PacificHemFir.com

Strong
Straight
Dense
Treatable
Versatile
Sustainable
Plentiful
Durable

PacificHemFir.com

Image Courtesy of Western Forest Products