

# BALTIC BIRCH SOURCING GUIDE



**THOMES** LTD.  
NORTH AMERICA



## BALTIC BIRCH SOURCING GUIDE

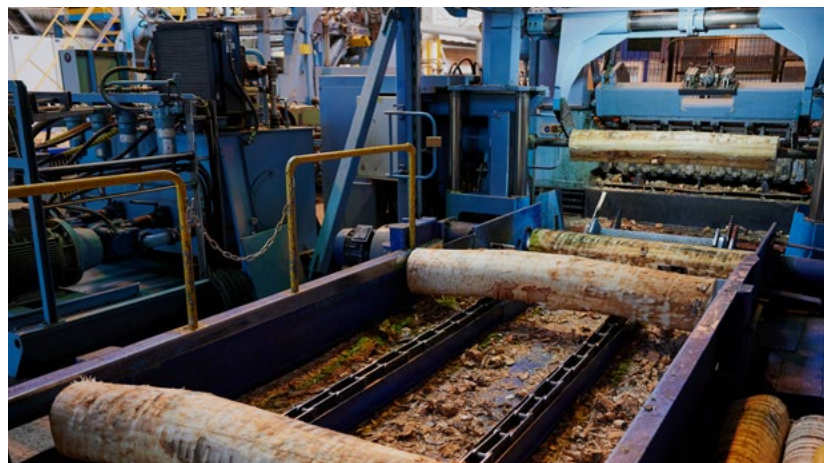
Baltic Birch (*Betula pendula*) is a deciduous tree also known as silver Birch or European Birch. It is a straight, tall Birch tree species native and found only in the Baltic Region of Eastern Europe. The Baltic Birch is more durable and aesthetically appealing than Birches from other parts of the world. In plywood operations, Baltic Birch is used for specialty materials due to its exceptional quality.

Our products are produced throughout the Baltic countries of Finland, Poland, Latvia, Lithuania, and Estonia. These countries are known for producing superior plywood with exceptional finishes and durability within tight tolerances.

# OVERVIEW OF PLYWOOD PANEL COMPOSITION

Silver Birch plywood is manufactured by bonding multiple layers of Birch veneer into a solid panel using strong adhesives. The ply direction of each veneer is laid at a 90° angle to the ply of the veneer below, creating an exceptionally stable plywood panel.

Each panel incorporates the following three components:



**1 CORE**



**2 GLUE**

**3 FACES**



## TYPES OF PLYWOOD PANELS

Different plywood panels offer unique benefits, from thickness and strength to internal composition and surface finish. Below are some of the most common panel varieties:



### *Veneer Core (VC):*

The strongest and most popular plywood type, VC consists of a core of layered unprocessed wood veneers that retain their inherent structural stability.

### *Particle Core (PC):*

The core of PC plywood consists of processed wood in the form of sawdust glued together to create a lightweight core. An inexpensive option for carpentry applications, PC is easy to use with screws.

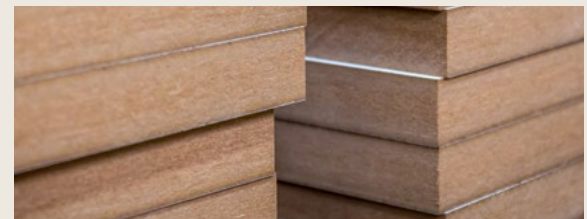


### *Medium-Density Fibreboard (MDF):*

MDF has a core composed of softwood and hardwood particles impregnated with polymer resins and heated to create a hardened fiberboard that is easy to cut and paint.

### *CC Plywood:*

This composite plywood features a core of unprocessed wood veneers, similar to VC plywood, but with an outer layer of wood particles and resin, like MDF.

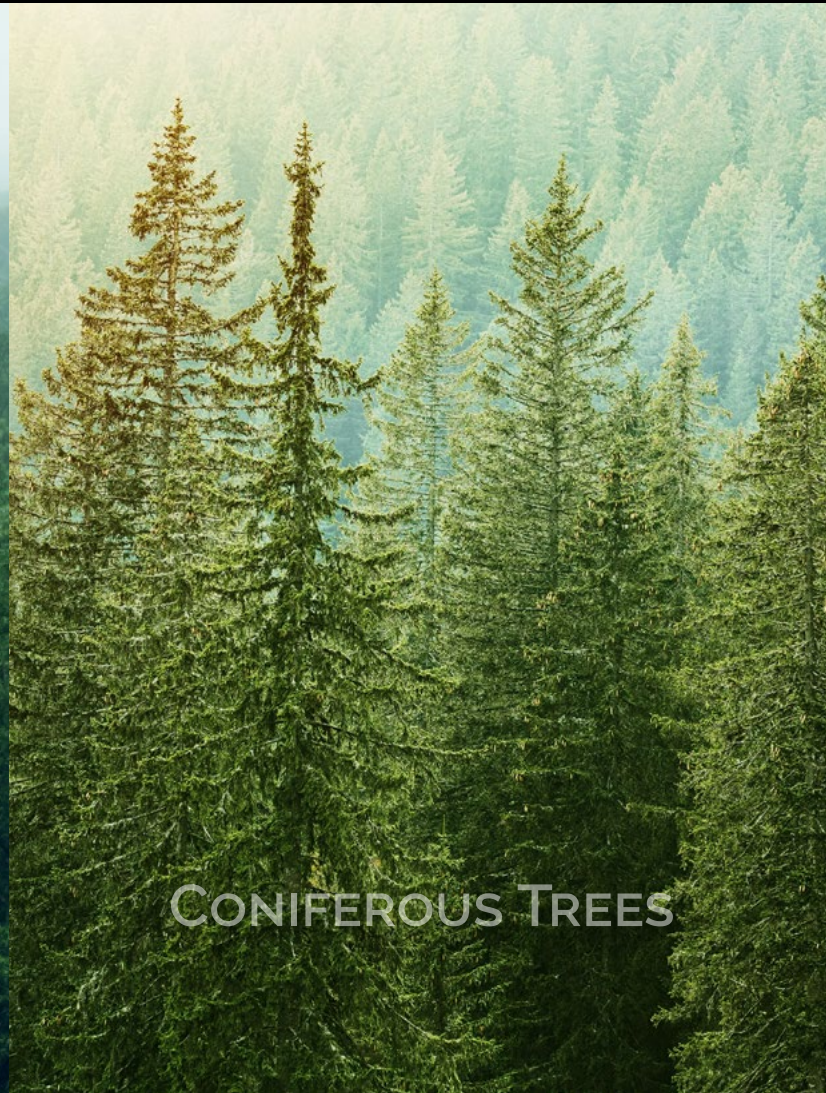


### *Medium-Density Overlay (MDO):*

MDO plywood features a core composed of lower-quality wood veneers bonded together with a durable resin. The outside is covered with a waterproof overlay coating.



DECIDUOUS TREES



CONIFEROUS TREES

## DECIDUOUS TREES VS. CONIFEROUS TREES

The type of wood used in plywood greatly affects its long-term durability, structural stability, and ability to withstand certain conditions. Deciduous trees have leaves, but lose them in the winter, while coniferous trees have needles and retain them throughout the winter. Deciduous wood from oak, maple, and Birch is harder and denser, while coniferous wood from pine, cedar, and spruce is lighter and less dense.

## JANKA SCALE OF HARDNESS

To ensure consistency in wood manufactured products, the lumber industry developed the Janka Hardness Scale. The scale uses measurements based on pounds of force (lbf). According to the Janka Scale, common wood hardnesses are as follows:

- » Spruce: 500 lbf
- » Douglas Fir: 600 lbf
- » Poplar: 540 lbf
- » Baltic Birch: 1210 lbf
- » Yellow Birch: 1260 lbf

Baltic Birch core plywood is made specifically for durability and quality. With consistent veneer thickness, measuring 1.5mm thick, with very minimal holes or voids in its core, Baltic Birch provides significantly higher-quality plywood for the cost versus other species available on the world market.



SPRUCE



DOUGLAS FIR



POPLAR



BALTIC BIRCH



YELLOW BIRCH

## THE GLUE

There are three types of glue commonly used to bond plywood layers together. They include:



### *Urea (MR Moisture Resistant):*

Manufactured using animal products, urea glue is typically used for interior plywood bonds. It is a lighter color than phenol glue and provides a classic core edge finish.

### *Phenol (WBP Water Boil Proof):*

Phenol glue is used to bond both interior and exterior plywood elements. It has naturally occurring formaldehyde, but no animal-based urea-formaldehyde (NAUF) is added. Phenol is distinguished by its distinctive black-colored resin with a superior glue bond to other glue types.



### *Melamine Glue for Laser Plywood:*

Typically used for interior bonding, melamine glue is clear in color and designed for laser cutting thin panels.

Formaldehyde occurs naturally in wood and in many living organisms, including fruits and vegetables (yes, including humans) and will off gas into the surrounding area at temperatures above freezing. It biodegrades rapidly upon contact with moisture in the air and will usually dissipate within a short period.



## BENEFITS OF BALTIC BIRCH CORE

Baltic Birch core plywood offers a variety of benefits over other plywood products, including:



Nominal thickness of plywood	Number of plies	Sanded Plywood Tolerance Min/Max(mm)	Sanded Plywood Thickness Variance(mm)	Unsanded Plywood Tolerance Min/Max(mm)	Unsanded Plywood Thickness Variance(mm)
3,0 mm	3-ply	+0,3/-0,4		+0,4/-0,3	
4,0 mm	3-ply	+0,3/-0,5		+0,8/-0,4	
6,5 mm	5-ply	+0,4/-0,5		+0,9/-0,4	1,0
9,0 mm	7-ply	+0,4/-0,6		+1,0/-0,5	
12,0 mm	9-ply	+0,5/-0,7	0.6	+1,1/-0,5	
15,0 mm	11-ply	+0,6/-0,8		+1,2/-0,7	
18,0 mm	13-ply	+0,7/-0,9		+1,3/-0,8	
21,0 mm	15-ply	+0,8/-1,0		+1,4/-0,9	1,5
24,0 mm	17-ply	+0,9/-1,1		+1,5/-1,0	
27,0 mm	193-ply	+1,0/-1,2	1,0	+1,6/-1,1	2,0
30,0 mm	21-ply	+1,1/-1,3		+1,7/-1,2	

# BALTIC BIRCH PRODUCTS PLYWOOD PRODUCTS

Baltic Birch is a versatile wood that can be manufactured into a broad selection of high-quality plywood products to meet the needs of a wide range of applications and industries.

## RAW VENEER BALTIC BIRCH

Baltic Birch face veneers are the most consistent thickness versus other standard veneers available. The veneer is usually 1.5mm thick, but can also be manufactured at 1.0mm to 1.2mm thickness. The thinness and variety available provide several benefits for all manufacturers with a very exacting and consistent plywood overall thickness tolerance, which can be manufactured as good as +/- 0.3mm. The multiple layers of Birch veneer enable better screw holding for assembly, resulting in a stronger end product with lower likelihood of stripped screw holes. The multiple veneer layers also offer a more aesthetically pleasing appearance on curved edges, as the layers resemble the natural marbling and striations in organic wood grain.

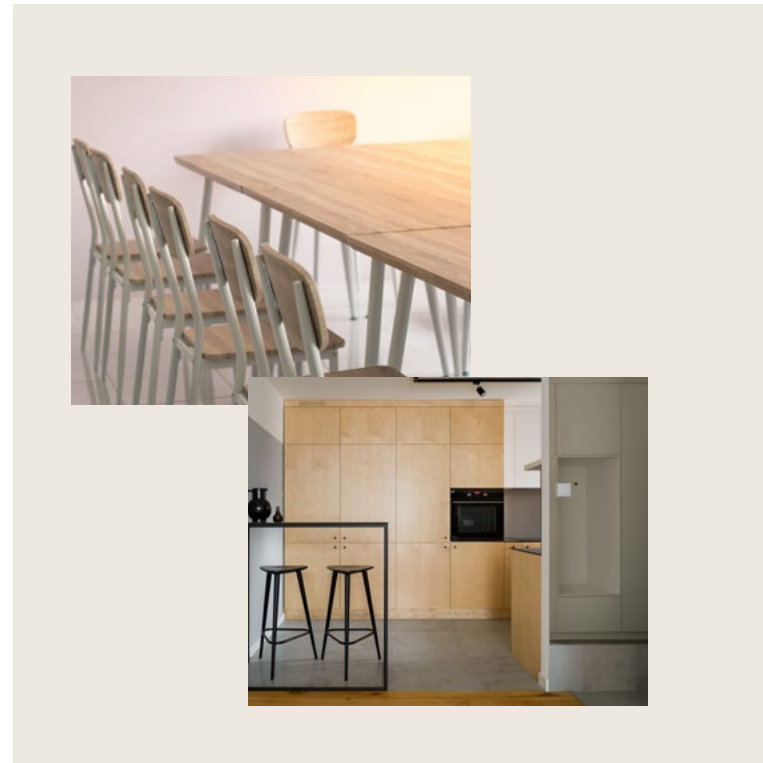
The remarkable feature of Baltic Birch is it can be rotary peeled with a thinness as thin as 0.2mm. That's thinner than a standard piece of white office copy paper. Baltic Birch plywood made of multiple veneers at 0.5mm thickness are used in the manufacture of airplanes, wings, and internal spar supports of single-person airplanes.



## PREFINISHED BALTIC BIRCH

*UV Coated Birch Ply:* These products feature a clear finish that provides a clean, natural wood texture ideal for both basic functions and eco-style decorative elements.

*ClearPly and Crystal Ply:* These products have a specialty transparent coating over natural Baltic Birch veneer. The resultant finish is perfect for furniture manufacturing and wall finishes in residential and commercial spaces, and has a high degree of scratch resistance and antimicrobial properties.



## FILM-FACED BALTIC BIRCH

*Phenolic Film:* Phenolic film-faced Birch plywood is manufactured by hot pressing a layer of paper impregnated with phenol resin onto the plywood for a clear, durable surface coating. Phenolic film is highly resistant to moisture, abrasion, chemicals, fungi, and insect intrusion. These films can be manufactured with UV resistance in a wide range of colors. Phenolic film surfaces can be smooth, textured, or slip-resistant.

*Smooth Film Face:* Smooth film face plywood is typically used in concrete pouring forms, agricultural bins, trailer wall linings, trench wall supports, skateboard ramps, and school desks. Our 100% Baltic Birch smooth film face is designed to handle pressure, heat, and moisture especially that are caused by direct contact with concrete curing and harsh construction site conditions.

*Hexa Design Film:* Similar to the smooth film face, hexa film offers an additional level of resistance to wear and slippage and is easy to clean. It is ideal for use in areas with high slip potential, such as truck and boat floors, van and trailer interiors, pedestrian walkways, and playground equipment.

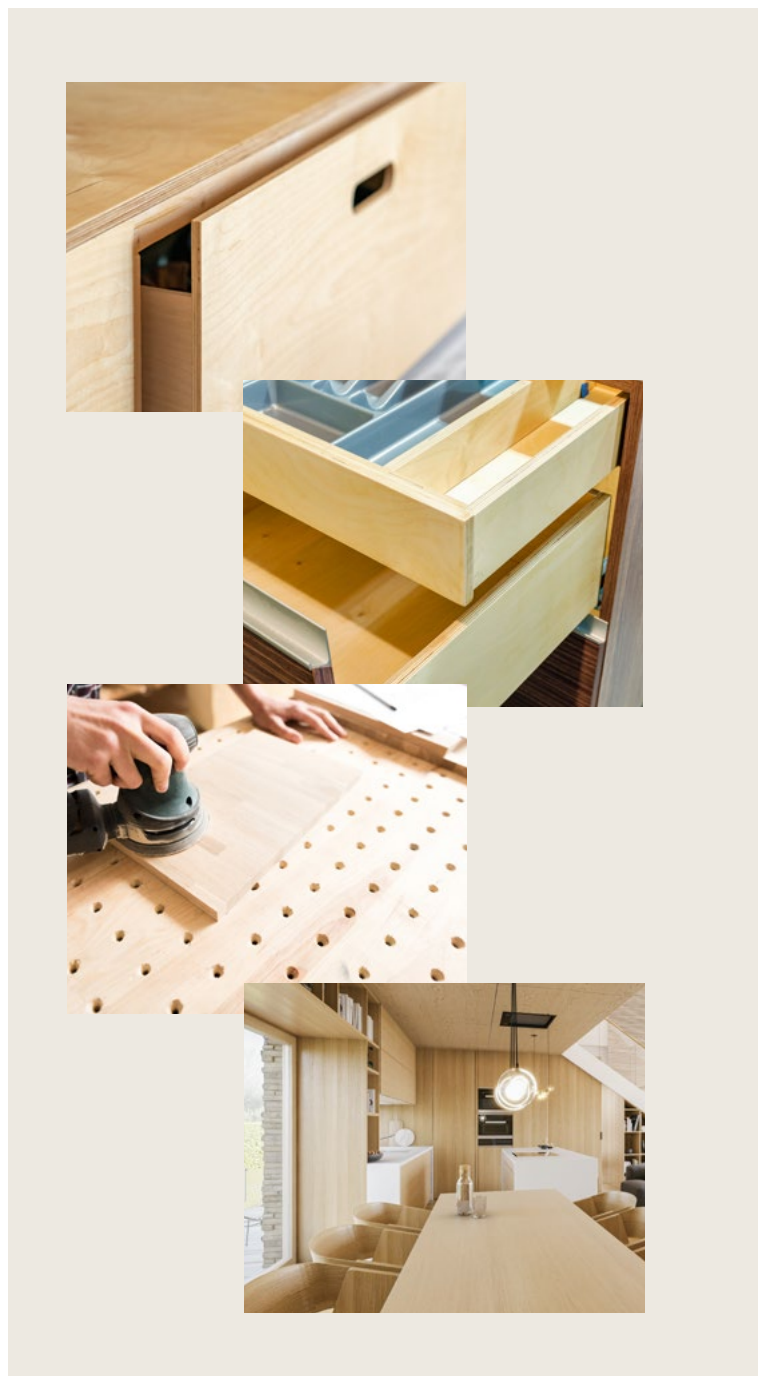
*Film Wire:* Film wire takes slip resistance to the next level with a textured wire mesh overlay. Film wire products exhibit superior wear resistance, chemical resistance, and weather resistance. They are often used for scaffolding, outdoor stages, wheelchair ramps, outdoor walkways, and mezzanines.

## MELAMINE BALTIC BIRCH

Melamine products feature a thin layer of melamine plastic applied with waterproof glue to the outer faces of the Baltic Birch core. Melamine surfacing is available in smooth, hexa, and wire styles, with options for both indoor and outdoor use. Common uses for melamine Baltic Birch plywood include agricultural bins, furniture, school desks and cubbies, sports facilities, and kitchens.

## OVERLAID PANELS

ABS Plastic, Fiberglass Reinforced Plastic (GRP), and other composite polymer coatings have an extremely smooth plywood surface that offers exceptional strength and durability. The smooth, scratch-resistant surfaces are hygienic and resistant to UV radiation, chemicals, abrasion, stains, corrosion, and mold. The plywood will retain its excellent clarity and structural properties in a wide range of temperatures from  $-40^{\circ}\text{C}$  to  $+120^{\circ}\text{C}$ . An eco-friendly option, ABS panels are ideal for use on fishing vessels, trailer walls, cold storage rooms, and playground equipment.



## FIRE-RESISTANT SPECIALTY CORES

PlyGuard specialty Birch cores exhibit low flammability and medium smoke generation when exposed to flame. This makes PlyGuard particularly good for indoor and outdoor construction, transportation, and other applications that require fire-resistant plywood. In addition to its fire resistance, PlyGuard uses phenol-formaldehyde resin water boil proof (WBP) for enhanced water resistance.

## AIRCRAFT AND LASER

Specialty aircraft and laser plywood features a superior-quality, void-free AB/B face for outstanding strength. This cross-banded, joint-free plywood is imported from Finland. It is silverplate pressed, unsanded, and can bend through 180°. Made entirely of Baltic Birch, our aircraft plywood is ideal for use in high-quality products such as musical instruments, toys, latticework, furniture, partitions, door mirrors, kitchen cabinets, and sight screens.

### Aircraft Plywood - Exterior Glue



### Laser Plywood - Melamine Glue



#### AIRCRAFT PLYWOOD EXTERIOR GLUE

Thickness
0.4 mm 3 ply
0.6 mm 3 ply
0.8 mm 3 ply
1.0 mm 3 ply
1.5 mm 3 ply
2.0 mm 3 ply
2.5 mm 3 ply
3.0 mm 3 ply
3.5 mm 3 ply
4.0 mm 3 ply
4.5 mm 3 ply
5.0 mm 10 ply
Customized thickness and constructions at request.

#### ECONOMY LASER PLYWOOD – MELAMINE GLUE

Thickness
3.0 mm 4 ply
4.0 mm 5 ply
5.0 mm 6 ply
6.0 mm 7 ply
7.0 mm 8 ply
8.0 mm 9 ply
9.0 mm 10 ply
Customized thickness and constructions up to 60 mm.

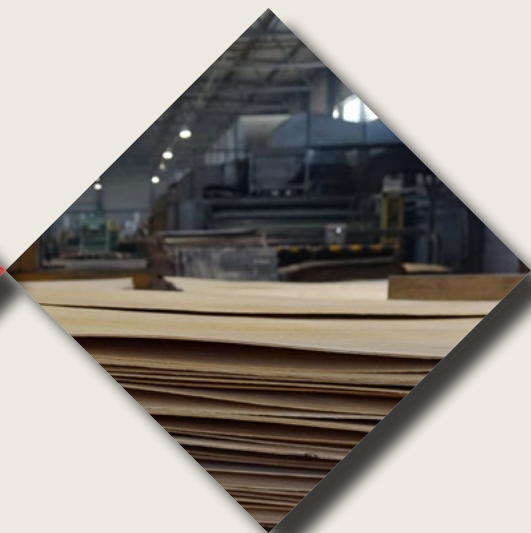


## THOMES LTD. NORTH AMERICA - QUALITY MATTERS

At Thomes Ltd. North America, we pride ourselves on sourcing only the highest-quality Baltic Birch plywood products to our customers in every industry. All of our products use only Baltic Birch and are TSCA-V1 and CARB 2 compliant. We use only the highest-quality mills and offer FSC certification upon request.

When quality and longevity are a priority, Thomes Ltd. North America's Baltic Birch products are the solution. As Canada's and North America's oldest and most reliable importer and supplier of manufactured Baltic Birch plywood, we have the knowledge, experience, and connections to ensure that you have the perfect plywood solution for your application.

To learn more about our extensive selection of Baltic Birch products, **contact us** today!



# ABOUT THOMES

Our MISSION is Supply Chain Oriented, to find you the best option to solve your production requirements.

When Thomes Ltd. North America was founded in 1963, we started with decades of experience in the production of Birch Plywood, made in Finland. The history of Birch Plywood began in the decade of the 1800s when mechanization of the log peeling process was invented. Since 1963, Thomes Ltd. North America and its partner manufacturers have revolutionized the North American market by developing what is still defined as state-of-the-art Baltic Birch plywood. It uses conventional press technologies and innovative advanced coatings to achieve superior product results every time. By combining redefined process flows with innovative product designs and standards Thomes Ltd. North America did not become yet another wholesale supplier, but rather a product solutions innovator.



**THOMES** LTD.  
NORTH AMERICA

Website: [www.thomesnorthamerica.com](http://www.thomesnorthamerica.com)

Email: [info@thomesnorthamerica.com](mailto:info@thomesnorthamerica.com)

Phone: +1 905 623 9888

Contact Us

Resource Library

Follow Us:

