



Presentation Brochure

BirchPly Wire Mesh Transport Plywood
Products and Applications

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Eximcorp India Pvt Ltd



BirchPly Wire Mesh Transport Plywood

BirchPly plywood goes through a strict quality control from forest to production, sales and distribution. This strict attention to details and quality produces plywood boards with exceptional strength and durability. A vast range of specifications, possibilities in machining and finishing and **BirchPly** technical support provide flexible and specialized solutions to meet the end use specific requirements. **BirchPly** know-how is based on long term relationships and cooperation with important parties within the European transport industry and thorough and continuous R&D work.

TRAILERS

BirchPly plywood is tough, durable and rigid and built to withstand the daily grind of continual loading, unloading and constant wear on the road. The top-quality thin veneers and the cross bonded structure make **BirchPly** plywood homogenous and strong. The hard abrasion- and slip-resistant coatings meet the most demanding safety and performance specifications. All products are high quality Finnish birch throughout their construction with a full exterior glue line. **BirchPly** plywood has a worthy reputation for exceptional strength, light weight and ease of fixing characteristics. Floorings come in a wide range of sizes and overlays, with quick-assembly joints and machining to order

FLOORS

Cross bonded thin birch veneers form a homogenous **BirchPly** Birch plywood with excellent strength and stiffness properties. Birch plywood has high planar shear and bending strength and impact resistance which makes it especially suitable for heavy-duty floor and wall structures. **BirchPly** plywood panels can be overlaid with various overlays to meet the end use requirements.

DECK

Mesh patterned multi-purpose **BirchPly** Deck panel is highly durable. The mesh pattern overlay is on either one or two surfaces and offers high resistance to abrasion and rolling. The phenolic resin coating resists most common chemicals. The overlay weight can be selected to meet the end use requirements.

Common thicknesses:

from 9 mm to 40 mm with options for special plywood structures on the thicker boards.

WALLS, DOORS AND BULK HEADS

FORM

Maintenance free Form plywood with a hard, smooth surface is a multipurpose panel for the transport industry. The semi-glossy phenolic resin coating on both sides withstands abrasion and is resistant to commonly used chemicals, dilute acids and alkalis. The surface is easy to clean with water or steam.

Common thicknesses:

from 9 mm to 30 mm

EDGE PROTECTION/SEALING

Panel edges are protected against moisture absorption with acrylic paint. The standard edge color is dark brown. According to special order it is possible to stain the edges to match the overlay color. Edge sealing slows down moisture absorption but does not eliminate it entirely.

BIRCHPLY

RESISTANCE TO ABRASION AND ROLLING

Rolling wear simulates the surface tolerance under a wheel load whereas the taber value indicates the surface tolerance against abrasion.

Table 1. Abrasion & rolling wear resistance of overlaid plywood

Abrasion & rolling wear resistance of overlaid plywood			
Product	Overlay weight if optional	Taber revolutions*	Rolling wear**
Form	120	350	3500
Deck	120	350	3500

*) Abrasion resistance is tested according to DIN 53799/EN 438 until overlay is penetrated. Taber value is an approximate number of revolutions before first signs of penetration occur.

***) Resistance to rolling wear is determined by method corresponding to SS 923508. Rolling wear is an average calculated from the random rolling movements with a load of 200 kg before the first signs of breakdown occur.

The values are indicative and are valid for new unused panels.

TRAILER FLOOR INSTALLATION

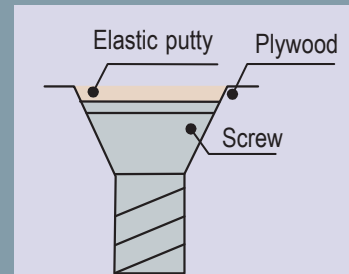
FIXING AND SEALING

Galvanized or stainless steel round head screws are most commonly used for plywood, because acetic and formic acids in birch strain the fixings. If screws are used pilot drilling is always recommended with exception of self-tapping screws. The fixing size depends of the used plywood thickness.

Recommended screw pitches are:

- Along the edge of the panel 200-300 mm c/c
- In the middle of the panel 300-500 mm c/c
- Distance from edge min. 10 mm

A 1-2 mm/m gap must be left between the plywood panels to allow moisture movements. Gaps and fixing spots should be sealed with elastic mass. The mastic enables the moisture movements of the panel and improves the edge protection



INSTALLING THE PANELS

The panels can be installed longitudinal or transversal. Plywood panels must be supported on each four sides.

By using a steel profile (fig 2.1) to support the panel edges a 100 % load capacity is achieved when compared to the panel center area. The face grain of standard construction birch plywood is installed parallel to span, i.e. face grain is perpendicular to the supporting beams. By using oriented plywood constructions the thickness of the plywood panel can be reduced. With king-size panels the floor can be made with only one piece. NOTE! Plywood with an oriented special construction must be installed on the beams in the strongest direction.

INSTALLATION OF BIRCHPLY PLYWOOD FLOOR ON TRANSVERSAL BEAMS

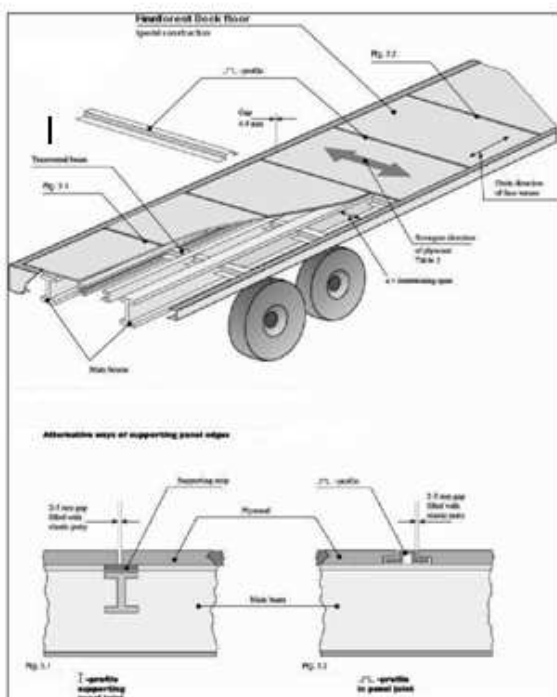


Figure 2. BirchPly Deck floor, transversal beam

BIRCHPLY PLYWOOD FLOOR ON LONGITUDINAL BEAMS

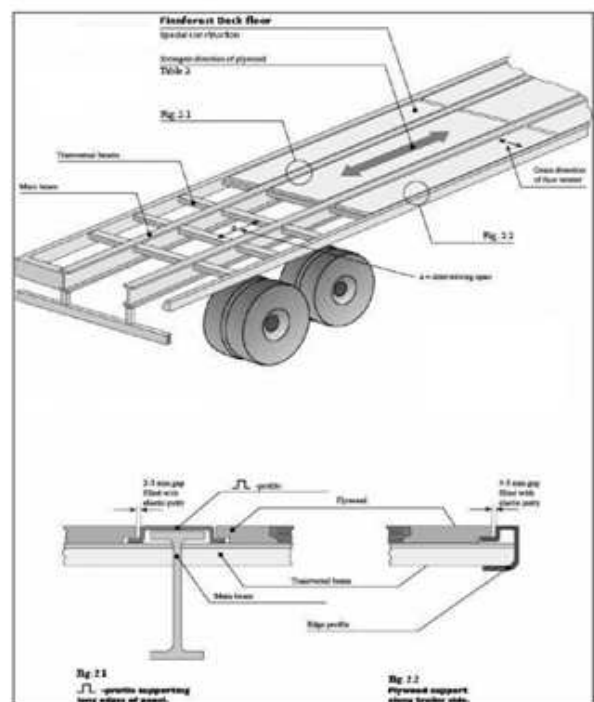


Figure 3. BirchPly Deck floor, longitudinal beams

Values in table 2 are suitable for floor structures in above pictures. The strength of the floor structure is calculated in accordance with ISO 1496 standard for one wheel contact area of 80 mm x 180 mm.

Table 2. Loading table. Maximum wheel load F [kN/wheel] for birch plywood with oriented structure. SURFACE Grain direction parallel to shorter edge of the panel.

STRONGEST DIRECTION IN DIRECTION OF THE LONGER PANEL DIMENSION.

Chassis construction: a rigid steel frame. Plate side ratio of 2.

Maximum wheel load, special structure birch plywood														
Thickness mm / Number of plies														
Span mm	12/9p		15/11		18/13		21/15		24/17		27/19		27/20	
	F kN	u mm	F kN	u mm	F kN	u mm	F kN	u mm	F kN	u mm	F kN	u mm	F kN	u mm
300	7	7.7	10	5.9	14	4.9	19	4.2	24	3.6	31	3,2	33	3,0
400			9	9.7	12	8.0	16	8.8	21	5.9	27	5.2	29	5.0
500					11	11.7	15	10.1	19	8.6	24	7.6	26	7.3
600							14	13.6	17	11.8	22	10.4	24	9.9
800									16	19.2	19	17.0	21	16.1

Maximum wheel load, special structure birch plywood														
Thickness mm / Number of plies														
Span mm	30/21		30/22		33/23		35/25		40/29		45/32		50/35	
	F kN	u mm	F kN	u mm	F kN	u mm	F kN	u mm	F kN	u mm	F kN	u mm	F kN	u mm
300	37	2.9	39	2,7	41	2,4	45	2.1	52	1.5	58	1.3	63	1.1
400	31	4.7	35	4.5	37	4.2	44	3.9	52	2.9	58	2.4	63	2.0
500	28	6.8	31	6.5	34	6.2	40	5.7	52	4.7	58	3.9	63	3.3
600	26	9.3	29	8.9	31	8.4	37	7.7	49	6.5	58	5.7	63	4.8
800	23	15.2	26	14.5	28	13.7	33	12.6	44	10.7	53	9.6	63	8.7

F = maximum wheel load [kN]

u = approximate deflection [mm] Short term loading in Service Class 2

MC 15 %. An increase in moisture content will result in a decrease in strength, modulus of elasticity and shear modulus values.

Wheel contact area 80 mm x 180 mm

IMPORTANT TECHNICAL INFORMATION AND FACTS

STORING AND PROTECTION

Keep plywood panels in their packing during storage. This will protect the boards and help maintain the moisture content. Plywood panels should be stored in dry conditions under cover. The panels should be placed horizontally on flat ground with adequate supports with no direct contact to soil.

HANDLING AND MOVING PANELS

The panels should be unloaded and handled with care to prevent any damages. If panels are shifted after the original packages have been removed, make sure that the panels are strapped properly together.

STANDARD THICKNESSES AND SIZES

BirchPly standard birch plywood panel sizes:

1220/1250 x 2440/2500/3000/3050 mm

2440/2500 x 1220/1250mm

1500/1525 x 2500/3000/3050 mm

The first measurement indicates the orientation of the surface veneer grain. Plywood panels can be specially ordered with a longitudinal grain direction. Other sizes and special constructions available by order.

Dimensional tolerances of standard size birch plywood panels:

Length/width standard: <1000 mm, ± 1 mm; 1000-2000 mm, ± 2 mm; >2000 mm, ± 3 mm

Length/width King-size: 1000-2000 mm, ± 2 mm; 2000-6000 mm, ± 3 mm; >6000, ± 5 mm

Squareness tolerance: $\pm 0.1\%$ or ± 1 mm/1000 mm

Edge straightness: $\pm 0.1\%$ or ± 1 mm/1000 mm

The lengths and widths of the panels are with 95 % probability within the given tolerances, measured according to

SFS-EN 324. Cut-to-size panels have higher tolerance requirements.

THE ENVIRONMENT

BirchPly plywood is manufactured from wood, which is a renewable natural resource.

INSTRUCTIONS FOR USAGE

BirchPly Birch plywood must be properly surfaced, edge sealed, installed and maintained to provide protection against weather. All edges, fixing spots and other unprotected areas must be surface treated properly to prevent moisture penetration.

MAINTENANCE

The phenolic film overlays cannot be easily painted or otherwise repaired and the panels are usually replaced when worn down. The phenolic resin coating can be cleaned with water or steam.

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