

Heavy Building

**Riga Wood**   
Latvijas Finieris Group

# Birch Plywood for Concrete Formwork

Committed to Performance





# Committed to performance

*Riga Wood birch throughout plywood is our core product, where we have invested in the latest technologies, research and innovations for decades. Having been rigorously tested and used in diverse formwork applications worldwide, Riga Wood birch plywood is a trusted and reliable choice for formwork. With over a century of experience, we have relied on the expertise of our formwork partners to perfect our product and service range to meet exact construction needs.*

*Our global sales and logistics service ensures reliable shuttering panel deliveries, while building long-term relationships with our clients to provide reliable, efficient, and responsive service.*

*From skyscrapers to bridges, Riga Wood plywood has been tested and is proven to perform consistently in even the most demanding construction projects.*

## Why Riga Wood plywood for concrete formwork?

- Tough and impact resistant surface for smooth concrete finish
- Good load bearing properties
- Consistently high product quality
- Number of reuses up to 300 times with Riga Poliform
- Withstands large mechanical loads – excellent weight to strength ratio
- Customised products for specialised concrete applications
- Further finishing with customer supplied fittings
- Weather resistant according to EN 314/Class 3 Exterior
- Surface is resistant to commonly used chemicals and surface impact, easy to clean for repeated uses
- Variety of standard sizes, cut-to-size, jointing for maxi panels available
- Easy to machine and fix on site
- Sustainable product with long lifespan

## Building with confidence

Riga Form and Riga Poliform birch throughout plywood panels provide outstanding durability and dimensional stability, ensuring a reliable and efficient formwork solution. Ideal for a wide range of concrete applications, Riga Form and Riga Poliform can be reused numerous times, making them a cost-effective and sustainable choice.

\* Riga Form: with a phenolic resin-based film overlay and sealed edges, maxi panels available

\* Riga Poliform: overlaid with a high performance and highly durable wood-plastic composite (WPC) material

## Customised branding possibilities

To ensure your company's visibility and recognition on construction sites, customised logo printed films are available for Riga Form and for the reverse side of Riga Poliform. Additionally, the reverse film for Riga Poliform is available in different colours. Minimum order quantity applies.



# Riga Form

Riga Form is a durable birch plywood designed for intensive heavy-duty use in the formwork sector with as many as 80 reuses possible. Riga Form is overlaid with phenolic resin impregnated film, which is hot-pressed onto the sheet surface, ensuring a smooth and protected surface. To enhance the product properties, it is possible to use different weight or multi-layer films.

Riga Form's surface is smooth, glossy and dense, improving panel resistance against mechanical damage and wearing. It resists abrasion, commonly used chemicals and is weather and moisture resistant. The surface can be easily cleaned with water or steam. Depending on the film used, abrasion, crack and other surface properties can be customised. Riga Wood experts will suggest the most appropriate overlay depending on the end use.

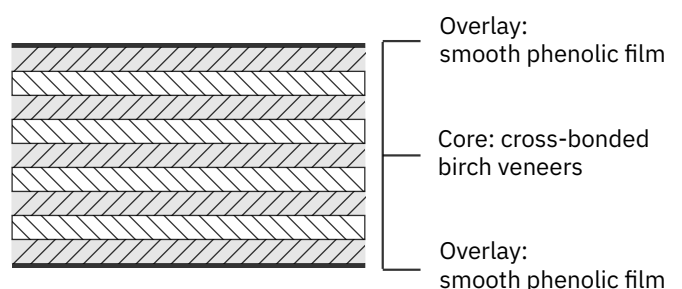
## Film colour

Dark brown, yellow, other colours available upon request.

Film weights from 120 g/m<sup>2</sup> to 660 g/m<sup>2</sup>.  
Special wear resistant film available.

## Construction of Riga Form panels

If special mechanical properties are required, the veneer lay-up grain orientation can be modified. Mechanical properties (bending strength, stiffness) can be adjusted for specific end use requirements.



## Standard sizes

Size, mm	1220 / 1250 / 1500 / 1525 x 2440 / 2500 / 2745 / 2750 / 3000 / 3050 / 3340 / 3660
	1830 / 1850 x 3050 / 3340 / 3660 / 3850
	2440 / 2500 x 1220 / 1250

## Maxi panels

Size, mm	2150 x 3050 / 3340 / 3850 / 4000
	2290 x 4000

*Riga Form can be further processed according to the customer's specification with cut-to-size, CNC, drilling, milling, jointing, edge machining.*

## Standard thicknesses

Size, mm	4, 6.5, 9, 12, 15, 18, 21, 24, 27, 30, 35, 40, 45, 50
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Other thicknesses available on request.

## Riga Form tolerance

Nominal thickness, mm	4	6.5	9	12	15	18	21	24	27	30	35	40	45	50
Number of plies	3	5	7	9	11	13	15	17	19	21	25	29	32	35
Lower limit, mm	3.5	6.1	8.8	11.5	14.3	17.1	20	22.9	25.8	28.7	33.6	38.4	43.3	48.1
Upper limit, mm	4.1	6.9	9.5	12.5	15.3	18.1	20.9	23.7	26.8	29.9	35.4	41.2	46.4	51.5

*Moisture content affects plywood dimensions; indicated sizes and thicknesses relate to a moisture content of 9 ±3%.*

Parameter	Tolerance
Length, width (mm) < 1000	± 1 mm
Length, width (mm) - 1000...2000	± 2 mm
Length, width (mm) > 2000	± 3 mm
Squareness tolerance	± 1 mm/m
Edge straightness	± 1 mm/m

*Size and squareness tolerances fulfil the requirements of EN 315. Customised tolerances available on request.*



# Riga Poliform

Riga Poliform is a specialty formwork panel designed to last longer and serve during multiple reuses. Its superb mechanical properties combined with a hard-wearing composite overlay provide for an ideal alternative to traditional formwork practice. Depending on specific end use and site practice, Riga Poliform can be applied as many as 300 times, thus saving time and money.

Riga Poliform panels are overlaid with a high-performance and highly durable wood-plastic composite (WPC) material. The wood fibres are a side-stream from our plywood production process, collected plywood sanding dusts which are mixed with high strength polypropylene fibre. The overlay thickness is 0.8 mm or 1.6 mm, covering both faces. Due to the surface properties, the rippling effect is prevented.

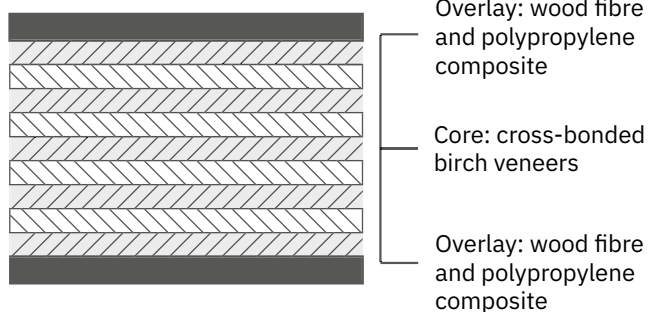
Riga Poliform plywood is available in a standard matt grey colour, with options for bright and vivid colours. The coating contains over 40% recycled wood fibres, resulting in slight colour variations due to the natural

material of wood. The colour pigments used do not cause any staining on concrete. Custom colour options can be developed upon request to meet specific project needs.

## Colour / Closest RAL code

Grey - 7010  
 Yellow - 1021  
 Blue - 5009  
 Green - 6032  
 Red - 3020  
 Natural - Without pigment

## Construction of Riga Poliform panels



## Surface cracking susceptibility

Colder temperatures affect surface cracking susceptibility. When product application requires nailing, cracking is possible. As an alternative, screws can be used.



## Standard sizes

Size, mm	1220 / 1250 x 2440 / 2500 / 2745 / 2750 / 3000 / 3050 / 3340 / 3660
	1500 / 1525 x 2440 / 2500 / 2745 / 2750 / 3000 / 3050 / 3340 / 3660

Riga Poliform can be further processed according to the customer's specification with cut-to-size, CNC, drilling, milling, jointing and edge machining.

## Standard thicknesses

Size, mm	9, 12, 15, 18, 21, 24, 27, 30, 35, 40, 45, 50
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Other thicknesses available on request.

## Riga Poliform tolerance

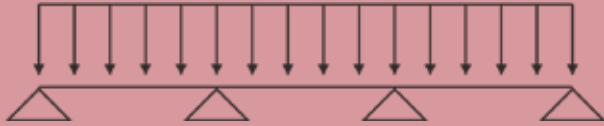
Nominal thickness, mm	9	12	15	18	21	24	27	30	35	40	45	50
Number of plies	5+ 2xWPC	7+ 2xWPC	9+ 2xWPC	11+ 2xWPC	13+ 2xWPC	15+ 2xWPC	17+ 2xWPC	19+ 2xWPC	21+ 2xWPC	25+ 2xWPC	29+ 2xWPC	32+ 2xWPC
Lower limit, mm	9.3	12	14.7	17.5	20.3	23.2	26.1	29	31.9	36.8	41.6	46.5
Upper limit, mm	10.1	12.7	15.7	18.5	21.3	24.1	26.9	30	33.1	38.6	44.4	49.6

Moisture content affects plywood dimensions; indicated sizes and thicknesses relate to a moisture content of  $9 \pm 3\%$ .

Parameter	Tolerance
Length, width (mm) < 1000	$\pm 1$ mm
Length, width (mm) - 1000...2000	$\pm 2$ mm
Length, width (mm) > 2000	$\pm 3$ mm
Squareness tolerance	$\pm 1$ mm/m
Edge straightness	$\pm 1$ mm/m

Size and squareness tolerances fulfil the requirements of EN 315. Customised tolerances available on request.

## Load resistance for a uniformly distributed load on a sanded continuous plate strip with three equal span lengths



Platform supported three equal span plate strips  
Mechanical properties of Riga Form products

Uniformly distributed load  $q$  (kN / m<sup>2</sup>) and deflection  $u$  (mm). Nominal thickness (mm)

Service Class 1: $K_{mod} = 0,7$ $\Psi_2 = 0,2$ $Y_m = 1,2$ $K_{def} = 2,5$ $Y_q = 1,2$		Span c/c mm	9		12		15		18		21		24	
			q	u	q	u	q	u	q	u	q	u	q	u
	Grain direc- tion perpen- dicular to supports	200	59 s 1.6	79 s 1.2	92 s 0.85	112 s 0.72	126 s 0.60	144 s 0.55						
		300	39 s 4.8	53 s 3.3	62 s 2.3	74 s 1.8	84 s 1.4	96 s 1.2						
		500	14 b 13	23 b 9.9	34 b 8.3	45 s 7.0	50 s 5.3	58 s 4.4						
	Grain direc- tion parallel to supports	200	51 s 2.5	64 s 1.4	84 s 1.0	98 s 0.78	117 s 0.67	132 s 0.58						
		300	28 s 6.2	42 s 4.0	56 s 2.8	65 s 2.0	78 s 1.7	88 s 1.4						
		500	10 b 16.4	18 b 12	27 b 9.6	39 b 8.0	47 s 6.2	53 s 4.9						

$K_{mod}$ : factor of taking into account duration and the dryness

$K_{def}$ : factor of taking into account the duration and dryness

$\Psi_2$ : constant value factor of variable load

$Y_m$ : safety coefficient

$Y_q$ : safety coefficient

b: limitation of permissible load by deformation

s: limitation of permissible load by shear force

q: uniformly distributed load

u: allowable deflection

Mechanical properties for uniformly distributed load on a panel, on three supports of the same range are calculated according to following assumptions:  $Y_2 = 1.2$ ;  $Y_m = 1.2$ ;  $K_{mod} = 0.70$ . As a result, the characteristic load for Class 3 service (outside) and short-term (less than one week) shall not exceed the values in the table.

The load used and the resistance characteristics values are assumed to be almost permanent.

			Riga Form, 220 g/m <sup>2</sup>	Riga Poliform, WPC SP1 1.6 mm
Crack resistance	Cone <sub>min</sub> (mm)	EN 13696	0.8	No cracks
Surface hardness	HD <sub>k</sub>	Shore D Durometer	> 60	> 72
Abrasion resistance (Taber)	Rounds	EN 438-2	up to 900	up to 17 000
Number of reuses	Cycles	Based on practice	Up to 80	Up to 300
Rippling		Based on practice	Occur	None

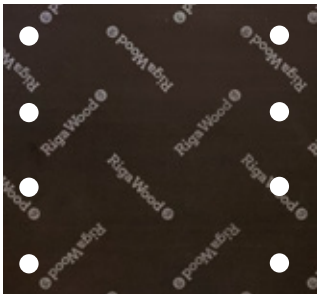




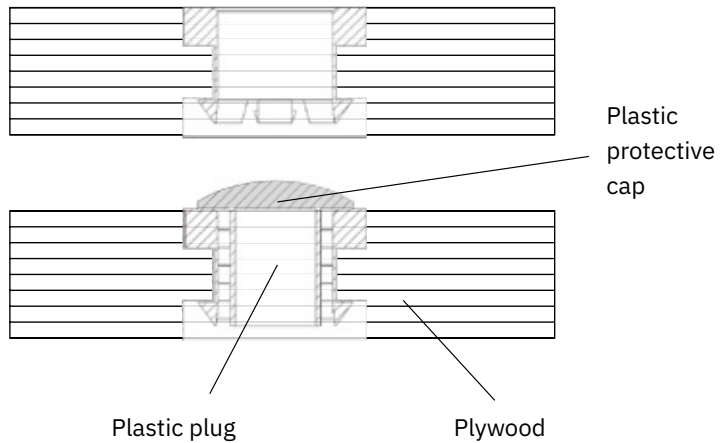
# Formwork preparation

Plywood panels should be acclimatised to local environmental conditions prior to installation. During acclimatisation, plywood absorbs air humidity which helps minimise swelling. The edges are sealed with moisture-resistant paint to reduce water absorption, and following any on-site cutting or machining, all exposed edges should be thoroughly sealed. To achieve the maximum number of re-uses, face damage should be avoided. Therefore, using screws and nails is not recommended. Where face fixing is unavoidable, screws, rather than nails, are recommended to avoid damaging overlay and allowing water penetration.

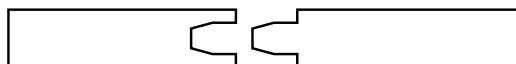
## Additional options



## Metal or plastic inserts



## Jointing – for extra large shuttering panels







## Concrete finish

- The quality and durability of the concrete surface, as well as the number of times formwork panels can be reused, depend on the site handling of materials.
- Proper storage, preparation, handling of release agents, cleaning of surfaces after use, prevention of vibration and damage, and the correct sealing of panel joints and drill holes are essential for achieving optimal results.
- Additionally, the composition of concrete can impact the properties of the formwork skin and surface, ultimately affecting the number of reuses.
- It is worth noting that plywood panels with printed logos may create visible imprints on the concrete surface, particularly during initial use – these should be evaluated against the intended use and surface requirements.
- It is important to store panels away from direct sunlight to prevent UV damage and minimise colour variation on the concrete surface. Environmental and weather conditions can also impact moisture absorption in wood veneers, potentially causing undesirable swelling, especially during the first use. For this reason, we recommend using Riga Poliform with a wood-plastic composite coating to prevent rippling. While high-pressure cleaning of plywood panels is typically safe, it may affect the reusability of moulds in rare cases.

## Release agents

- Plywood panels should be coated with an appropriate release agent in accordance with the suppliers' recommendations.
- The use of a suitable release agent for the exact type of overlay is essential to ensure clean formwork stripping and maximum panel reusability.

## Safe storage on site

- Riga Wood plywood must be stored in a well ventilated, weather protected area with the panels stacked both horizontally and level.
- Same size packs may be stored up to three packs high and bearer alignment must be maintained.

## Disposal and recycling

- At Riga Wood, we are committed to sustainable sourcing and production practices, utilising side-streams to minimise environmental impact.
- We strongly recommend utilising Riga Wood panels to their fullest extent before recycling, in order to prolong the product's life cycle before final disposal.
- Please dispose of Riga Wood panels in accordance with local regulations and recycle packaging in the appropriate waste stream.

# Sustainable plywood

Riga Wood plywood is produced in the European Union in line with the best sustainable forestry practices, and is certified by PEFC.

Our timber supply chain is carefully managed to comply with EU Timber Regulation, ensuring responsible governance.

By choosing our plywood, you support carbon storage and help mitigate climate change.

We are committed to continuously improving our sustainability initiatives by collaborating with stakeholders, suppliers, and clients.

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The provided information is for reference only and Riga Wood reserves the right to amend and supplement the specifications of manufactured products without prior notice. Wood is a living material. Therefore, each panel is unique and minor differences are possible. Riga Wood does not guarantee a product's compliance with the requirements of any specific purpose.