Paged

A WORLD OF PLYWOOD **2024**

Paged

A WORLD OF PLYWOOD

Table of contents

ABOUT US 6-9
PLYWOOD PRODUCTION PROCESS 10-11
EPD 12
PLYWOOD HOMOLOGATIONS 13
PAGED LABTECH 14-15

NATURAL PLYWOOD 17

- PAGED BIRCHPLY 19
- PAGED BEECHPLY 20
- PAGED SOFTWOOD THINPLY 21
- PAGED SOFTWOOD THICKPLY 22
- PAGED TWINPLY 23
- PAGED BLOCKBOARD 24
- PAGED BLOCKBOARD NATURE 25
- PAGED NATURE 26
- PAGED PARQUETPLY 27
- PAGED COMBI THICKPLY 28

COATED AND FILM-FACED PLYWOOD 29

- PAGED MESH 30
- PAGED HEXA 31
- PAGED TRANS 32
- PAGED MASTER FORM 33
- PAGED TWIN FORM 34
- PAGED FORM 35
- PAGED FORM PLUS 36
- PAGED ULTRA FORM 37

PAGED SIDEPLY 38
PAGED COLOUR 39
PAGED PAINT 40

SPECIALTY PLYWOOD 41

PAGED STRINGPLY 43
PAGED GREENPLY 44
PAGED DRYGUARD 45
PAGED MOULDGUARD 46
PAGED LIGHTPLY 47
PAGED PHON 48
PAGED DOOR 49
PAGED LASER 50
PAGED FRAME 51
PAGED ELKON 52

FLAME RETARDANT PLYWOOD 53

PAGED SOFTWOOD THINPLY FR 57-58
PAGED SOFTWOOD THICKPLY FR 59
PAGED BIRCHPLY FR 60-61
PAGED BEECHPLY FR 62
PAGED BEECHPLY PHON FR 63
PAGED TWIN FORM FR 64

PHYSICAL AND MECHANICAL PROPERTIES OF PLYWOOD 65
CNC MACHINING AND PROCESSING SERVICES 66
PACKING, TRANSPORTATION AND STORAGE INSTRUCTIONS 67
USEFUL INFORMATION 68

Paged

WOOD

Paged – European Heritage and Expertise for Over 90 Years

Founded more than 90 years ago, Paged has become one of the five largest plywood manufacturers in Europe and a significant producer of wooden bentwood handmade chairs.

With over 1,700 employees and five production facilities in Poland and Estonia, Paged offers innovative solutions for a wide range of industries, including interior design, construction, transportation, and packaging, serving nearly eighty markets worldwide.

Since 2019, Paged has been developing and implementing technological and product innovations through its own research and development center, Paged LabTech. Companies under the Paged umbrella, such as Paged Morąg, Paged Eesti, Paged Trade, Paged Meble, Paged LabTech, Paged Deutschland, and BUK Ltd., are part of the Thumos Group, a private Polish industrial and investment consortium.

About us

Paged – A Globally Renowned Plywood Manufacturer

At Paged, we offer our customers worldwide an extensive range of premium plywood products that adhere to the highest standards of quality and sustainability. Our innovative solutions are designed to meet the rigorous demands of various industries, including interior design, construction, transportation, and packaging.

We pride ourselves on our commitment to excellence, ensuring that every product meets stringent certification standards and modern performance requirements, such as CE2+, PEFC, FSC®, EN 71-3, EN 927-3, EN 927-5, REACH, and HL3 fire classification.

Synergy of Nature and Technology

We combine knowledge with products of nature into harmonious and durable solutions, improving your world. Choose Paged for innovative, certified, and sustainable plywood solutions that set the benchmark for quality andreliability in the industry.

Our production facilities utilize state-of-the-art technology and processes to manufacture plywood that is not only durable and versatile but also environmentally friendly. By combining advanced knowledge with natural materials, we create harmonious and durable solutions that improve the quality of life and meet the evolving needs of our global clientele. Our comprehensive certification and quality assurance processes ensure that every product we offer delivers exceptional performance and reliability.

Our production facilities in Morąg and Pisz (Poland) operate based on:

- PN-EN ISO 9001:2015 quality management systems
- PN-EN ISO 14001:2015 environmental management system
- PN-ISO 45001:2018 occupational health and safety management system.

We also source our birch veneer from Paged Eesti, the largest producer of birch veneer in Estonia, which has been part of the Group since 2018.

Paged and Sustainability

Paged is deeply committed to sustainability, as evidenced by its recent performance in the EcoVadis ESG audit, where Paged Pisz scored 63 points and received a silver badge, placing it in the top 17% of the industry globally.

This audit evaluates companies on occupational safety, environmental protection, business ethics, and sustainable purchasing. Paged's sustainable practices include reducing CO2 emissions through a closed cycle of using its own biomass, an internal waste management system, and recycling waste produced during manufacturing.

The company is also involved in educational initiatives, such as the Climate Education Centre, and community projects, including volunteering and local events. These efforts reflect Paged's dedication to corporate social responsibility and continuous process improvement, aiming to achieve even higher scores in future sustainability assessments.

About us

Our mission is to reinvent wood, drawing inspiration from the unique synergy of nature and technology. We are dedicated to providing our customers with sustainable, advanced wood solutions that support environmental responsibility. Our team works collaboratively with mindful and strategic actions to create optimal value for our customers. We achieve this through the efficient use of resources and continuous investment in innovation.

We are committed to enhancing the competencies of our employees and consistently upgrading our machinery. Plywood, as a natural and sustainable material, benefits from the increasing application of modern technology, which continuously improves the environmental performance of our products. All our products adhere to the latest, stringent formaldehyde emissions as confirmed by the ZE05 certificate and E01 as confirmed by Hygenic Certificate according to CARB and TSCA IV regulations. as well as low VOC emission standards, details of which are available in the relevant technical documentation.

Our locations

Our history

1916
Pisz factory start-up

1931/1932
Establishment of Paged

1948
Post-war reconstruction

1955
Morąg factory start-up

1973
Technical award for Elkon® launch

1996
Paged acquires Morąg factory

1997
Paged's IPO at Warsaw Stock Exchange

2010
Paged acquires Pisz factory

2016
Morąg 2 – new investment

2017
Paged's withdrawal from Warsaw Stock Exchange

2018
Acquisition of Valmos in Estonia

VALMOS

2019
Foundation of Paged LabTech

As a recognised supplier to our partners in Poland and abroad, we operate in various market segments and develop products according to customer specifications and requirements. As part of this process, our products undergo rigorous testing, accreditation and approval processes around the world. All of such documents, tests and reports can be obtained from our website or from one of our sales representatives.

We continue to add new products and new features to our existing products. As we want to propel our innovation efforts, we established a new R&D department in 2019 – a daughter company under the name of Paged LabTech.

Fewer resins, adhesives and chemicals are used in the manufacture of plywood compared to their content in other wood-based panels such as OSBs, HDFs, MDFs or chipboards. We have also introduced products based on (biodegradable) bio-resins and lignin resins, which further reduce the emission of volatile compounds from the plywood used.

Type of adhesive	PN-EN 636	DIN 68705	BS 1203
INTERIOR plant-based adhesive	for use in dry conditions - technical class EN 636-1	IF 20	H1
MOISTURE-RESISTANT - adhesive based on melamine urea formaldehyde resin (MUF)	for use in humid conditions - technical class EN 636-2	AW 100	H3
WATERPROOF - adhesive based on phenol-formaldehyde resin (PF)	for outdoor use - technical class EN 636-3	BFU 100	H4

*Weather resistant plywood is also referred to as WBP (weather and boil-proof) which means that the glue line will not break down when subjected to adverse weather conditions, and can also withstand immersion in boiling water. All of the above ratings apply to the adhesive resin that is used to hold the veneer layers of wood together in the manufacturing process of plywood. Wood veneers are not water resistant to the same extent as wood that they're made from. Weather resistant plywood is an exterior grade so long as its edges and surfaces are treated with a preservative. It is advised not to keep plywood in direct contact with wet substrates, such as soil or water.

Certificates of compliance, laboratory test results and homologations

FACTORY PRODUCTION CONTROL CERTIFICATION SYSTEM

Our products undergo regular tests, both in external certifying and testing bodies as well as at our in-house laboratory. We issue Declaration of Performance for all our products for both structural and non-structural applications in construction.

All our products are CE marked thanks to factory production control certificates under the Regulation (EU) No 305/2011 of the European Parliament and of the Council of 9 March 2011. All CE-marked plywood can be used as structural elements in construction and housing in both external and internal applications. We mark plywood from 9 to 50mm in thickness with the CE mark.

INTEGRATED MANAGEMENT SYSTEM

We apply integrated management system practices to all aspects of our business. We have completed its implementation at our facility in Pisz and scheduled its implementation at our facility in Morąg.

FSC® AND PEFC® CERTIFICATION

We source wood from responsibly managed forests under FSC® and/or PEFC® standards. Our products are either FSC® or PEFC marked, depending on our customers' requirements.

COMPLIANCE WITH BUILDING REGULATIONS

Both our production facilities supply plywood complying EU regulations, German construction law (DIBt) and ChemVerbotsV requirements. Paged plywood is also approved by UK Conformity Assessment Body (UKCA mark).

LOW VOC EMISSION

Our products comply with the regulations on volatile compounds emissions (VOC). They meet the requirements for the highest classes substrates: A+ (in French regulations), AgBB (in German regulations).

Plywood manufacturing proces

1. Hydrothermal wood logs processing

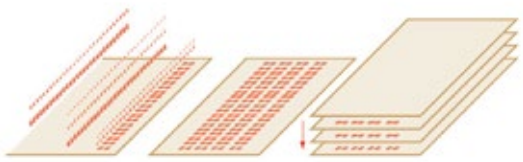
Wood logs which are the raw material for plywood manufacturing undergo hydrothermal processing. The hydrothermal processing is carried out in soaking pools filled with water at a temperature of 40–60°C depending on the wood species. Next, through mechanical debarking, the logs are cleared of bark and mineral residues accumulated in the bark during the process of logging and transport.

2. Peeling

A cut to size wood log is delivered to a rotary peeling machine. Once fitted at a right angle against a rotary lathe, a log is being rotated against the blade. The peeling blade cuts a layer of veneer in the form of a veneer band.

3. Drying and surface repairing of veneers

At this stage veneers have a moisture content of 30–120%. In order to reduce the moisture to the required level, veneers are dried in a continuous process in a band drying facility or as sheets in roller drying facilities, at a temperature of 160–180°C, to reach the desired moisture content of about 8 - 12%. Any veneer defects caused by the wood anatomy (e.g. knots, close shakes, bud traces, etc.) are identified by using specialist scanning systems. Such surface defects are repaired with veneer inserts or chocks that match in colour and woodgrain pattern.

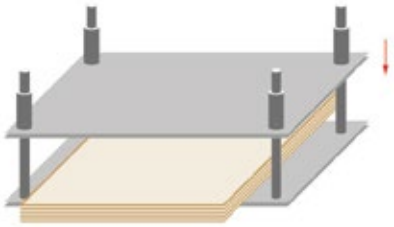


4. Adhesive application and plywood sets assembly

The sets of face and core veneers are assembled by selecting and arranging veneer sheets in a proper way. Depending on the intended use of the final product and a customer's requirements, the sheets are laid cross-grained in a classic way, cross- and parallel-grained or parallel-grained in relation to each other. The adhesive is applied on both sides onto every second sheet of veneer. The type of the adhesive compound determines the type of bonding used for the specific plywood.

5. Hot pressing

The sets of veneers are hot-pressed under pressure in hydraulic multi-platen presses. The veneers are pressed together and from now are permanently bonded.

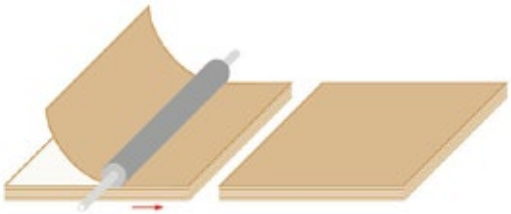


6. Final processing and sanding

Following the seasoning of plywood, the plywood sheets are finally processed and cut to target size with the excess material cut off on a profiling machine. Next the surfaces of face veneers are calibrated and sanded in a precise sanding machine.

7. Overlaying, filming, surface treatment

If required by the end application of plywood panel, at this stage in the process a special paper impregnated with resin (also referred to as film) is applied onto the surface of plywood board. This process is carried out in high pressure and high temperature environment, causing the resin to pass to the core veneers and, as a result, to produce a surface with new performance properties.



8. Quality inspection and grade sorting

Sorting of plywood is based on quality inspection and classification of plywood face veneers in line with quality systems' requirements, technical standards and specifications.

EPD

Sustainable construction with Paged plywood

Paged plywood has obtained a Type III Environmental Product Declaration (EPD). It certifies that the environmental impact of our products at the stage of sourcing of raw materials and at the various stages of manufacture has been assessed. Aspects such as the quantitative extraction of raw materials, energy intensity of the production process, water consumption and waste generation were considered.

EPD enables objective comparison between products with the same function in terms of their environmental performance. The use of products with this declaration in the construction of a building increases its chances of obtaining sustainable building certification (DGNB, LEED, BREEAM or other systems). EPD also enables informed decision-making by consumers and reduced human impact on the environment.

Our company's processes were assessed and verified by the Instytut Techniki Budowlanej ITB on the basis of ISO 14025 (Type III Environmental Labels and Declarations) and EN 15804 (Sustainability of construction works. Environmental product declarations Core rules for the product category of construction products). The EPD programme is voluntary and open to all manufacturers of construction products. It includes products as defined in Annex IV of the European Construction Products Regulation (No 305/2011, CPR).

Together with the Type III Environmental Declaration, the ITB has determined the carbon footprint of our plywood, which will also allow our products to be compared with others in terms of greenhouse gas emissions expressed in tonnes of carbon dioxide equivalent.

Plywood approval

Paged solutions for road transport have received component type approvals in accordance with Regulation No. 118 of the United Nations Economic Commission for Europe (UNECE). Regulation No. 118 applies to two properties of materials used in vehicles of categories M 3, classes II and III:

- burning behaviour (ignitibility, burning rate and melting behaviour),
- capability to repel fuel or lubricants.

Paged plywood products have passed tests depending on their end use and direction of installation as per the annexes to UNECE Regulation No. 118:

- Annex 6 — Test to determine the horizontal burning rate of materials,
- Annex 7 — Test to determine the melting behaviour of materials,
- Annex 8 — Test to determine the vertical burning rate of materials

Paged's certified products include a range of raw and film-faced plywood, as well as Paged Phon composite plywood with a special noise- and vibration-reducing layer.

E20 118RII

Products marked E20 118RII in the catalogue have been issued a type approval.

Key: E — issued in accordance with the UNECE Regulation;
20 — issued in Poland;
118R — issued in accordance with Regulation No. 118;
II — Part II of the Regulation

Vehicle manufacturers face the challenge of reducing the environmental impact of transport. Using a sturdy yet lightweight material made from wood with a negative carbon footprint contributes to this goal.

Paged LabTech

The team of Paged LabTech Research and Development Centre and its goals

The multitude of Paged's offer is linked to diverse and advanced technology requiring continuous improvement and innovation-oriented activities. In the Paged Group, this is possible thanks to the Paged LabTech Research and Development Centre, which was established in 2019 to focus and develop solutions and products in the area of research and development.

The Paged LabTech team is made up of experts with competencies in wood technology, chemistry, material science and materials engineering, and the main objectives of its work are:

- Development of new products and technologies to meet the needs of customers and the dynamically developing market,
- Improving and modifying the existing product portfolio,
- Expanding services for conducting research on wood-based panels,
- Conducting complete product certification.

Paged LabTech also conducts tests of wood, composites and wood-based panels for customers of Paged brand companies, e.g. in the field of bonding quality, mechanical properties, determination of VOC emissions, flammability, ageing of products and coatings.

Formaldehyde test chamber

Paged LabTech

The new premises of the Paged LabTech Research and Development Centre and its equipment

The Centre's new headquarters opens in June 2023 and is a modern timber-frame building. It was built with funding from Paged and The European Regional Development Fund. Wood is a natural and future-proof material which acts as storage for CO2 and effectively reduces the carbon footprint of any building. This is precisely why the new Centre building is made of wood and plywood.

Thanks to the semi-technical hall residing within, it is also possible to produce plywood there in different sizes and small volumes, which not only speeds up the implementation of new products in mass production, but also enables the development of solutions that take into account specific and non-standard customer requirements.

In addition to its modernist design, the new Centre has specialised equipment such as:

- cone calorimeter with FTIR spectrophotometer for flammability testing,
- formaldehyde and VOC test chambers,
- a shock chamber and a QUV chamber for accelerated ageing tests on plywood,
- strength testing machines,
- spectrophotometer for colour measurement (e.g. RAL, NCS),
- Abraser tester for abrasion measurement,
- Pull off for adhesion testing,
- ANSYS Mechanical Enterprise,
- gloss meters, viscosity meters, spray dryer, cutting mills, pH meters and others.

On 14 June 2023, the new premises of the Paged LabTech Research and Development Centre in Pisz were officially opened (from the left: Daniel Ścigała, Chairman of the Supervisory Boards of Paged Group companies; Jarosław Michniuk, President of the Management Board of Paged Group companies; Daniel Mzyk, owner of Paged Group companies and Thumos; Ewelina Depczyńska, PhD, CEO of Paged Labtech).

Paged
WRB©

Natural plywood range

We offer natural plywood manufactured from birch, aspen, alder, beech and pine. Plywood is made up of thin multiple cross-banded veneers. In addition to standard cross-banded structure range of oriented special structures, aimed at specific end uses, are available. The structure of plywood can be homogenous, where all the veneers throughout the structure are of the same species of wood, or combi, where veneers of the same species are on each surface and the internal veneers are alternating softwood and hardwood species.

Natural plywood is used widely in construction (e.g. wall, floor and roof panelling), interior design and fit-out (e.g. decorative panels), furniture manufacturing, window and door manufacturing and in the production of engineered wooden flooring and stairs.

Main application areas for natural plywood:

Construction
(sub-floors, sub-walls, wall panelling, roof sheeting)

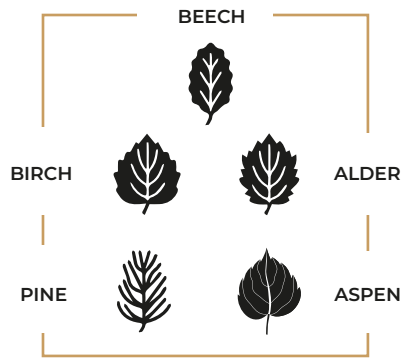
Interior fit-out
(wall panels and decorative panels, recreational vehicle fit-out, boat and yacht fit-out)

Furniture
(framing, cabinets, structural elements, sofas, beds, armchairs)

Doors and windows

Packaging, palletisation and die-cutting for packaging material

Engineered flooring and wooden stairs



We distinguish four grades of natural plywood appearance

All our plywood is graded as one of the four appearance classes: I, II, III and IV.

Each class is determined by the quality and defects of surface veneers.

We classify our hardwood plywood according to PN-EN 635-2 and our softwood plywood according to PN-EN 635-3. The full classification is available on our website www.sklejkapaged.pl.

Paged BirchPly

SPECIFICATIONS

High quality hardwood plywood made of sustainably sourced Baltic birch, available in a wide range of thicknesses and formats. Paged BirchPly is recognised for its strength, durability, rigidity, and resistance to splitting and warping. It can be used where special strength and high quality is required, especially for construction, joinery and transport industries.

STANDARD SIZES	1250×2500/3000 mm 1500×2500/3000/3300 mm 2500×1250/1500 mm
NOMINAL THICKNESS	4-45 mm*
DENSITY	640-760 kg/m³**
FORMALDEHYDE EMISSION (EN 717-1)	½ E1
BONDING QUALITY (EN 314-2)	Class 1, 2, 3

*other thicknesses available upon request
**as measured at 8-12% moisture content

ADVANTAGES

- natural finish and uniform wood structure
- high durability
- increased moisture resistance
- high resistance and durability
- low swelling
- easy to coat, varnish and paint

Natural product

Sustainable manufacturing process

Dimensional stability

Vapour permeability

Easy to machine

Compliance with E20 R118II – 02 4000

Paged BeechPly

SPECIFICATIONS

A unique face quality plywood panel, made of locally sourced beech offers its users superb rigidity, durability and the highest face veneer quality possible. It is highly regarded among furniture makers and designers around the world.

STANDARD SIZES	1250/1500×2500 mm 1250×1950/2200 mm 2500×1250/1500 mm
NOMINAL THICKNESS	4-30 mm*
DENSITY	720-880 kg/m³**
FORMALDEHYDE EMISSION (EN 717-1)	½ E1
BONDING QUALITY (EN 314-2)	Class 1, 2, 3

*other thicknesses available upon request
**as measured at 8-12% moisture content

ADVANTAGES

- high quality face veneers
- natural finish and uniform wood structure
- increased moisture resistance
- durability and strength
- easy to coat, varnish and paint
- impact resistant

Natural product

Sustainable manufacturing process

Dimensional stability

Compliance with E20 R118II – 02 4000

Paged Softwood ThinPly

SPECIFICATIONS

Paged Softwood ThinPly is made of standard thickness locally sourced Baltic Pine and offers its users high durability and resistance to mould and UV light. Thanks to its high load-bearing capacity and smooth and uniform surface, Paged Softwood ThinPly is widely used in construction, furniture and packaging industries.

STANDARD SIZES	2500×1250/1500 mm 1500×3000 mm
NOMINAL THICKNESS	4-35 mm*
DENSITY	550-650 kg/m³**
FORMALDEHYDE EMISSION (EN 717-1)	½ E1
BONDING QUALITY (EN 314-2)	Class 1, 2, 3

*other thicknesses available upon request
**as measured at 8-12% moisture content

ADVANTAGES

- made from highly regarded Baltic Pine wood
- good protection against fungi and moisture
- light and easy to machine
- good insulating properties
- low swelling
- easy to coat, varnish and paint
- low weight

Natural product

Sustainable manufacturing process

Dimensional stability

Easy to machine

Vapour permeability

Compliance with E20 R118II – 02 4000

Paged Softwood ThickPly

SPECIFICATIONS

Paged Softwood ThickPly is made of carefully selected Baltic Pine of a specific thickness and offers its users high durability and resistance to mould and UV light at a reduced total weight of the panel. Thanks to its high load-bearing capacity and smooth and uniform surface, Paged Softwood ThickPly is widely used in construction and packaging industries.

STANDARD SIZES	2500×1250 mm 2440×1220 mm
NOMINAL THICKNESS	6-40 mm*
DENSITY	585 kg/m³**
FORMALDEHYDE EMISSION (EN 717-1)	½ E1
BONDING QUALITY (EN 314-2)	Class 1, 2, 3

*other thicknesses available upon request
**as measured at 8-12% moisture content

ADVANTAGES

- made from highly regarded Baltic Pine wood
- good protection against fungi and moisture
- light and easy to machine
- good insulating properties
- low swelling
- easy to coat, varnish and paint
- low weight

Natural product

Sustainable manufacturing process

Dimensional stability

Easy to machine

Vapour permeability

Compliance with E20 R118II – 02 4000

Paged TwinPly

SPECIFICATIONS

Paged TwinPly offers a perfect balance between the high quality surface of birch face veneers and the lightness and natural moisture resistance that softwood provides for its core. The natural wood surface is an elegant interior material. It works in both modern housing, construction and shopfitting as well as traditional interior design. Paged TwinPly brings natural atmosphere to the room. It is easy to handle and can be machined with common hand tools.

STANDARD SIZES	1250×2500 mm 1220×2440 mm
NOMINAL THICKNESS	9-40 mm*
DENSITY	605 kg/m³**
FORMALDEHYDE EMISSION (EN 717-1)	½ E1
BONDING QUALITY (EN 314-2)	Class 1, 2, 3

*other thicknesses available upon request
**as measured at 8-12% moisture content

ADVANTAGES

- natural finish and uniform wood structure
- high elastic modulus and bending resistance
- easy to machine
- increased moisture resistance
- easy to coat, varnish and paint
- universal in application
- low swelling
- lightweight

Natural product

Sustainable manufacturing process

Dimensional stability

Easy to machine

Vapour permeability

Compliance with E20 R118II – 02 4000

Paged Blockboard

SPECIFICATIONS

Paged Blockboard is made up of slats of softwood solids and two layers of 1.5 mm thick veneer on each side of the core. The veneer can be either hardwood or softwood. This combination makes the product lightweight, easy to work with and resistant to deformation by moisture and temperature. The blockboard is also available in a natural veneer version (Paged Blockboard Nature).

STANDARD SIZES	1250×2500 mm 2500×1250 mm
NOMINAL THICKNESS	13-45 mm*
DENSITY	550-650 kg/m³**
FORMALDEHYDE EMISSION (EN 717-1)	½ E1
BONDING QUALITY (EN 314-2)	Class 1, 2

*other thicknesses available upon request
**as measured at 8-12% moisture content

ADVANTAGES

- light, sturdy and durable
- adhesive type: water and boil-proof or interior
- good insulating properties
- easy to coat, varnish and paint
- high face screw holding strength
- low weight
- solid wood core
- high quality finish

Natural product

Sustainable manufacturing process

Dimensional stability

Easy to machine

Paged Blockboard Nature

Oak

Beech

SPECIFICATIONS

Paged Blockboard Nature is a blockboard with natural wood veneer. The product is made of solid softwood wood slats covered on both sides with two layers of 1.5 mm and/or 1.8 mm thick hardwood veneer. This five-layer board is additionally veneered with natural veneer. This design reduces weight in applications where appearance and presentation are crucial, primarily in furniture manufacturing and interior finishing.

STANDARD SIZES	1250×2500 mm 2500×1250 mm
NOMINAL THICKNESS	13-45 mm*
DENSITY	550-650 kg/m³**
FORMALDEHYDE EMISSION (EN 717-1)	½ E1
BONDING QUALITY (EN 314-2)	Class 1, 2

*other thicknesses available upon request

**as measured at 8-12% moisture content

ADVANTAGES:

- wide selection of traditional and exotic species of natural wood veneers (e.g. pine, beech, ash, maple, oak, sapeli),
- low weight,
- high resistance to warping or twisting,
- good dimensional stability even when exposed to humidity and increased temperature.

High quality and attractive appearance

Natural product

Sustainable manufacturing process

Dimensional stability

Ease of machinig

Paged Nature

SPECIFICATIONS

Paged Nature was designed specifically for the r
modern interior designers and furniture makers. It is
furniture-grade birch veneers covered in natura
veneers, depending on the customer's choice (e.g
maple, oak, exotic tree species). It is a long-lasting a
ble material that is easy to machine into different dim
and shapes using any type of joinery machinery.

STANDARD SIZES	2500
NOMINAL THICKNESS	
DENSITY	640-76
FORMALDEHYDE EMISSION (EN 717-1)	
BONDING QUALITY (EN 314-2)	

*other thicknesses available upon request
**as measured at 8-12% moisture content

ADVANTAGES

- natural and homogenous appearance
- increased moisture resistance
- low swelling
- easy to coat, varnish and paint
- low weight
- strong and dimensionally stable

Natural product

Sustainable manufacturing process

Dimensional stability

Easy to machine

Paged FR plywood in the rail industry

**Paged flame retardant plywood is used
railway vehicle floors, walls and ceilings, in
with EN 45545-2.** Part 2 of the above stand
specifies the fire reaction requirements for m
rials and components used in railway vehicle
regulates such characteristics as oxygen
sumption, smoke density and toxicity and
release.

There are 26 sets of fire reaction requireme
labelled R1 to R26, depending on the applica
and where the material is installed in the veh
structure. **The following requirements, co
med by flammability test reports, are the m
relevant for our products:**

- **R10 — interior horizontal surfaces faci
downwards, flooring composites,**
- **R7 — couchette and bed bottoms, air duc
including in locomotives,**
- **R1 — interior vertical surfaces (e.g. wa
doors), interior horizontal surfaces faci
downwards (ceiling lining, dampers, air box
louvres), baggage storage areas.**

R1 — Product complies with R1 requirements.

R7 — Product complies with R7 requirements.

R10 — Product complies with R10 requirements.

Each set of R requirements has different criter
a given fire hazard level resulting from ve
design and operational category. There are t
Hazard Levels in order from lowest to highest:
HL2 and HL3.

Cutting into smaller formats

CNC machining according to customer design (hole drilling, slot milling, straight and profiled edge machining)

Refinement with certified non-flammable mater
e.g. HPL

HL3

Maximum safety

Paged's flame retardant plywood for railways is HL3-rated, meeting the highest fire Hazard Level requirements. As such, it is suitable for use in sleeping cars in trains travelling through tunnels without emergency evacuation facilities, among other things.

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SOFTWOOD

2440×1220 mm
2500×1250 mm

/ 9 / 12 / 15 mm*	
**	585 kg/m³**
	½ E1
	Class 1, 2, 3

Paged
Combi ThickPly

water-resistant thick-veneer hardwood plywood with pine and aspen core and aspen outer veneers

SPECIFICATIONS

Water-resistant thick-veneer plywood with mixed hardwood-softwood structure: the core consists of aspen and pine veneers and the outer layers are made of aspen rotary-cut veneer. Paged Combi ThickPly is an easy to machine, relatively lightweight and dimensionally stable product. It is ideal for the packaging industry as well as non-structural and non-load-bearing applications in the construction industry.

STANDARD SIZES	2500×1250 mm 2440x1220 mm
NOMINAL THICKNESS	6-30 mm*
DENSITY	553 kg/m³**
FORMALDEHYDE EMISSION (EN 717-1)	½ E1
BONDING QUALITY (EN 314-2)	Class 1, 2, 3

*other thicknesses available upon request
**as measured at 8-12% moisture content

ADVANTAGES

- high-quality adhesive
- easy machining
- dimensional stability
- lightweight

Natural product

Sustainable manufacturing process

Easy to machine

Dimensional stability

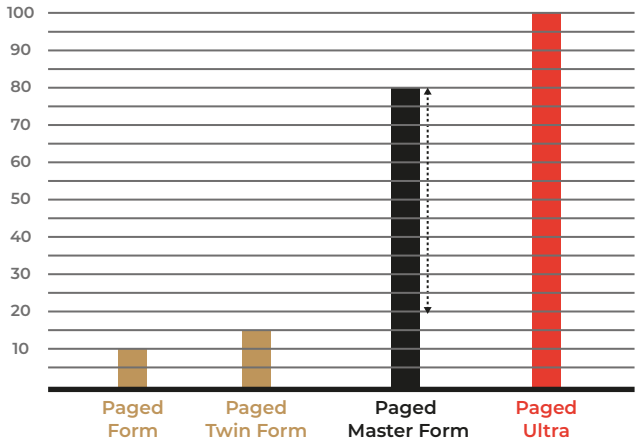
Vapour permeability

Coated and film-faced plywood

Our coated and film-faced plywood products offer better moisture protection and higher wear&tear resistance.

The final application varies and depends on the type of overlay or film used. Coated and film-faced plywood are used in the production of shuttering systems, as base plates for manufacturing of concrete blocks.

Estimated number of uses*:



*The estimated number of uses is presented for guidance only. The actual number of uses will depend on the actual use, handling and machining of plywood panels.

Plywood for transportation and exhibition & events industries

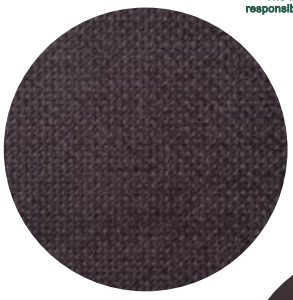
With its high strength to weight ratio as well as high anti-slip rating, plywood with structural film finish increases load safety during transport. The surface of the anti-slip plywood is hard and resistant to abrasion and rolling wear. Filmed plywood is also used in construction, industry flooring, working platforms, scaffolding, stages, warehouse and factory hall floors.

Key facts and data

Product	Mesh	Hexa	Trans
Thickness [g/m²]	167 220	167 205 220	460
Taber test acc. to PN-EN 438-2	480 600	500 600	5 000 10 000
Rolling test acc. to SS 923508 [no. of cycles]	1800 +- 35%	2000-6000 +- 35%	10000 +- 35%
Anti-slip class acc. to DIN 51130	R10	R10	R13

Our products are characterised by high strength-to-weight ratio and are easy to machine. Depending on their final use, we manufacture film-faced and overlaid plywood from specific wood species in order to improve their performance.

Paged Mesh



SPECIFICATIONS

Paged Mesh is a birch hardwood plywood panel overlaid with durable phenolic film. It is an ideal panel for applications that require high wear resistance. The anti-slip finish is ideal for demanding applications in the transport, construction and events industries. The hard wearing coating also protects the plywood against moisture penetration. Paged Mesh, in addition to its great mechanical properties, is also easy to clean and resistant to most commonly used chemicals.

STANDARD SIZES	1250×2500/3000 mm 1500×2500/3000/3300 mm
NOMINAL THICKNESS	6,5-40 mm*
DENSITY	640-760 kg/m^3**
FORMALDEHYDE EMISSION (EN 717-1)	½ E1
BONDING QUALITY (EN 314-2)	Class 3

*other thicknesses available upon request
**as measured at 8-12% moisture content

ADVANTAGES

- high anti-slip rating
- high durability and crack resistance
- increased moisture resistance
- resistant to light chemical treatment

Natural product

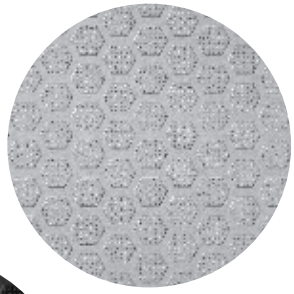
Sustainable manufacturing process

Easy to machine

Dimensional stability

Compliance with E20 R118II – 02 4000

Paged Hexa



SPECIFICATIONS

A durable, anti-slip birch hardwood plywood designed to sustain heavy duty usage resulting in low wear and tear over its course of life. In the specialty manufacturing process the high quality plywood panel is coated with a hard wearing film overlay hot pressed into a hexagonal shape to boost its anti-slip properties. Paged Hexa is available in three colours – phenolic coating: black, black brown; melamine coating: grey. The plywood can be also flame-retardant panel for specialty applications.

STANDARD SIZES	1250×2500/3000 mm 1500×2500/3000 mm
NOMINAL THICKNESS	6,5-40 mm*
DENSITY	640-760 kg/m³**
FORMALDEHYDE EMISSION (EN 717-1)	½ E1
BONDING QUALITY (EN 314-2)	Class 3

*other thicknesses available upon request

**as measured at 8-12% moisture content

ADVANTAGES

- anti-slip surface
- wear and tear resistance
- high load bearing capacity
- easy to clean
- resistant to light chemical treatment

Natural product

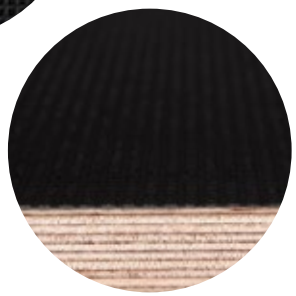
Sustainable manufacturing process

Easy to machine

Dimensional stability

Compliance with E20 R118II – 02 4000

Paged Trans



SPECIFICATIONS

The most durable, wear and tear resistant anti-slip plywood made with waterproof resin adhesive. Paged Trans is overlaid with specialty phenolic film to assure the highest possible wear and abrasion resistance. Thanks to its construction as well as its coating, this product boasts the highest anti-slip rating of R11 or R13, depending on the final choice of surface coating.

STANDARD SIZES	1250×2500/3000 mm 1500×2500/3000 mm
NOMINAL THICKNESS	12-40 mm*
DENSITY	640-760 kg/m³**
FORMALDEHYDE EMISSION (EN 717-1)	½ E1
BONDING QUALITY (EN 314-2)	Class 3

*other thicknesses available upon request
**as measured at 8-12% moisture content

ADVANTAGES

- lasting effect
- highest anti-slip rating of R11 or R13
- impact resistant
- resistant to light chemical treatment
- scratch resistant

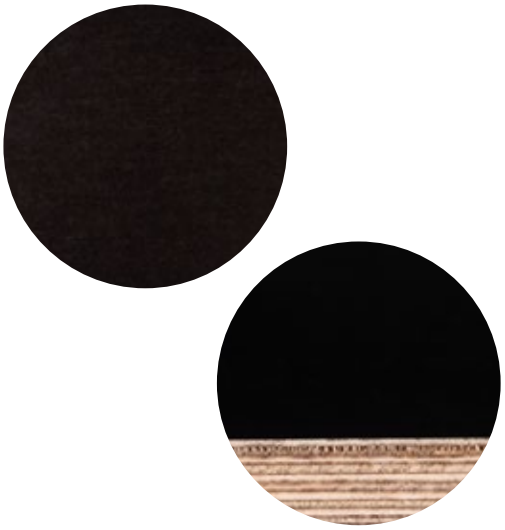
Natural product

Sustainable manufacturing process

Dimensional stability

Easy to machine

Paged Master Form



SPECIFICATIONS

Our flagship, waterproof, birch hardwood plywood overlaid with purpose-designed phenolic film. Paged Master Form was designed to perform at its best in the challenging industries of formwork and heavy-duty flooring applications.

STANDARD SIZES	1250×2500/3000 mm 1500×2500/3000/3300 mm
NOMINAL THICKNESS	6,5-45 mm*
DENSITY	640-760 kg/m³**
FORMALDEHYDE EMISSION (EN 717-1)	½ E1
BONDING QUALITY (EN 314-2)	Class 3

*other thicknesses available upon request
**as measured at 8-12% moisture content

ADVANTAGES

- easy to machine and install
- increased moisture resistance
- impact resistant
- resistant to light chemical treatment

Natural product

Sustainable manufacturing process

Easy to machine

Dimensional stability

Compliance with E20 R118II – 02 4000

Paged Twin Form

SPECIFICATIONS

Paged Twin Form is a high quality birch-pine plywood over-laid with purpose-designed phenolic films. It offers an upgrade in terms of resistance to water and durability when compared to imported softwood panels and allows its users to maximise the life of the product.

STANDARD SIZES	1250×2500 mm 1220×2440 mm
NOMINAL THICKNESS	9-40 mm*
DENSITY	605 kg/m³**
FORMALDEHYDE EMISSION (EN 717-1)	½ E1
BONDING QUALITY (EN 314-2)	Class 3

*other thicknesses available upon request

**as measured at 8-12% moisture content

ADVANTAGES

- strong and rigid
- resistance to temperature fluctuations from -40 to +50
- high elastic modulus and bending resistance
- impact resistant
- resistant to light chemical treatment

Natural product

Sustainable manufacturing process

Easy to machine

Dimensional stability

Compliance with E20 R118II – 02 4000

Paged Form

SPECIFICATIONS

Paged Form is made of thick veneer softwood panel covered on both sides with special paper impregnated with resins. The special structure of the panel strenghtens its durability and resistance, while the surface and strength of the overlay allows its user to achieve a spotless surface press.

STANDARD SIZES	2500×1250 mm 2440×1220 mm
NOMINAL THICKNESS	15-21 mm*
DENSITY	585 kg/m³**
FORMALDEHYDE EMISSION (EN 717-1)	½ E1
BONDING QUALITY (EN 314-2)	Class 3

*other thicknesses available upon request
**as measured at 8-12% moisture content

ADVANTAGES

- additional surface protection in concrete block production
- easy to handle
- increased moisture resistance
- impact resistant

Natural product

Sustainable manufacturing process

Easy to machine

Dimensional stability

Paged Form Plus

Softwood panel covered on both sides with special kraft paper and phenolic film

SPECIFICATIONS

Specialised thick veneer plywood made of pine veneer, double overlaid with: kraft paper and phenolic film. This construction of Paged Form Plus ensures high mechanical strength and moisture resistance, thereby increasing the number of its uses to at least 10. The product also guarantees a smoother and more homogeneous surface of the prefabricates. Pine veneer thicknesses: 2.5 - 3.2 mm. Main areas of application include formwork system production, concrete prefabrication, transport industry, packaging production.

STANDARD SIZES	2500×1250 mm 2440×1220 mm
NOMINAL THICKNESS	15-27 mm*
DENSITY	585 kg/m³**
FORMALDEHYDE EMISSION (EN 717-1)	½ E1
BONDING QUALITY (EN 314-2)	Class 3

*other thicknesses available upon request

**as measured at 8-12% moisture content

ADVANTAGES

- increased surface protection in concrete block production
- increased moisture resistance
- light and easy to machine
- impact resistant

Natural product

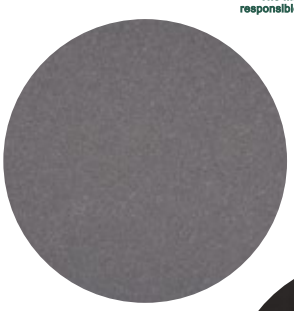
Sustainable manufacturing process

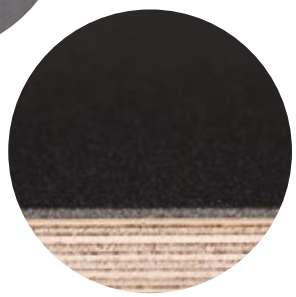
Easy to machine

Dimensional stability

Vapour permeability

Paged
Ultra Form





SPECIFICATIONS

Specialty formwork plywood panel designed to last longer and serve multiple uses thus saving its users time and money. Its superb mechanical properties combined with hard-wear coating (1,4 mm) provides an ideal formwork solution. Paged Ultra Form is resistant to UV light and chemical agents. It is perfect for vertical, special and frame formwork systems.

STANDARD SIZES	1250×2500 mm 1500×2500/3000/3300 mm
NOMINAL THICKNESS	9-30 mm*
DENSITY	700 - 850 kg/m³**
FORMALDEHYDE EMISSION (EN 717-1)	½ E1
BONDING QUALITY (EN 314-2)	Class 3

*other thicknesses available upon request
**as measured at 8-12% moisture content

ADVANTAGES

- lower cost of ownership
- UV resistant
- scratch resistant
- impact resistant
- resistant to light chemical treatment

Natural product

Sustainable manufacturing process

Easy to machine

Dimensional stability

Paged SidePly

hardwood plywood with waterproof adhesive coated with a tough polypropylene layer

SPECIFICATIONS

Hardwood plywood with waterproof adhesive coated with a tough polypropylene layer ensuring good surface appearance, resistance to moisture, cleaning agents and UV light. Paged SidePly is produced from high quality hardwood veneers which guarantees high mechanical resistance. Paged SidePly is distinguished by its high decorative and performance qualities. Durable 0.18 mm coating is easy to clean and maintains its colour even if exposed to changing weather conditions. Polypropylene layer is bonded with plywood with PUR glue. The coating is perfectly safe for the environment as it contains no halogens or plasticisers. Paged SidePly is available with an orange peel finish with an orange peel finish; standard colors: white (RAL 9016), grey (RAL 7040). Other colors available upon request.

STANDARD SIZES	1500x3000 mm
NOMINAL THICKNESS	6,5-30 mm*
DENSITY	640-760 kg/m³**
FORMALDEHYDE EMISSION (EN 717-1)	½ E1
BONDING QUALITY (EN 314-2)	Class 3

*other thicknesses available upon request
**as measured at 8-12% moisture content

ADVENTAGES

- mechanical resistance
- moisture and UV light resistance
- decorative value
- washable
- chemical resistance
- eco-friendly (contains no halogens or plasticisers)

Natural product

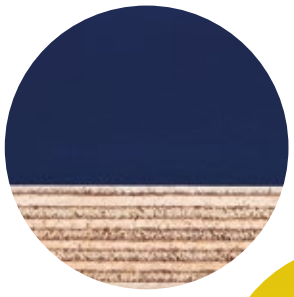
Sustainable manufacturing process

Dimensional stability

Easy to machine

Resistance to UV light

Paged Colour



SPECIFICATIONS

Paged Colour is a high quality finish birch plywood made with waterproof resin and designed for both structural and non-structural applications. It is characterised by high durability and strength, while its surface is decorative and easy to preserve. Available colours: white, grey, blue, yellow, green, red.

STANDARD SIZES	1250×2500 mm 1500×2500/3000 mm*
NOMINAL THICKNESS	9-30 mm**
DENSITY	640-760 kg/m³***
FORMALDEHYDE EMISSION (EN 717-1)	½ E1
BONDING QUALITY (EN 314-2)	Class 3

*applicable to white colour only
**other thicknesses available upon request
***as measured at 8-12% moisture content

ADVANTAGES

- high durability and strength
- hygienic and easy to maintain
- high UV resistance

Natural product

Sustainable manufacturing process

Easy to machine

Dimensional stability

High UV resistance

Paged Paint

SPECIFICATIONS

Birch hardwood plywood with a special structure andface veneers selected specifically as a base for paint. Paged Paint is designed to be used both in interior and exterior applications. It comes with a grey or white finish to allow for a reduced use of paint and to achieve high opacity and high smoothness with minimum cover layers.

STANDARD SIZES	1250×2500/3000 mm 1500×2500/3000 mm
NOMINAL THICKNESS	9-45 mm*
DENSITY	640-760 kg/m³**
FORMALDEHYDE EMISSION (EN 717-1)	½ E1
BONDING QUALITY (EN 314-2)	Class 3

*other thicknesses available upon request
**as measured at 8-12% moisture content

ADVANTAGES

- easy to machine and fasten
- increased moisture resistance
- rigid and dimensionally stable
- easy to paint

Natural product

Sustainable manufacturing process

Easy to machine

Dimensional stability

Specialty plywood

We offer a selection of specialty plywood products for various applications and end-uses. Our technology and R&D teams continue to develop new products and bring innovative solutions to our customers.

Each product has been developed specifically to meet the needs of a given application.

We manufacture plywood and composite panels with rubber, metal, composites and polymers. We are a company with a long tradition of manufacturing laminated densified wood products. These products have an array of specialty applications in electromechanical, mechanical and cryogenic industries.

Key application areas include:

- oil-immersed distribution and power transformers (blocks, pressure rings, potential rings, shield rings, pressure beams, block supports, coil supports, step blocks),
- floor and wall sheeting of rolling stock and public transport vehicles (buses, coaches, rolling stock, ships),
- boat building,
- door and window manufacturing,
- cutting dies,
- sliding parts and guides for traditional machines, spiked lattices, carding willows and openers, gears for finishing machines, slat conveyors, shuttles, ledges for healds,
- thermoforming of carbon fiber and polycarbonate, cold bending of sheets and lamination.

Paged StringPly

Thin and flexible waterproof hardwood plywood

VOC LOW EMISSION

SPECIFICATIONS:

Paged StringPly is a thin birch plywood with an attractive surface appearance. High-quality veneers, almost 3 times thinner than standard, were used in its production. This construction allows the creation of a product with low thicknesses and high flexibility, which is also dimensionally stable and durable. Paged StringPly is made using a melamine adhesive, which ensures proper bonding quality even in conditions of increased humidity. They are easy to work with and have a clear and uniform wood grain. Paged StringPly has a decorative character that does not require processing, but can be painted, varnished, stained, veneered, etc.

STANDARD SIZES	1270 x 1270 mm 1250 x 1250 mm
NOMINAL THICKNESS	1,5 – 3,0 mm*
DENSITY	DENSITY 700-760**
FORMALDEHYDE EMISSION (EN 16000-3)	E1
BONDING QUALITY (EN 314-2)	Class 1, 2, 3

*other thicknesses available upon request
**as measured at 8-12% moisture content

ADVENTAGES

- thin and flexible material easy to model
- high quality of all plies and high surface quality class I/II (EN 635-2) as standard
- possibility of laser cutting
- easy to paint, varnish, stain or veneer

Natural product

Sustainable manufacturing process

Easy to machine

Dimensional stability

Aesthetic appearance

Paged GreenPly

Hardwood, interior grade plywood made of birch and natural, formaldehyde-free adhesive

SPECIFICATIONS:

Entirely biodegradable plywood that meets most stringent emission limits for formaldehyde and VOC (emitted only from wood). Paged GreenPly maintains high, mechanical parameters relevant to standard birch plywood, at the same time offering health and environmental benefits. The use of Paged GreenPly reduces environmental impact and improves air quality at home, work, school, and any other enclosed spaces. Main applications include: domestic and contract furniture, decorative panels, interior design, toys and furniture for children, wooden decorations and accessories, flooring, caravan industry, marine furniture.

STANDARD SIZES	1250 x 2500 mm 2500 x 1250 mm
NOMINAL THICKNESS	9-18 mm*
DENSITY	640-760 kg/m³**
FORMALDEHYDE EMISSION (EN 16000-3)	< 0,002 ppm
BONDING QUALITY (EN 314-2)	Class 1

*other thicknesses available upon request
**as measured at 8-12% moisture content

ADVENTAGES

- entirely biodegradable
- veneers and adhesive made from renewable resources
- production waste is harmless to the environment
- minimal formaldehyde emission (only from wood)
- minimal VOC emission (only from wood)
- mycological solution without losing mechanical properties

Adhesive made from biological raw materials

Eco-friendly product

Dimensional stability

Ease of machining

High quality and attractive appearance

Possibility of covering with natural wood veneers

Paged DryGuard

ThickPly Baltic Pine weather-resistant plywood

SPECIFICATIONS

ThickPly Baltic Pine plywood, surface treated with water-based coating to ensure water repellence (EN 927-5). Thanks to the special treatment, the panel helps its users save time during construction. Its water-repellent surface reduces water absorption and does not hamper air permeability. The surface agent applied during manufacturing post-processing slows down the rate of moisture penetration and helps maintain the rigidity and dimensional stability of the panel. In addition, the coating protects the panel against fungal growth (EN 927-3). Standard impregnation color: green (other available upon request; MOQ 700 pcs).

STANDARD SIZES	2440×1220 mm 2500×1250 mm
NOMINAL THICKNESS	9 - 30 mm*
DENSITY	585 kg/m³**
FORMALDEHYDE EMISSION (EN 717-1)	½ E1
BONDING QUALITY (EN 314-2)	Class 3

*other thicknesses available upon request
**as measured at 8-12% moisture content

ADVANTAGES:

- temporary protection against rain and fungal growth
- reduced drying time of the panel
- increased dimensional stability and rigidity
- free air permeability
- easy to machine and fasten
- environmentally friendly coating (REACH compliant)
- CE2+ certified

Natural product

Sustainable manufacturing process

Easy to machine

Dimensional stability

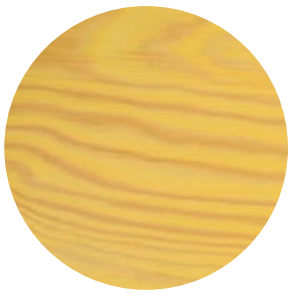
Vapour permeability

Water repellent

Mould resistant

Paged MouldGuard

weather- and micro-organism-resistant thick-veneer softwood plywood



SPECIFICATIONS

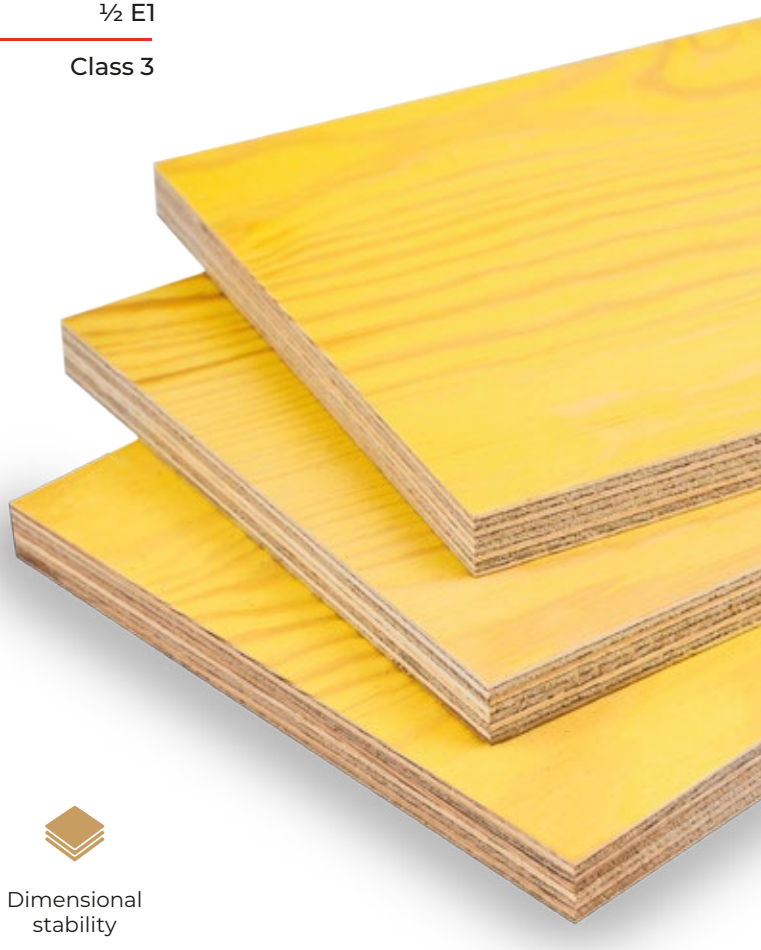
Ready-to-use, weather-resistant and micro-organism-resistant thick-veneer softwood plywood. Paged MouldGuard is surface treated against water absorption (EN 927-5), mould (EN 927-3), wood decay fungi and insects, including termites. The product is ready to use – no additional surface or edge protection is required. The protective coating does not interfere with the diffusion of water vapour, so that the plywood freely absorbs and releases water vapour, remaining resistant to moisture. Paged MouldGuard is a dimensionally stable, relatively lightweight plywood that is easy to machine. Standard impregnation color: yellow (other available upon request; MOQ 700 pcs).

STANDARD SIZES	2500×1250 mm 2440×1220 mm
NOMINAL THICKNESS	9 - 30 mm*
DENSITY	585 kg/m³**
FORMALDEHYDE EMISSION (EN 717-1)	½ E1
BONDING QUALITY (EN 314-2)	Class 3

*other thicknesses available upon request
**as measured at 8-12% moisture content

ADVANTAGES

- temporary protection against rain
- mould and wood decay fungi resistance
- protection against insects
- increased dimensional stability and rigidity
- free air permeability
- easy to machine and fasten
- safe for users (REACH compliant)



Insect protection

Water repellent

Mould resistant

Easy to machine

Vapour permeability

Sustainable manufacturing process

Dimensional stability

Paged LightPly

SPECIFICATIONS

Paged LightPly is an ultralight, high quality decorative plywood panel with elegant Baltic birch face veneer and Nordic aspen core made in the EU from wood from sustainable Estonian forests. It is characterised by a maltitude of applications thanks to its lightness, surface quality and excellent mechanical properties. Paged LightPly has been specifically designed to bring natural design, panel lightness and ease of machining to the interior design and furniture customers.

STANDARD SIZES	2440×1220 mm 2500×1250 mm
NOMINAL THICKNESS	7-27 mm*
DENSITY	520-590 kg/m³**
FORMALDEHYDE EMISSION (EN 717-1)	½ E1
BONDING QUALITY (EN 314-2)	Class 2, 3

*other thicknesses available upon request
**as measured at 8-12% moisture content

ADVANTAGES

- dimensional stability
- high durability
- low weight
- easy to machine
- high quality face veneers
- easy to coat, varnish and paint
- high face screw holding strength

Natural product

Sustainable manufacturing process

Dimensional stability

Easy to machine

Paged Phon

SPECIFICATIONS

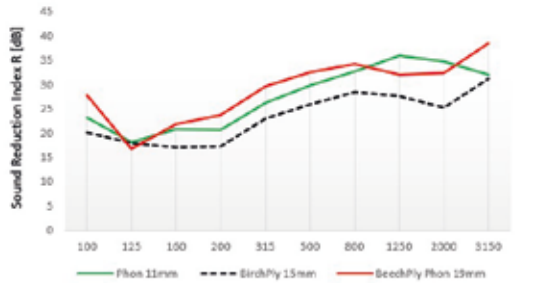
Paged Phon composite panel is made of hardwood plywood and special-purpose rubber to increase a vehicle's insulation from noise and vibration. It was designed specifically to increase the level of satisfaction of public transport users. Paged Phon can be used in flooring, wall sheeting as well as luggage compartment areas.

STANDARD SIZES	1200×2400 mm 1250/1500×2500 mm
NOMINAL THICKNESS	11-19 mm*
DENSITY	950-1050 kg/m³**
FORMALDEHYDE EMISSION (EN 717-1)	½ E1
BONDING QUALITY (EN 314-2)	Class 2, 3

*other thicknesses available upon request
**as measured at 8-12% moisture content

ADVANTAGES

- uniform and homogenous surface
- high durability and resistance to friction
- good acoustic insulation
- easy to machine



Product	Sound Reduction Index R*
Paged Phon 11mm	32 dB
Paged BirchPly 15mm	27 dB
Paged BeechPly Phon 19mm	33 dB

*The sound reduction index R according to PN-EN ISO 10140-2:2011

Natural product

Sustainable manufacturing process

Easy to machine

Dimensional stability

Compliance with E20 R118II – 02 4000

Paged Door

SPECIFICATIONS

Hardwood or softwood plywood with aluminium core acting as a fire barrier, designed for door manufacturers to help them adhere to the highest fire standards. The special structure of the panel minimises deviation from the square shape. A high quality finish or specialty finish available upon request.

STANDARD SIZES	1250×2500 mm 2500×1250 mm
NOMINAL THICKNESS	4-40 mm*
DENSITY	640-760 kg/m³**
FORMALDEHYDE EMISSION (EN 717-1)	½ E1
BONDING QUALITY (EN 314-2)	Class 2

*other thicknesses available upon request
**as measured at 8-12% moisture content

ADVANTAGES

- natural, wooden finish
- high durability and dimensional stability
- easy to machine and finish
- wide range of panel thicknesses

Natural product

Sustainable manufacturing process

Easy to machine

Dimensional stability

Paged Laser

SPECIFICATIONS

Paged Laser is a specially designed and processed panel for die-cutting applications. Carefully selected, sustainably sourced birch veneers allow for low dusting during machining and for a high precision of cut. Durable and homogenous birch veneers provide a rigid environment to keep the die cut blades firmly in place. Melamine film coating is another option if you are looking for an extra protection against dust and moisture.

STANDARD SIZES	1220×1900/2440 mm 1250×2500 mm 1500×2500/3000 mm 1530×2230 mm
NOMINAL THICKNESS	9-18 mm*
DENSITY	700-800 kg/m³**
FORMALDEHYDE EMISSION (EN 717-1)	½ E1
BONDING QUALITY (EN 314-2)	Class 2

*other thicknesses available upon request
**as measured at 8-12% moisture content

ADVANTAGES

- ease of machining
- low warping ratio; dimensional stability
- special structure
- use of a moisture-resistant adhesive

Natural product

Sustainable manufacturing process

Easy to machine

Dimensional tability

Paged Frame

SPECIFICATIONS

High-quality plywood with a special parallel-ply design. Birch, beech or thick veneer pine plywood is available. The hardwood product is reinforced with two cross-plies, and the softwood product has only parallel plies. Due to the special construction, the slats show a higher bending strength along the fibres compared to standard cross-ply plywood.

STANDARD SIZES	2500/1800x80-40 mm 1799/1100x80-40 mm
NOMINAL THICKNESS (HARDWOOD)	18-30 mm*
NOMINAL THICKNESS (SOFTWOOD)	18-40 mm*
FORMALDEHYDE EMISSION (EN 717-1)	½ E1
BONDING QUALITY (EN 314-2)	Class 1, 2, 3

*other thicknesses available upon request
**as measured at 8-12% moisture content

ADVANTAGES

- uniform structure and face veneer quality
- high flexural strength
- wide availability of formats and widths
- reinforced structure

Natural product

Sustainable manufacturing process

Easy to machine

Dimensional stability

Paged Elkon®

SPECIFICATIONS

Paged Elkon is often referred to as the „transformer plywood“ since it is widely used for the production of power and distribution transformers thanks to its unique insulating and durability properties. Paged Elkon is a high density wooden laminate which depending on the arrangement of fibres in adjacent veneer plies is distinguished between the cross-grained in which adjacent plies are laid at right angles to each other and the parallel-grained. For process-related reasons, a small part of veneers can be arranged transversely. The number of transverse layers depends on the thickness of the plywood.

STANDARD SIZES	1500×1000 mm, 1500×1500 mm, 2000×1000 mm, 2200×1200mm					
	P1	P2	P4	C2	C4	CPC5
THICKNESS* [MM]	15-120		5-120		5-80	35-120
DENSITY [G/CM³]	>0,70 ≤0,90	>0,90 ≤1,10	>1,20 ≤1,30	>0,90 ≤1,10	>1,20 ≤1,30	>1,00 ≤1,20
PRODUCT TYPE IN REFERENCE TO EN 61061-1	P1R	P2R	P4R	C2R	C4R	-
PRODUCT TYPE IN REFERENCE TO DIN 7707	KP 20210	KP 20212	KP 20214	KP 20222	KP 20224	-

ADVANTAGES

- superb electrical insulation
- high durability and mechanical performance
- high oil absorption
- ease of machining
- low heat transfer coefficient

Natural product

Sustainable manufacturing process

Easy to machine

Dimensional stability

Flame retardant plywood

Applications

As a leading developer of plywood technology in Central and Eastern Europe, **we have created the Paged FR (Flame Retardant) family of flame retardant plywood**. Such solutions aim to minimise the risk of fire breaking out and spreading and are typically used in:

- construction,
- road transport (buses and heavy goods vehicles),
- rail industry.

Using flame retardant products may also be essential in wall panels, ceiling panels, acoustic panels, doors and frames, as well as exhibition stands and set decoration.

Benefits

FR plywood improves safety in buildings and road and rail vehicles while offering excellent practicality. Even if chemically modified, it does not lose its high mechanical performance and still complies with REACH requirements. Their benefits include ease of processing and installation, dimensional stability and low weight compared to other flame retardant materials.

Solutions offering enhanced fire resistance also find use in industries that consider reducing the carbon footprint a vital factor. **Using Paged FR plywood contributes to lower CO2 emissions.**

Technology

In the production of flame retardant plywood, we use wood pressure-impregnated in an autoclave, enabling the plywood to be protected throughout and offering a product with a superior finish quality. We only use certified flame retardants for vacuum-pressure impregnation.

Certificates

Our plywood products have all the certificates necessary to obtain building fire safety certificates, approval certificates and flammability test reports, which makes it possible to use them in road and rail vehicle bodies. We keep all these documents up to date.

Paged FR plywood in construction

Paged FR solutions have been tested and classified in accordance with EN 13501-1 and EN 13986, as evidenced by certificates of constancy of performance and certificates of conformity for factory production control. **This allows our plywood products to be used in public facilities** like schools, theatres, hotels, shopping centres, hospitals, sports stadiums and many more.

Paged products comply with the principles of fire classification of construction products and building elements in the EN 13501-1 standard, common to all European Union member states:

- B-s1, d0 (for use on walls and ceilings);
- B fl -s1 (for use on floors).

Use on walls and ceilings, B — very limited contribution to fire, s1 — little or no smoke, d0 — no droplets.

Use on floors, B fl — very limited contribution to fire, s1 — little or no smoke.

Paged FR plywood products have publicly available declarations of performance and CE markings as per Regulation (EU) No 305/2011 of the European Parliament and of the Council (Construction Products Regulation).

Moreover, Paged FR plywood products have been granted a Type III Environmental Product Declaration (see the catalogue's EPD section).

Highest reaction to fire classes

Certified products

Sustainable construction

High durability

The EN 13501-1 standard establishes the following:

- basic classes characterising the product in terms of the amount of heat released and the rate of energy release, the time to ignition and the spread of flames; these classes are as follows, from the safest to the least safe: A1, A2, B, C, D, E, F; for floors, the main classes are followed by "fi";
- supplementary classes relating to smoke propagation: s1, s2, s3;
- supplementary classes relating to the formation of flaming droplets/particles: d0, d1,

Paged FR plywood in the rail industry

Paged flame retardant plywood is used in railway vehicle floors, walls and ceilings, in line with EN 45545-2. Part 2 of the above standard specifies the fire reaction requirements for materials and components used in railway vehicles. It regulates such characteristics as oxygen consumption, smoke density and toxicity and heat release.

There are 26 sets of fire reaction requirements, labelled R1 to R26, depending on the application and where the material is installed in the vehicle structure. **The following requirements, confirmed by flammability test reports, are the most relevant for our products:**

- **R10 — interior horizontal surfaces facing downwards, flooring composites,**
- **R7 — couchette and bed bottoms, air ducts, including in locomotives,**
- **R1 — interior vertical surfaces (e.g. walls, doors), interior horizontal surfaces facing downwards (ceiling lining, dampers, air boxes, louvres), baggage storage areas.**

R1

Product complies with R1 requirements.

R7

Product complies with R7 requirements.

R10

Product complies with R10 requirements.

Each set of R requirements has different criteria for a given fire hazard level resulting from vehicle design and operational category. There are three Hazard Levels in order from lowest to highest: HL1, HL2 and HL3.

Cutting into smaller formats

CNC

CNC machining according to customer design (hole drilling, slot milling, straight and profiled edge machining)

Refinement with certified non-flammable materials, e.g. HPL

HL3

Maximum safety

Paged's flame retardant plywood for railways is HL3-rated, meeting the highest fire Hazard Level requirements. As such, it is suitable for use in sleeping cars in trains travelling through tunnels without emergency evacuation facilities, among other things.

Paged Softwood ThinPly FR

B_{fl}-s1

SPECIFICATIONS

Flame retardant softwood plywood with outer pine veneers and mixed, hardwood-softwood core, with enhanced fire protection which allowed it to reach the highest fire classification rating for wood based panels in construction applications. Paged softwood ThinPly FR is used as a construction panel in accordance with the CE1 system (floors).

STANDARD SIZES	2500×1250/1500 mm 1500×3000 mm
NOMINAL THICKNESS	9-45 mm*
DENSITY	550-650 kg/m³**
FORMALDEHYDE EMISSION (EN 717-1)	½ E1
BONDING QUALITY (EN 314-2)	Class 3
FIRE CLASSIFICATION (EN 13501-1)	B_{fl}-s1

*other thicknesses available upon request
**as measured at 8-12% moisture content

ADVANTAGES

- made from high quality Baltic Pine veneers
- strong and lightweight
- easy to machine and fasten
- highest fire classification for wood products

Natural product

Sustainable manufacturing process

Dimensional stability

Easy to machine

Paged Softwood ThinPly FR

B-s1, d0

SPECIFICATIONS

Flame retardant softwood plywood with outer pine veneers and mixed, hardwood-softwood core, protected against fire thanks to an innovative treatment which allowed it to reach the highest fire classification rating for wood based panels in construction applications. Paged softwood ThinPly FR is used as a construction panel in accordance with the CE1 system (for walls and ceilings).

STANDARD SIZES	2500×1250/1500 mm
NOMINAL THICKNESS	12-30 mm*
DENSITY	570-720 kg/m³**
FORMALDEHYDE EMISSION (EN 717-1)	½ E1
BONDING QUALITY (EN 314-2)	Class 3
FIRE CLASSIFICATION (EN 13501-1)	B-s1, d0

*other thicknesses available upon request
**as measured at 8-12% moisture content

ADVANTAGES

- made from high quality Baltic Pine veneers
- durable and lightweight
- eas to machine and fasten
- highest fire classification for wood products

Natural product

Sustainable manufacturing process

Dimensional stability

Easy to machine

Paged Softwood ThickPly FR

B_{fl}-s1

B-s1, d0

SPECIFICATIONS

Fire retardant thickply softwood plywood with enhanced fire performance and high mechanical and physical properties of the panel. Safe and approved chemical composition of the fire retardant additives. Paged Softwood ThickPly is used as a construction panel in accordance with the CE1 system (walls, ceilings and floors).

STANDARD SIZES	2500×1250 mm 2440×1220 mm
NOMINAL THICKNESS	9-40 mm*
DENSITY	550-700 kg/m³**
FORMALDEHYDE EMISSION (EN 717-1)	½ E1
BONDING QUALITY (EN 314-2)	Class 3
FIRE CLASSIFICATION (EN 13501-1)	B-s1, d0 B_{fl}-s1

**other thicknesses available upon request; applicable to B_{fl}-s1

**as measured at 8-12% moisture content

ADVANTAGES

- high quality adhesive
- impact resistant
- easy to machine and fasten
- highest fire classification for wood products

Natural product

Sustainable manufacturing process

Easy to machine

Dimensional stability

Paged BirchPly FR

R10

B_{fl}-s1

SPECIFICATIONS

Fire retardant hardwood plywood available raw, in natural finish or filmed with high density phenolic film. It is characterised by high mechanical resistance and load strength and boasts highest fire classification for wood and wood-based panels used in construction, joinery, shopfitting and rail industries. Paged BirchPly FR plywood is manufactured to the highest standards in order to be suitable for use as a structural component according to the CE1 and CE2+ systems (floors) and it meets the highest level of fire classification, i.e. HL3 in R10 class.

STANDARD SIZES	1250/1500×2500 mm 1500×3000 mm
NOMINAL THICKNESS	9-45 mm*
DENSITY	640-760 kg/m³**
FORMALDEHYDE EMISSION (EN 717-1)	½ E1
FIRE CLASSIFICATION (EN 13501-1)	B_{fl}-s1
BONDING QUALITY (EN 314-2)	Class 3
FIRE CLASSIFICATION (EN-45545-2)	HL3 (R10)

*other thicknesses available upon request;
9mm thickness for R10 only, 35-45mm thicknesses for B_{fl}-s1 only

**as measured at 8-12% moisture content

ADVANTAGES

- CE certified
- wide range of thicknesses
- highest fire classification for wood products

Natural product

Sustainable manufacturing process

Dimensional stability

Easy to machine

Vapour permeability

Paged BirchPly FR

B-s1, d0

R1

SPECIFICATIONS

Fire retardant hardwood plywood with special veneer structure, fire proofed with an innovative immersion method which ensures the highest fire rating of wood based panels in construction and rail industries. BirchPly FR is used as a construction element in accordance with CE1 (walls and ceilings) as well as HL3 in R1 class for rolling stock manufacturing.

STANDARD SIZES	1250/1500×2500 mm 1500×3000 mm
NOMINAL THICKNESS	12-30 mm*
DENSITY	720-880 kg/m³**
FORMALDEHYDE EMISSION (EN 717-1)	½ E1
FIRE CLASSIFICATION (EN 13501-1)	B-s1, d0
BONDING QUALITY (EN 314-2)	Class 3
FIRE CLASSIFICATION (EN-45545-2)	HL3(R1)

*other thicknesses available upon request
**as measured at 8-12% moisture content

ADVANTAGES

- high strength/weight ratio
- improved fire protection
- highest fire classicisation for wood products

Natural product

Sustainable manufacturing process

Easy to machine

Dimensional stability

Paged BeechPly FR

B_{fl}-s1

SPECIFICATIONS

Beech plywood panel of highest rigidity, uniform face veneer structure, surface protected with high class fire retardant. Paged BeechPly FR is widely used in transportation and construction industries as it is recognised for it durability and sheer strength when used as a flooring panel. It is manufactured as a bearing component in line with CE1 requirements (flooring applications).

STANDARD SIZES	1250/1500×2500 mm 1250×1950/2250 mm 2500×1500/1250 mm
NOMINAL THICKNESS	9-24 mm*
DENSITY	700-950 kg/m³**
FORMALDEHYDE EMISSION (EN 717-1)	½ E1
BONDING QUALITY (EN 314-2)	Class 2
FIRE CLASSIFICATION (EN 13501-1)	B_{fl}-s1

*other thicknesses available upon request

**as measured at 8-12% moisture content

ADVANTAGES

- strong and rigid
- improved fire protection
- easy to machine and fasten
- HL3 fire classification

Natural product

Sustainable manufacturing process

Easy to machine

Dimensional stability

Paged BeechPly Phon FR

FSC www.fsc.org FSC® C010283 The mark of responsible forestry

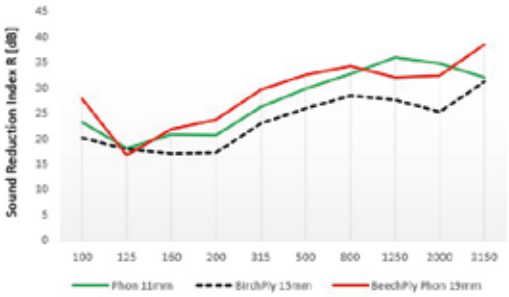
PEFC PEFC/32-32-184 www.pefc.pl

R10

SPECIFICATIONS

Soundproof composite panel made of beech plywood and a special 3mm-thick rubber insulating layer. This layer , placed symmetrically in the centre of the panel, is made of special rubber, which suppresses vibrations and reduces the sound intensity level caused by thermal expansion of metals or rolling friction. Wherever proper sound insulation is needed for various manufacturing applications in buses and trains, Paged BeechPly Phon FR comes in hand. It is available in a one-sided film-faced version. It meets the highest level of fire classification - HL3 in class R10.

STANDARD SIZES	1250/1500×2500 mm 1500×3000 mm
NOMINAL THICKNESS	15-30 mm*
DENSITY	920-1050 kg/m³**
FORMALDEHYDE EMISSION (EN 717-1)	½ E1
BONDING QUALITY (EN 314-2)	Class 2
FIRE CLASSIFICATION (EN-45545-2)	HL3(R10)



Product	Sound Reduction Index R*
Paged Phon 11mm	32 dB
Paged BirchPly 15mm	27 dB
Paged BeechPly Phon 19mm	33 dB

*The sound reduction index R according to PN-EN ISO 10140-2:2011

*other thicknesses available upon request

**as measured at 8-12% moisture content

ADVANTAGES

- strong and rigid
- sound and vibration absorbing properties
- improved fire protection
- HL3 fire classification

Natural product

Sustainable manufacturing process

Dimensional stability

Easy to machine

Paged
Twin Form FR

B_{fl}-s1

SPECIFICATIONS

High quality, birch-pine plywood made with thick ply pine veneers, overlaid with purpose-designed thick phenolic films. With its lower weight, high mechanical resistance and highest fire classification rating for wood based panels, it can be mounted with joists directly on Euroclass A1 and A2 material. Paged Twin Form FR is used as a construction panel in accordance with the CE2+ system (floors). It is available with phenolic film overlay with smooth or structured (mesh) finish.

STANDARD SIZES	1250×2500 mm 1220×2440 mm
NOMINAL THICKNESS	9-40 mm*
DENSITY	605 kg/m³**
FORMALDEHYDE EMISSION (EN 717-1)	½ E1
BONDING QUALITY (EN 314-2)	Class 3
FIRE CLASSIFICATION (EN 13501-1)	B_{fl}-s1

*other thicknesses available upon request
**as measured at 8-12% moisture content

ADVANTAGES

- high quality adhesive
- low weight and high durability
- easy to machine and fasten
- highest fire classification for wood products

Natural product

Sustainable manufacturing process

Dimensional stability

Easy to machine

Physical and mechanical properties of plywood

Property	Value			Remarks	According to standard
Moisture	4-12%				PN-EN 322
Density	550 – 800 kg/m3				PN-EN 323
Number of plies (pcs)	Nominal thickness (t) [mm]	Number of plies	Example structure	Standard veneer thickness 1.5 mm	
Signs: „I" and „-„ plies 1,5 mm	4	3	-|-		
	6,5	5	-|-|-		
	9	7	-|-|-|-		
	12	9	-|-|-|-|-		
	15	11	-|-|-|-|-|-		
	18	13	-|-|-|-|-|-|-		
	21	15	-|-|-|-|-|-|-|-		
	24	17	-|-|-|-|-|-|-|-|-		
	27	19	-|-|-|-|-|-|-|-|-|-		
	30	21	-|-|-|-|-|-|-|-|-|-|-		
	35	25	-|-|-|-|-|-|-|-|-|-|-|-|-		
	40	27	-|-|-|-|-|-|-|-|-|-|-|-|-|-		
	45	31	-|-|-|-|-|-|-|-|-|-|-|-|-|-|-|-		
Straightness and squareness tolerance	1 mm/m				PN-EN 315 PN-EN 324-2

Nominal thickness (t) [mm]	4	6.5	9	12	15	18	21	24	27	30	35
Thickness tolerance [mm]	-0.5 +0.3	-0.6 +0.4	-0.7 +0.5	-0.8 +0.6	-0.9 +0.7	-0.9 +0.7	-1.0 +0.8	-1.1 +0.9	-1.8 +1.4	-1.9 +1.5	-1.5 +1.1

CNC machining and processing services

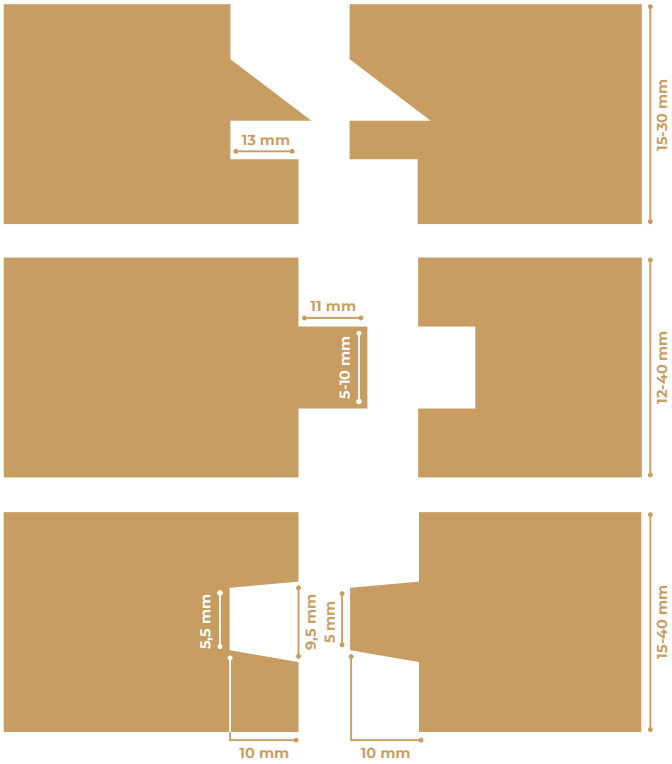
We focus on precision and quality. With a wide offer of machining services, Paged is a one-stop shop for products made to measure and tailored to our customers' needs.

- cut-to-size services using multi-blade panel saws,
- CNC milling, routing and drilling, etc.,
- edge milling.

We offer tongue & groove as well as scarf joints to our customers. Both joint types allow our customers to build smooth, even surfaces when installing flooring, roofing and panelling.

Both our natural as well as filmed plywood can be tongue & groove or scarf jointed.

Example 1: Scarf-joint



Example 2: Tongue and groove

Packing, transportation and storage instructions

Packing

Sheets of plywood are piled up on single-deck pallets specifically built to a given panel size. Depending on our customer's requirements and means of transport, pallet packs are secured with plastic, cardboard, hardboard, bands and edge protectors.

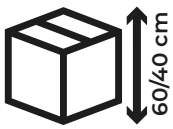
Our standard pallet height is 0.12 m. We offer two standard pack heights, either 0.6 m or 0.4 m (without pallet). The average weight of a full pack of plywood is 26-30kg for the 4x8 format (for the 5x10 format the average is 46kg).

We use forklift trucks for loading pallets onto trailers or into containers. Vehicles that unload plywood at our customers' premises have to allow side unloading – min. loading width - 2.5 m.

Panel thickness [mm]	Number of panels in a pack
4	100
6.5	90
9	65
12	50
15	40
18	35
21	30
24	25
27	22
30	20
35	18
40	15

Recyclable materials used in plywood packing:

- in-house built plywood pallet
- cardboard overlay and/or side protection
- veneer overlay and/or side protection
- stretch wrap (PP)
- PET/PP bands
- hardboard



our standard pack height does not exceed 0,7 m

Plywood type	Density [kg/m³]	Maximum loading capacity		
		24mt Trailer	Container 20'	Container 40'
Birch	640-760	33 m³	16-17 m³	30 m³
Pine/Blockboard	550-650	34-36 m³		
Beech	720-880	30 m³		
Aspen	520-590	42 m³	22 m³	42 m³

Transport

Plywood must be securely fastened while in transport. Both loading and unloading shall be carried out in such a way as not to damage the individual plywood sheets.

Any vehicle used for transport of plywood must provide protection against water, humidity and adverse weather conditions. All packs must be loaded horizontally on rigid pallets. It is allowed to stack packs of plywood on top of each other while in transit. All packs must be secured when in transit to prevent any movement of the load.

With the exception of intermodal and container transport, all packs are transported by curtain sided trailers. The maximum load per trailer is 24 t unless otherwise allowed by the local road regulations.

Storing and handling

Plywood panels shall be stored horizontally. They should not be placed directly on the ground to avoid direct contact with water and/or soil. One should avoid storing panels of different sizes, different wood types, and different adhesive bond on the same pile.

Storing and handling

The storage facilities for plywood should provide protection against direct exposure to water, excessive humidity and high temperature fluctuations.

Plywood is stored in rooms with controlled humidity. It is advisable to limit the impact of the shrinkage stress onplywood through control of air temperature and relative humidity.

20±5° C

air temperature in a warehouse

40÷65%

relative humidity of air in a warehouse

Useful information

Standard sizes* [mm]	1220x 2440	1250x2500	1250x3000	1500x2500	1500x3000	1500x3300	1530x2230
1 sheet [m^2]	2.98	3.13	3.75	3.75	4.50	4.95	3.41
Nominal Thickness* [mm]	Number of plies [m^3]						
4	84.0	80.0	66.7	66.7	55.6	50.5	73.4
6.5	51.7	49.2	41.0	41.0	34.2	31.1	45.1
9	37.3	35.6	29.6	29.6	24.7	22.4	32.6
12	28.0	26.7	22.2	22.2	18.5	16.8	24.4
15	22.4	21.3	17.8	17.8	14.8	13.5	19.5
18	18.7	17.8	14.8	14.8	12.3	11.2	16.3
21	16.0	15.2	12.7	12.7	10.6	9.6	14.0
24	14.0	13.3	11.1	11.1	9.3	8.4	12.2
27	12.4	11.9	9.9	9.9	8.2	7.5	10.9
30	11.2	10.7	8.9	8.9	7.4	6.7	9.8
35	9.6	9.1	7.6	7.6	6.3	5.8	8.4

* other thicknesses available upon request

Paged

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