

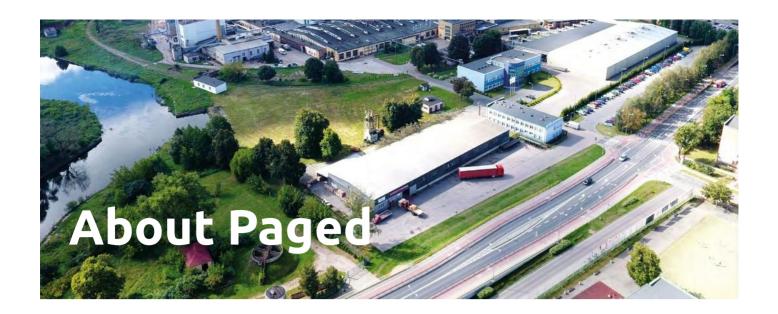
## Fire Retardant Products. Synergy of Nature & Technology.





### Fire Retardant Products

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We are honoured and pleased to invite you to become familiar with the PAGED SKLEJKA S.A. and SKLEJKA-PISZ PAGED S.A. plywood factories owned and operated by the PAGED Group. With the production volume of 250.000 m3 per year, the PAGED Group is the leader in the plywood manufacture market in Central Europe. For over six decades we have specialized in the manufacture of plywood in various formats: from classical plywood sheets through plywood coated with various films, polypropylene, decorative plywood, laser-cut plywood, plywood with aluminium or cork inserts, boatbuilding plywood, plywood panels, plywood strips, and blockboards to spatially complex plywood fittings processed in accordance with the highest standards in state-of-the-art CNC processing centres. Furthermore, we are the only Polish manufacturer and one of very few worldwide producers of two specialist products, i.e. electric insulation laminates with the commercial name of ELKON and laminates called LIGNOFOL characterized by important mechanical and resistance properties. All our production processes are based on the Finnish technology developed by the company RAUTE WOOD. We offer numerous solutions for the construction, transport, furniture and boatbuilding industries. Our products are made of timber acquired from ecologically managed forests, mainly from the north-eastern part of Poland and the Baltic Sea coast. In the manufacture of plywood, we use such timbers as birch, alder, beech and in the case of coniferous plywood the high quality pine timber of the species pinus silvestris coming mainly from the forests of Masuria. The majority of our products have been certified and bear the FSC and PEFC marks.

We operate a quality management system based on the standard ISO 9001, an environmental management system based on the standard ISO 140001, as well as an occupational health and safety management system based on the standard PN-N 18001. Our corporate mission is to provide our customers with plywood, laminates, veneer, and plywood fittings of the highest quality guaranteed by the companys over 60 years experience, unique skills and qualifications of its employees, and the state-of-the-art manufacturing processes. We guarantee our customers products representing the highest quality; simultaneously, we dedicate special attention to the ecological aspects of the operation of all our production plants. We continually aim at decreasing our factories negative impact on the natural environment. Our products stand for money well spent, which translates into our reputation of a reliable and trustworthy company. We aim to develop the most desirable solutions in the woodworking industry and create value for our customers in accordance with the principles of environmental protection and business ethics.

#### We look forward to do business with you!





Please ask about certified products





### Paged fire retardant plywood

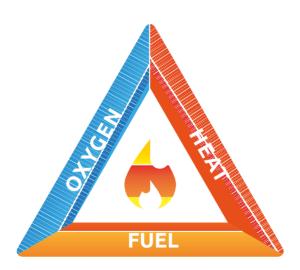
As the leader in the development of plywood technologies in Central and Eastern Europe, we have created a family of fire retardant plywoods called "PAGED Plywood FR - Fire Retardant". These plywoods hinder the spread of fire and hence are applied mostly in the following:

### The construction sector The road transport sector (buses and trucks) The railway system

The PAGED Plywood FR family of products holds all certificates indispensable for their utilization in the aforementioned applications.

Our products are coated with a special protective preparation whose function is to limit the spread of fire, to eliminate smoke and so-called burning drops. Thanks to this, buildings or vehicles containing our PAGED Plywood FR products become more durable and safer, thus guaranteeing people's safety in the event of fire and facilitating their successful evacuation.

In the event of fire, the risk of death or serious injuries is quite high. In Europe alone, every year more than 4000 people lose their lives in fires and costs related to these unfortunate events exceed EUR 130 bn. Therefore, the use of appropriate products such as PAGED Plywood FR is of primary importance in protecting human life and health.



Fires occur in consequence of a combination of a flammable material, e.g. wood, access of air, and high temperature. The use of PAGED Plywood FR eliminates "flammable materials" by replacing them with fire retardant plywood, which reduces the risk of the occurrence and spread of fires. The use of PAGED Plywood FR reduces demand for expensive and heavy non-flammable products such as steel or plaster. Thanks to the use of PAGED Plywood FR, a new building or bus will be safe, economical and, last but not least, much lighter than those whose construction is based on steel or concrete.

### **Credentials**

The certificates, reports, and approvals presented below confirm the fact that plywoods offered by the PAGED Group meet the extremely high safety standards and can be used successfully in the construction, railway, and road transport sectors.

Certificate of Factory Production Control CE2+, CE1





Comprehensive classification report for plywood intended for railway. Standard EN 45545-2

Approval number E20 118RII-02



### Fire Retardant

### **Construction Plywood**

### **Construction Plywood**

PAGED Plywood FR for construction applications meets the requirements of the standard EN 13501-1+A1 and makes it possible to obtain a fire safety certificate for a building in accordance with the requirements of the Fire Safety Inspection Office. The use of products meeting the requirements of the fire resistance standard improves the safety of their users. Furthermore, the use of such products is necessary in public buildings such as:

- Schools
- Hotels
- Bars & Restaurants
- Sports stadiums
- Theaters
- Multi-family homes
- Museums
- Airports
- Malls
- Hospitals

The standard PN-EN 13501-1+A1 is the Polish version of the European standard with the same number. It specifies the EU principles of classification with respect to reaction to fire for all construction products, including products placed within construction elements.

After acquiring a relevant fire resistance class based on the assessment of conducted tests and their results obtained in accordance with the standards effective in all EU Member States all construction products need to be marked properly on their labels.

Pursuant to the standard applicable to construction products, there are 7 basic classes, i.e. A1, A2 ,B ,C ,D ,E ,F; however, in the case of floors, fire resistance classes are marked as  $A1_{\rm fl}$ ,  $A2_{\rm fl}$ ,  $B_{\rm fl}$ ,  $C_{\rm fl}$ ,  $D_{\rm fl}$ ,  $E_{\rm fl}$ ,  $F_{\rm fl}$ .

Specified in the standard PN-EN 13501-1+A1, the main fire resistance classes, i.e. A1, A2, B, C, D, E, F characterize a product with respect to the following criteria:

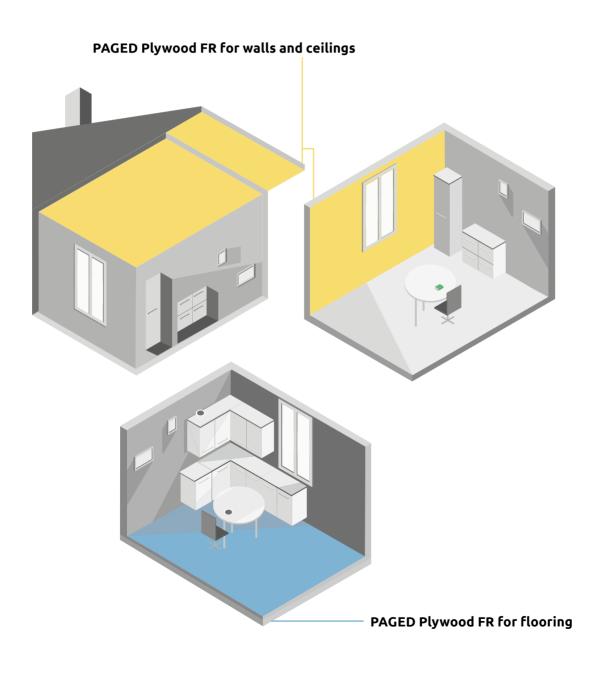
- the quantity and speed of energy emission during the combustion of a product,
- the time before a product ignites after contact with a burning object,
- the speed and range of the spread of flames.

#### The elements influencing fire classification include the following:

- the basic class of a product is the most important; it specifies how (or whether) a product contributes to the development of a fire, i.e. how much energy a given product adds to the fire
- **the safest fire resistance class is A1**; it is followed by classes **A2** and **B**. Products representing classes **C-D-E** and **F** may cause flashover or a sudden explosive spread of a fire characterized by a sudden temperature increase. Consequently, their applications should be limited as far as possible.
- the additional marking **s** placed next to the basic class as specified in the standard PN-EN 13501-1+A1 stands for *smoke*". Smoke is the cause of two thirds of all fire victims; therefore, it is a good idea to avoid all products generating intensive smoke, and marked as **s2** or **s3**.
  - s1 little or no smoke generation; s2 medium smoke generation; s3 heavy smoke generation
- the second additional marking d (drops) placed next to the basic class indicates the occurrence of burning drops and/or waste. The occurrence of burning drops or waste may cause the transfer of a fire to locations distant from its source.
  - d0 no droplets within 600 seconds; d1 droplet form within 600 seconds but do not burn for more than 10 seconds; d2 not as d0 or d1

Classification according to European Standard EN 13501-1+A1					
Definition	Construction products		Floorings		
	Fire Classifica- tion	Smoke Deve- lopment Classification	Buring Dro- plets Classifi- cation	Fire Classification	Smoke Develop- ment Classification
non-combustible materials	A1	-	-	A <sub>ft</sub> 1	-
		s1	d0		s1
			d1		
			d2		
			d0		
non-combustible materials	A2	s2	d1	A <sub>fl</sub> 2	
			d2		s2
		2	d0		
		s3	d1		
			d2 d0		
		s1	d0 d1		s1
		31	d2		31
			d0	$B_{fl}$	
combustible materials with very limi-	В	s2	d1		s2
ted contribution to fire			d2	-н	
			d0		
		s3	d1		
			d2		
		s1	d0	C <sub>fl</sub>	s1
			d1		
			d2		
			d0		<b>s</b> 2
combustible materials limited con- tribution to fire ble materials	С	s2	d1		
			d2		
		s3	d0		
			d1		
			d2		
			d0	D <sub>fi</sub>	s1
		s1	d1		
			d2		
combustible materials medium con-	D	s2	d0 d1		
tribution to fire	U	SZ	d1 d2		
			d2 d0		s2
		s3	d1		
			d2		
combustible materials high contri- bution to fire	E	-	d2	E	: fl
combustible materials – easily flam- mable	F	-	-	F	fl

## PAGED Plywood FR for building applications meets two different class regarding area of use:





B<sub>fl</sub>-s1 according to EN 13501-1+A1 CE2+ according to EN 13986+A:2015 \*in certificate - hardwood plywood film covered



#### **How to Read Specifications**

B - very limited contribution to fire • fl - flooring • s1 - little or no smoke generation CE2+ - for structural applications

Hardwood cross-grained plywood made of veneer with the thickness of 1.5 mm and coated with a non-slip phenolic film. According to the guidelines, it can be used in public buildings and facilities. Intended for applications in structural components, it is manufactured in accordance with the CE2+ system.

#### Type of bonding

**External:** based on phenol-formaldehyde resin (acc. to PN-EN 636, technical class EN 636-2).

STANDARD SIZES	1250x2500 mm, 1500x2500 mm, 1500x3000 mm
THICKNESS	12-45 mm
DENSITY	640 - 760 kg/m³
RELEASE OF FORMALDEHYDE	E1
BONDING QUALITY	class 3
BIOLOGICAL DURABILITY	use class 2

#### Mounting methods



B<sub>f</sub>-s1 according to EN 13501-1+A1 CE2+ according to EN 13986+A:2015



#### **How to Read Specifications**

B - very limited contribution to fire • fl - flooring • s1 - little or no smoke generation CE2+ - for structural applications

Cross-grained plywood coated with a non-slip phenolic film. The exterior plies (face veneers) are made of birch veneer with the thickness of 1.5 mm, while the interior plies are made of pine veneer with the thickness of 2.5 mm 3.2 mm, depending on the thickness of a board. Such a structure provides this type of plywood with excellent performance properties. In comparison to standard plywood, it is much lighter and maintains good values of the modulus of elasticity and bending strength.

#### Type of bonding

**Exterior:** based on phenol-formaldehyde resin (acc. to PN-EN 636, technical class EN 636-2).

STANDARD SIZES	1250x2500mm, 1220x2440mm
THICKNESS	9–40 mm
DENSITY	550 - 650 kg/m³
RELEASE OF FORMALDEHYDE	E1
BONDING QUALITY	class 3
BIOLOGICAL DURABILITY	use class 2

#### Mounting methods

### PAGED FR<sub>fl</sub> BIRCH\*

B<sub>ff</sub>-s1 according to EN 13501-1+A1 CE1 according to EN 13986+A:2015 \*in certificate - hardwood plywood



#### **How to Read Specifications**

B - very limited contribution to fire • fl - flooring • s1 - little or no smoke generation CE1 - for structural applications

Cross-grained plywood impregnated with fire retardant with the exterior plies made of birch or alder veneer. The interior plies are made exclusively of hardwood veneer. All plies have the thickness of 1.5 mm. According to the guidelines, it can be used in public buildings and facilities. Intended for applications in structural components (flooring), it is manufactured in accordance with the CE1+ system.

#### Type of bonding

**Exterior:** based on phenol-formaldehyde resin (acc. to PN-EN 636, technical class EN 636-2).

STANDARD SIZES	1250x2500 mm, 1500x2500 mm, 1500x3000 mm
THICKNESS	12-45 mm
QUALITY CLASSES	II, III, IV PN-EN 635-2
DENSITY	640 - 760 kg/m³
RELEASE OF FORMALDEHYDE	E1
BONDING QUALITY	class 3
BIOLOGICAL DURABILITY	use class 2

#### Mounting methods



B<sub>ft</sub>-s1 according to EN 13501-1+A1 CE1 according to EN 13986+A:2015



#### **How to Read Specifications**

B - very limited contribution to fire • fl - flooring • s1 - little or no smoke generation CE1 - for structural applications

Cross-grained softwood plywood impregnated with fire retardant; all plies are made of pine veneer with the thickness of 2.5 mm 3.2 mm, depending on the thickness of the board. Such a structure provides this type of plywood with excellent performance properties. In comparison to standard plywood, it is much lighter and maintains good values of the modulus of elasticity and bending strength.

#### Type of bonding

**Exterior:** based on phenol-formaldehyde resin (acc. to PN-EN 636, technical class EN 636-2).

STANDARD SIZES	2500x1250 mm, 2440x1220 mm
THICKNESS	9–40 mm
QUALITY CLASSES	III, IV PN-EN 635-2
DENSITY	500 - 560 kg/m³
RELEASE OF FORMALDEHYDE	E1
BONDING QUALITY	class 3
BIOLOGICAL DURABILITY	use class 2

#### Mounting methods



B<sub>fl</sub>-s1 according to EN 13501-1+A1 CE1 according to EN 13986+A:2015



#### **How to Read Specifications**

B - very limited contribution to fire • fl - flooring • s1 - little or no smoke generation CE1 - for structural applications

Cross-grained softwood plywood impregnated with fire retardant. The exterior plies (face veneers) are made of pine veneer with the thickness of 1.5 mm. Depending on the plywood type, the interior plies are made of softwood and/or hardwood veneer. All plies have the thickness of 1.5 mm and are arranged symmetrically with respect to the middle ply.

#### Type of bonding

**Exterior:** based on melamine-urea-phenol-formaldehyde resin (acc. to PN-EN 636, technical class EN 636-2).

STANDARD SIZES	2500x1250 mm, 2500x1500 mm, 3000x1500 mm
THICKNESS	9–45 mm
QUALITY CLASSES	II, III, IV PN-EN 635-2
DENSITY	570 - 720 kg/m³
RELEASE OF FORMALDEHYDE	E1
BONDING QUALITY	class 2
BIOLOGICAL DURABILITY	use class 2

#### Mounting methods

### **PAGED FR BIRCH\***

B-s1, d0 according to EN 13501-1+A1
CE1 according to EN 13986+A:2015
\*in certificate - hardwood plywood



#### **How to Read Specifications**

B - very limited contribution to fire • s1 - little or no smoke generation d0 - no droplets within 600 seconds • CE1 - for structural applications

Cross-grained plywood impregnated with fire retardant with the exterior plies made of birch or alder veneer. The interior plies are made exclusively of hardwood veneer. All plies have the thickness of 1.5 mm. According to the guidelines, it can be used in public buildings and facilities. Intended for applications in structural components (walls or ceilings), it is specially designed and manufactured in accordance with the CE1 system. It is also suitable for covering with natural veneers.

#### Type of bonding

**Exterior:** based on melamine-urea-phenol-formaldehyde resin (acc. to PN-EN 636, technical class EN 636-2).

STANDARD SIZES	1250x2500 mm, 1500x2500 mm, 1500x3000 mm*
THICKNESS	12-30 mm
QUALITY CLASSES	II, III, IV PN-EN 635-2
DENSITY	720 - 880 kg/m³
RELEASE OF FORMALDEHYDE	E1
BONDING QUALITY	class 3
BIOLOGICAL DURABILITY	use class 2

\* for 12-24 mm thickness

#### Mounting methods

This classification is valid for the following end use conditions: mounted on gypsum plasterboard as substrate or any non-combustible substrate of Euroclasses A1 or A2-s1, d0 (concrete, steel, non-combustible boards etc.) with thickness  $\geq$  12 mm and a density  $\geq$  525 kg/m³, horizontal and vertical joints, with or without a void, mechanically fixed (nails, screws etc.) directly against the substrate or with a void (void created by wooden battens or non-combustile battens creating an airgap of 40 mm), with horizontal and/or vertical joints.

### PAGED FR SOFTWOOD

B-s1, d0 according to EN 13501-1+A1 CE1 according to EN 13986+A:2015



#### **How to Read Specifications**

B - very limited contribution to fire • s1 - little or no smoke generation d0 - no droplets within 600 seconds • CE1 - for structural applications

Cross-grained softwood plywood impregnated with fire retardant; all plies are made of pine veneer with the thickness of 2.5 mm 3.2 mm, depending on the thickness of the board. Such a structure provides this type of plywood with excellent performance properties. In comparison to standard plywood, it is much lighter and maintains good values of the modulus of elasticity and bending strength. According to the guidelines, it can be used in the construction industry as a structural component, e.g. in walls, panels, roof decking where veneer is not required.

#### Type of bonding

**Exterior:** based on phenol-formaldehyde resin (acc. to PN-EN 636, technical class EN 636-2).

STANDARD SIZES	2500x1250 mm, 2440x1220 mm
THICKNESS	12-45 mm
QUALITY CLASSES	III, IV PN-EN 635-3
DENSITY	550-700 kg/m³
RELEASE OF FORMALDEHYDE	E1
BONDING QUALITY	class 3
BIOLOGICAL DURABILITY	use class 2

#### Mounting methods

This classification is valid for the following end use conditions: mechanically fixed on metal substructure mounted on gypsum plasterboard (thickness 12 mm +/- 0.5 mm, density 700 kg/m $^3$  +/-100 kg/m $^3$ ) as substrate or any non combustile substrate of Euroclasses A1 or A2-s1, d0 with a distance  $\geq$  40 mm, with a ventilated cavity behind it, with horizontal and/or vertical joints.

### PAGED FR SOFTWOOD+

B-s1, d0 according to EN 13501-1+A1 CE1 according to EN 13986+A:2015



#### **How to Read Specifications**

B - very limited contribution to fire • s1 - little or no smoke generation d0 - no droplets within 600 seconds • CE1 - for structural applications

Cross-grained softwood plywood impregnated with fire retardant. The exterior plies (face veneers) are made of pine veneer with the thickness of 1.5 mm. Depending on the plywood type, the interior plies are made of softwood and/or hardwood veneer. All plies have the thickness of 1.5 mm and are arranged symmetrically with respect to the middle ply. Intended for applications in structural components (walls or ceilings), it is specially designed and manufactured in accordance with the CE1 system. It is also suitable for covering with natural veneers.

#### Type of bonding

**Exterior:** based on melamine-urea-phenol-formaldehyde resin (acc. to PN-EN 636, technical class EN 636-2).

STANDARD SIZES	2500x1250 mm, 2500x1500 mm
THICKNESS	12-30 mm
QUALITY CLASSES	II, III, IV PN-EN 635-2
DENSITY	570 - 720 kg/m³
RELEASE OF FORMALDEHYDE	E1
BONDING QUALITY	class 3
BIOLOGICAL DURABILITY	use class 2

#### Mounting methods

This classification is valid for the following end use conditions: mechanically fixed on metal substructure mounted on gypsum plasterboard (thickness 12 mm +/- 0.5 mm, density 700 kg/m $^3$  +/-100 kg/m $^3$ ) as substrate or any non combustile substrate of Euroclasses A1 or A2-s1, d0 with a distance  $\geq$  40 mm, with a ventilated cavity behind it, with horizontal and/or vertical joints.

Fire Retardant

# Railway Transportation Plywood

PAGED Plywood FR for the railway industry meets the following standards:

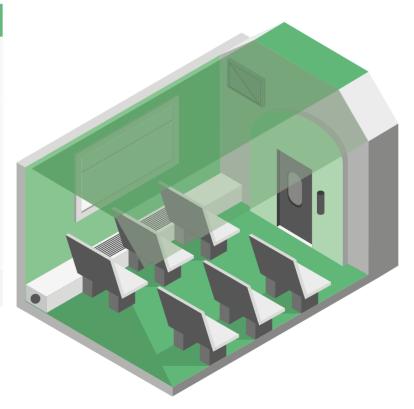
#### EN 45545-2 Railway applications. Fire protection on railway vehicles.

**Part 2:** Requirements for fire behaviour of materials and components. Part 2 of the standard EN 45545 specifies the requirements related to fire resistance for materials and components used in railway vehicles.

Fire hazard levels (depending on design and operational categories of vehicles)

Figure 4: Hazard levels under EN 45545					
Operation category	Design category	N: Standard vehicles	A: Vehicles forming part of an automatic train which have no staff trained for emergencies on board	D: Double-decked vehicles	S: Sleeping and couchet- te vehicles (double/sin- gle decked)
1	1	HL1	HL1	HL1	HL2
2	2	HL2	HL2	HL2	HL2
3	3	HL2	HL2	HL2	HL3
4	1	HL3	HL3	HL3	HL3
				low risk	high risk

Class	Area of Use
R1	Interior surfaces Window frames Display screens
R7	Interior surfaces of gangways-Type B Air ducts on locomotives Walls of external body shell External surfaces of enclosures containing Technical equipment Under frame of external body shell Exterior design features Container mounted in under frame Exterior surface of gangways Bogie structure and parts Arc splash barrier material
R10	Floor composites
R10	·





### R10 - Plywood for flooring

R10 HL1; HL2; HL3 according to EN 45545-2

#### Possibility of processing

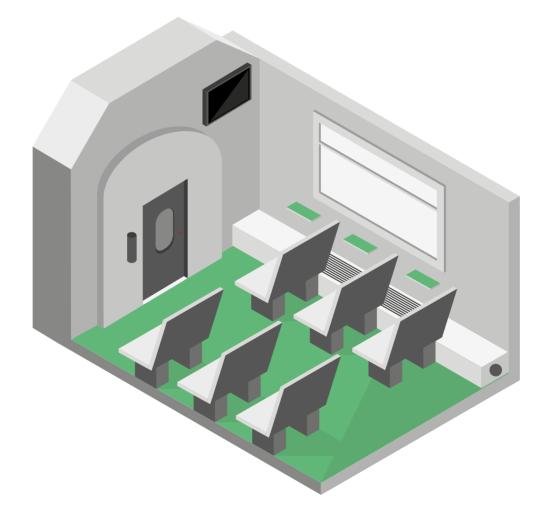
- cutting to smaller sizes on panel saws
- finishing of the edges straight and profiled, drilling, rutting, grooving in CNC Processing Centers

#### Main application areas

- · construction elements, floors
- production of wooden customer goods



Interior Panels Floors



### One side film faced Hardwood plywood



Hardwood cross-grained plywood made of veneer with the thickness of 1.5 mm and coated on one side with a non-slip phenolic film. Suitable for covering with veneer and further processing. It meets the requirements concerning all fire hazard levels in accordance with the standard EN45545-2: HL1, HL2, HL3.

#### Type of bonding

**Exterior:** based on phenol-formaldehyde resin (acc. to PN-EN 636, technical class EN 636-2, AW100, BFU100).

STANDARD SIZES	1250x2500 mm, 1500x2500 mm, 1500x3000 mm
THICKNESS	9-30 mm
DENSITY	640 - 880 kg/m3
RELEASE OF FORMALDEHYDE	E1
BONDING QUALITY	class 3
BIOLOGICAL DURABILITY	use class 2

### Hardwood plywood



Raw cross-grained hardwood plywood impregnated with fire retardant, made of veneers with the thickness of 1.5 mm. Suitable for covering with veneer and further processing. It meets the requirements concerning all fire hazard levels in accordance with the standard EN45545-2: HL1, HL2, HL3.

#### Type of bonding

**Exterior:** based on phenol-formaldehyde resin (acc. to PN-EN 636, technical class EN 636-2, AW100, BFU100).

STANDARD SIZES	1250x2500 mm, 1500x2500 mm, 1500x3000 mm
THICKNESS	9–35 mm
QUALITY CLASSES	II, III, IV PN-EN 635-2
DENSITY	640 - 880 kg/m3
RELEASE OF FORMALDEHYDE	E1
BONDING QUALITY	class 3
BIOLOGICAL DURABILITY	use class 2



### R1 – Plywood for walls and ceilings

#### R1 HL1; HL2; HL3 according to EN 45545-2

#### Post processing options

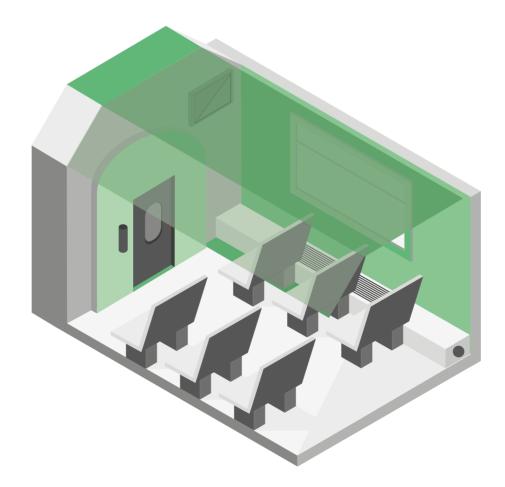
- cutting to smaller sizes on panel saws
- finishing of the edges straight and profiled, drilling, rutting, grooving in CNC Processing Centers

#### Main areas of application

- · construction walls and cellings
- interior surfaces
- window frames
- · display screens



Interior
Wall
Ceiling
Windows
Display screens



### **Beech** plywood



Raw cross-grained beech plywood impregnated with fire retardant, made of veneers with the thickness of 1.5 mm. Suitable for covering with veneer and further processing. It meets the requirements concerning all fire hazard levels in accordance with the standard EN45545-2: HL1, HL2, HL3.

#### Type of bonding

**Exterior:** based on melamine-urea-phenol-formaldehyde resin (acc. to PN-EN 636, technical class EN 636-2, AW100).

STANDARD SIZES	1250x2500 mm, 1500x2500 mm, 1500x3000 mm*
THICKNESS	12-30 mm
QUALITY CLASSES	II, III, IV PN-EN 635-2
DENSITY	700-950 kg/m3
RELEASE OF FORMALDEHYDE	E1
BONDING QUALITY	class 3
BIOLOGICAL DURABILITY	use class 2

\* for 12-24 mm thickness



### Hardwood plywood

Raw cross-grained hardwood plywood impregnated with fire retardant, made of veneers with the thickness of 1.5 mm. Suitable for covering with veneer and further processing. It meets the requirements concerning all fire hazard levels in accordance with the standard EN45545-2: HL1, HL2, HL3.

#### Type of bonding

**Exterior:** based on phenol-formaldehyde resin (acc. to PN-EN 636, technical class EN 636-2, AW100, BFU100).

STANDARD SIZES	1250x2500 mm, 1500x2500 mm, 1500x3000 mm*
THICKNESS	12-30 mm
QUALITY CLASSES	II, III, IV PN-EN 635-2
DENSITY	700 - 900 kg/m3
RELEASE OF FORMALDEHYDE	E1
BONDING QUALITY	class 3
BIOLOGICAL DURABILITY	use class 2

\* for 12-24 mm thickness



### R7 – Plywood for special solutions

Raw beech plywood R7 HL1; HL2; HL3 according to EN 45545-2 Raw hardwood plywood R7 HL1; HL2 according to EN 45545-2

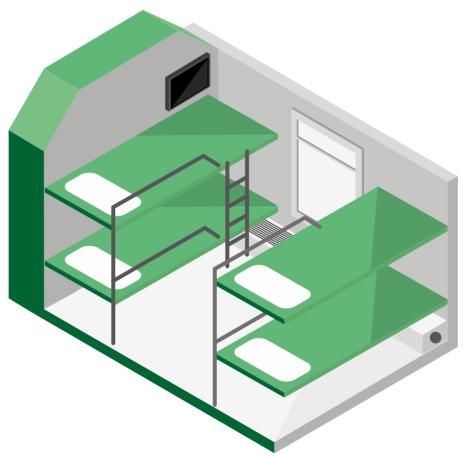
#### Post processing options

- cutting to smaller sizes on panel saws
- finishing of the edges straight and profiled, drilling, rutting, grooving in CNC Processing Centers

#### Main areas of application

- Interior surfaces of gangways-Type B
- Air ducts on locomotives
- Bottoms of couches and beds





### **Beech** plywood



Raw cross-grained beech plywood impregnated with fire retardant, made of veneers with the thickness of 1.5 mm. Suitable for covering with veneer and further processing. It meets the requirements concerning all fire hazard levels in accordance with the standard EN45545-2: HL1, HL2, HL3.

#### Type of bonding

**Exterior:** based on melamine-urea-phenol-formaldehyde resin (acc. to PN-EN 636, technical class EN 636-2, AW100).

STANDARD SIZES	1250x2500 mm, 1500x2500 mm
THICKNESS	12-30 mm
QUALITY CLASSES	II, III, IV PN-EN 635-2
DENSITY	700-950 kg/m3
RELEASE OF FORMALDEHYDE	E1
BONDING QUALITY	class 3
BIOLOGICAL DURABILITY	use class 2

### Hardwood plywood



Raw cross-grained hardwood plywood impregnated with fire retardant, made of veneers with the thickness of 1.5 mm. Suitable for covering with veneer and further processing. It meets the requirements concerning all fire hazard levels in accordance with the standard EN45545-2: HL1, HL2.

#### Type of bonding

**Exterior:** based on phenol-formaldehyde resin (acc. to PN-EN 636, technical class EN 636-2, AW100, BFU100).

STANDARD SIZES	1250x2500 mm, 1500x2500 mm, 1500x3000 mm*
THICKNESS	12-30 mm
QUALITY CLASSES	II, III, IV PN-EN 635-2
DENSITY	700 - 900 kg/m3
RELEASE OF FORMALDEHYDE	E1
BONDING QUALITY	class 3
BIOLOGICAL DURABILITY	use class 2

\* for 12-24 mm thickness

#### Fire Retardant

# Road Transportation Plywood



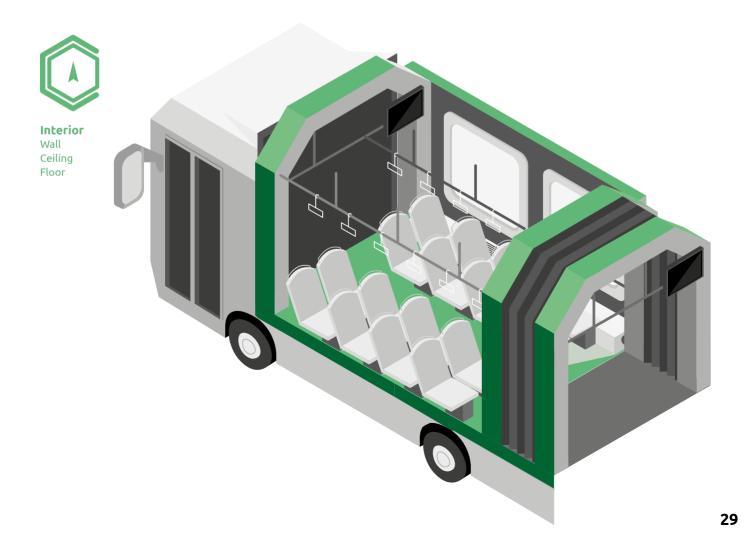
### **Plywood for Road Transportation**

PAGED Plywood FR for railway transport meets the requirements of the following regulations:

**The Regulations no. 118 of the United Nations Economic Commission for Europe –** Uniform technical prescriptions concerning the burning behaviour and/or the capability to repel fuel or lubricant of materials used in the construction of certain categories of motor vehicles.

**Part II** – Approval of a component with regard to its burning behaviour and/or its capability to repel fuel or lubricant installed in the interior compartment, the engine compartment or any separate heating compartment.

The material intended for either vertical or horizontal installation.



# PAGED BUS / Hardwood plywood



Raw hardwood plywood with hardwood face and core composed of 1.5 mm veneers.

#### Type of bonding

**Exterior:** based on phenol-formaldehyde resin (acc. to PN-EN 636, technical classes EN 636-2).

STANDARD SIZES	1500 x 3300; 1500 x 2500/3000; 1250 x 2500; 2500 x 1250; 1530 x 2230 mm
THICKNESS	6-40 mm
QUALITY CLASSES	I,II, III, IV PN-EN 635
DENSITY	640-760 kg/m3
RELEASE OF FORMALDEHYDE	E1
BONDING QUALITY	class 3
BIOLOGICAL DURABILITY	use class 2

# PAGED BUS Film / Hardwood plywood, film faced



Film faced hardwood plywood with hardwood face and core composed of 1.5 mm veneers.

#### Type of bonding

**Exterior:** based on phenol-formaldehyde resin (acc. to PN-EN 636, technical classes EN 636-2).

STANDARD SIZES	1500 x 3300; 1500 x 2500/3000; 1250 x 2500; 2500 x 1250; 1530 x 2230 mm
THICKNESS	6-40 mm
DENSITY	640-760 kg/m3
RELEASE OF FORMALDEHYDE	E1
BONDING QUALITY	class 3
BIOLOGICAL DURABILITY	use class 2

### COMBI hardwood plywood



Mixed hardwood plywood with hardwood face and softwood or hardwood core composed of 1.5 mm veneers.

#### Type of bonding

**Exterior:** based on phenol-formaldehyde resin (acc. to PN-EN 636, technical classes EN 636-2).

STANDARD SIZES	1500 x 3300; 1500 x 2500/3000; 1250 x 2500; 2500 x 1250; 1530 x 2230 mm
THICKNESS	6 – 40 mm
QUALITY CLASSES	E, I,II, III, IV PN-EN 635-2
DENSITY	580 - 700 kg/m3
RELEASE OF FORMALDEHYDE	E1
BONDING QUALITY	class 3
BIOLOGICAL DURABILITY	use class 2

### Softwood plywood



Softwood plywood with pine face and pine or hardwood core composed of 1.5 mm veneers.

Type of bonding

Exterior: based on melamine-urea-phenol-formaldehyde

resin (acc. to PN-EN 636, technical class EN 636-2).

STANDARD SIZES	2500x1250 mm, 2230x1530 mm, 2500/3000x1500 mm, 3300x1500 mm
THICKNESS	6 – 40 mm
QUALITY CLASSES	E, I,II, III, IV PN-EN 635-2
DENSITY	550 - 650 kg/m3
RELEASE OF FORMALDEHYDE	E1
BONDING QUALITY	class 3
BIOLOGICAL DURABILITY	use class 2

# PAGED PHONE / Hardwood plywood, film faced with rubber

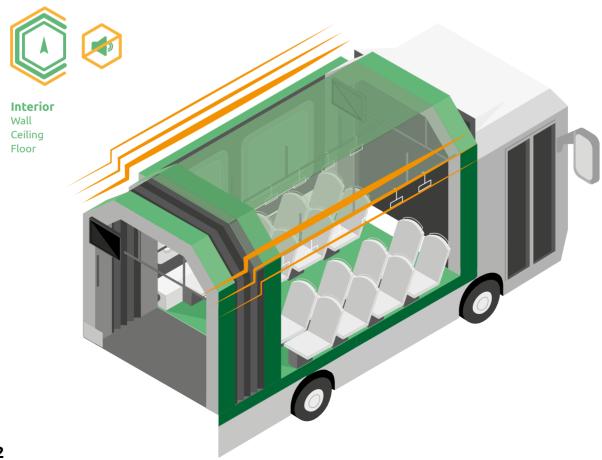


Plywood with rubber. Cross-grained hardwood plywood with the exterior plies made of birch or alder veneer. The interior plies can be made of birch or alder veneer. A rubber insert with the thickness of 2.5 or 3.5 mm is placed symmetrically in the middle ply. This type of plywood has sound deadening and vibration dampening properties.

#### Type of bonding

**Exterior:** : based on phenol-formaldehyde resin or melamine-urea-phenol-formaldehyde resin (acc. to PN-EN 636, technical class EN 636-2).

STANDARD SIZES	1500 x 3000; 1500 x 2500; 1250 x 2500 mm
THICKNESS	11-40 mm
DENSITY	950-1050 kg/m3
RELEASE OF FORMALDEHYDE	E1
BONDING QUALITY	class 3
BIOLOGICAL DURABILITY	use class 2





Sheets of plywood are piled up on single-decked pallets made up for panel size. Depending on client s requirements and means of transport packets are secured with foil, cardboard or with hardboard. All packets are banded with band, edges secured clips. The height of the palette is 12 cm. Standard packet heights are 80 cm and 40 cm (without palette). Number of pallets of certain thickness contained in single packet is shown in table below. There are forklift trucks being used for loading palletes. Vehicles collecting plywood should have possibility of side loading min. loading width - 2.48 m.

NUMBER OF PIECES ON ONE PACKET		
100		
90		
65		
50		
40		
35		
30		
25		
22		
20		
18		
15		

### Transport & Storing

#### **Transport**

During transport from manufacturer to customer, plywood shall be properly secured. Loading and unloading must be curried in such a way as to avoid damage of the panels. The carrier vehicle must protect the load against water, humidity and other atmospheric factors. Packets must be placed horizontally. Pallets ought to be securely strapped to the transport deck to exclude possibility of movement.

#### Storing

Plywood panels shall be stored horizontally. They should not be placed directly on the ground. One should avoid storing of

panels of different sizes, different wood types, and different glue bond on the same pile. The storage place for storing plywood should provide protection against direct exposure to water, excessive humidity, and drastic temperature changes.

TYPE OF	AVERAGE DENSITY	MAXIMUM LOAD VOLUME FOR SELECTED MEANS OF TRANSPORT		
PLYWOOD	PLYWOOD [kg /m³]	24- TON TRUCK	CONTAINER 20'	CONTAINER 40'
Birch / Alder	640 - 760	32 m³	16 - 17 m³	30 m³
Pine / Spruce	550 - 650	31 - 34 m³		
Beech	720 - 800	30 m³		
Film faced	680 - 760	32 m³		





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