



The Biofore Company

UPM

ENGINEERED STRUCTURAL PLYWOOD

WISA[®] -Sprucefloor

The total flooring solution



riba
product
selector

NSPlus

WISA-Sprucefloor is an engineered plywood flooring panel specifically designed for use in house building, light industrial and commercial applications. Superior technical properties – strength and stability – add up to a sustainable, lightweight and easy to use panel that stands the test of time.



Product Description

Construction

Slowly and naturally grown Nordic spruce produces consistently strong veneer of uniform quality. WISA-Sprucefloor is constructed of thick spruce veneers throughout. The face veneers are long grained.

Bonding

Weather resistant gluing according to EN 314-2/class 3 (Exterior).

Use Class

WISA-Sprucefloor plywood is intended for use in Use Classes 1 & 2 – *dry conditions and risk of wetting/humid conditions* respectively, as defined in BS EN 335:2013.

Structural properties and identification

WISA-Sprucefloor construction is as listed in BS 5268-2:2002. For normal domestic loadings to BS 6399:Part 1:1996, 18 mm thickness can be used up to 600 mm joist centres.

All WISA-Sprucefloor panels are CE marked EN636-2 S in accordance with EU Construction Product Regulation (CPR) and Harmonized standard EN 13986. Full structural properties can be found on the UPM Declaration of Performance: UPM006CPR.

See www.wisaplywood.com/dop.

Face grades and finish

Grade G/III in accordance with BS EN 635-3, G face with no open defects. Fully sanded finish on both sides.

Dimensions, packing and weights

WISA-Sprucefloor 600 TG4	18 mm	22 mm
Nominal and laid size/measure	2400 x 600 mm	2400 x 600 mm
Edge profile	TG4	TG4
Weight per board (at 10 % m.c)	12 kg	15 kg
Boards per pack	100	82
Laid per pack	97.92 m ²	80.64 m ²
Volume per pack	2.6 m ³	2.6 m ³
Weight per pack	1220 kg	1280 kg

CE 0416 03 UPM006CPR EN 13986 EN 636-2 S E1 WISA-SPRUCEFLOOR
3008 1296 THIS SIDE DOWN

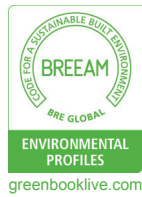
SUSTAINABLE CONSTRUCTION and the Environment

Origin of wood

UPM's WISA products are manufactured in Europe according to the strictest sustainability principles. Wood used in UPM's products comes from sustainably managed forests and from legal sources and conform to all relevant standards and regulations, including the European Union Timber Regulation (EUTR). All wood supplies are covered by a third-party verified chain of custody and UPM promotes all credible forest certification schemes, including the two major international schemes, PEFC™ and FSC®.

Environmental footprint

WISA-Sprucefloor is used in building elements for flooring structures and obtains A and A+ ratings as detailed in the BRE Green Guide to Specification. These help the builder to achieve the relevant code levels as required in the Code for Sustainable Homes. The Environmental profiles of WISA-Sprucefloor are listed on the BRE website greenbooklive.com or are available from UPM.



BREEAM

WISA-Sprucefloor fulfils the requirements of BREEAM Hea 9/Hea02 (VOC's).



Domestic flooring applications

WISA-Sprucefloor, laid to standard practice as a suspended floor at spans in the 300–600 mm range, will meet the loading requirements set by BS 6399:Part 1:1996 *Code of Practice for dead and imposed loads* for domestic flooring.

Span not exceeding (mm)	Recommended design load capacity					
		300	375	400	500	600
Maximum long term UDL (kN/m ²)	18 mm	43	31	24	17	11
	22 mm	63	46	35	25	16
Deflection at max long term UDL (mm)	18 mm	1.6	1.9	2.2	2.3	2.8
	22 mm	1.4	1.7	2.1	3.5	3.5

Notes: Loadings based on the following:

- Plywood will have a service life moisture content of 15 %.
- Plywood is laid with the face grain parallel to the span direction.
- Every panel spans a minimum of two bays.

CONCENTRATED POINT LOAD in accordance with Eurocode 5

The characteristic values are for a static concentrated load and mean stiffness according to EN 12871 for a structural floor and roof decking on joists.

The tested values are without safety factor calculations.

The concentrated load is located at the tongued and grooved joint which is the most vulnerable point.

Table: Static point load (50 x 50 mm²) values and impact resistance for WISA-Sprucefloor

Nominal thickness mm	Veneers/ layers	Span mm	Point load		Mean stiffness Rm kN/mm	Soft body impact Impact resistance
			Characteristic strength F _{ser} , k kN	Ultimate F _{ult} , k kN		
Floor decking						
18	7/7	400	3.4	5.0	0.68	Fulfilled
18	7/7	600	3.3	3.9	0.34	Fulfilled
22	9/9	400	4.7	7.2	0.98	Fulfilled
22	9/9	600	4.4	6.2	0.55	Fulfilled

Detailed technical information can be found in Declaration of Performance (DoP) UPM006CPR on wisaplywood.com/dop.

Technical properties

Fire properties

WISA-Sprucefloor, when used with various ceiling materials and constructions, as detailed in the Building Regulation 2006 Approved document B, the necessary fire rating for floor constructions can be obtained. When tested to the national standard BS 476:Part 7 Spread of flame Class 3 is achieved. This performance can be enhanced to Class 1/Class O (BS 476:part 6) by surface coatings*. WISA-Sprucefloor meets Euroclass D (EN ISO 13501-1), but performance can be enhanced to Class C/B by surface coating*.

WISA-Sprucefloor meets Euroclass DFL-s1 (EN ISO 13501-1).

Acoustic properties

WISA-Sprucefloor, when used as part of a flooring system, can achieve compliance with Part E of Schedule 1 of the building regulations 2013 resistance to the passage of sound. Further details available on request.



* UPM is not responsible for the performance of the treatments that are applied by a third party.

Purpose made
flooring panel –
strong, stable and
light in weight.





WISA-Sprucefloor MODEL SPECIFICATIONS

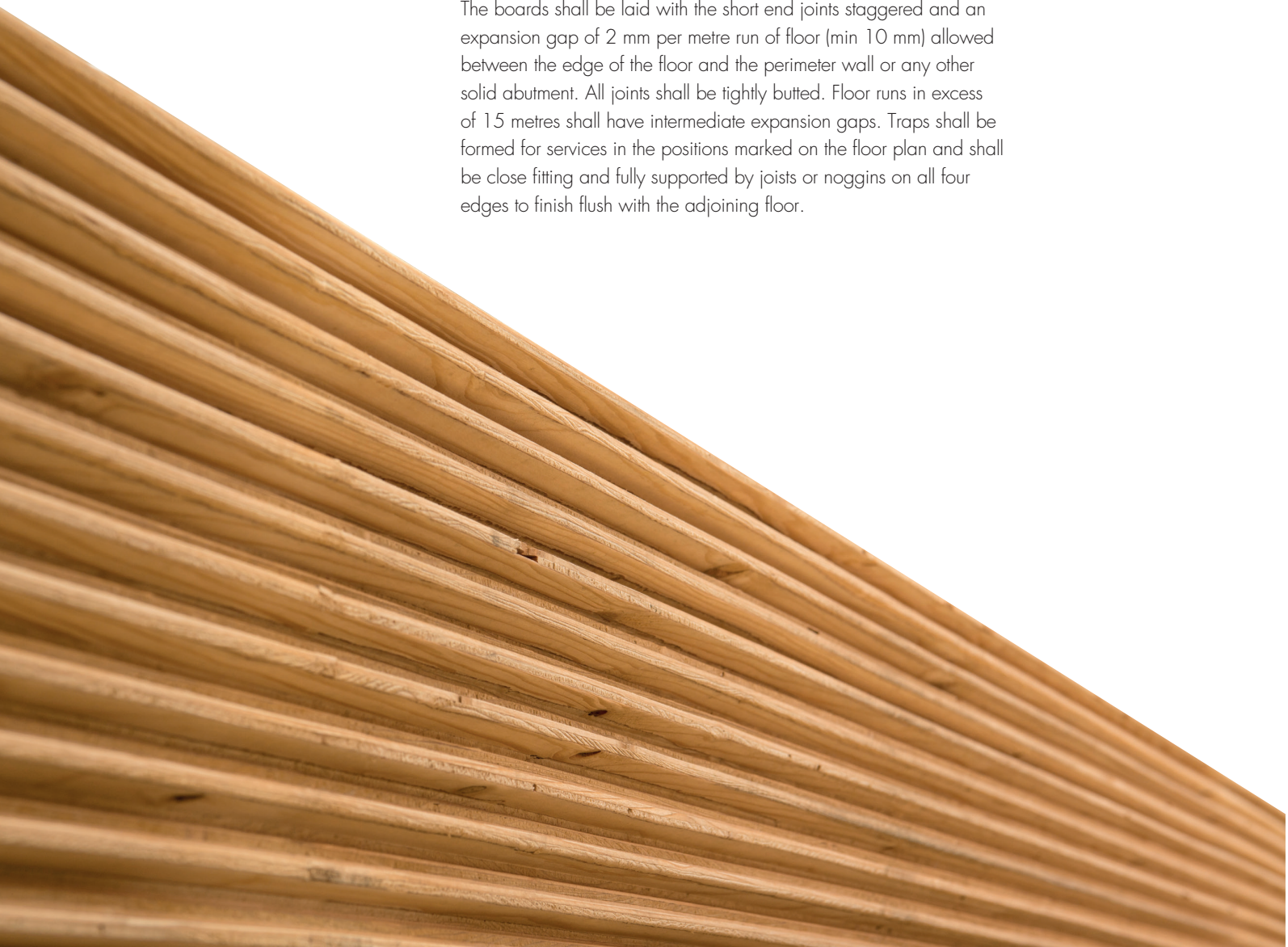
Joisted and battened floors

Joists/battens up to 600 mm centres. Floors shall be WISA-Sprucefloor tongued and grooved plywood of 18/22mm thickness, 2400 x 600 mm.

When delivered to site boards shall be stored in dry conditions, piled flat on a level surface, clear of the ground in such a manner that they are free from warping or distortion. Boards shall be loose laid for at least 24 hours before fixing.

Boards shall be laid with long edges at right angles to the joists. Short edges shall fall centrally on a joist and shall not cantilever. The perimeter of the floor shall be fully supported. The boards shall be nailed with annular ring shank nails to each joist. Nails to be minimum 2.5 times the board thickness in length.

The boards shall be laid with the short end joints staggered and an expansion gap of 2 mm per metre run of floor (min 10 mm) allowed between the edge of the floor and the perimeter wall or any other solid abutment. All joints shall be tightly butted. Floor runs in excess of 15 metres shall have intermediate expansion gaps. Traps shall be formed for services in the positions marked on the floor plan and shall be close fitting and fully supported by joists or noggins on all four edges to finish flush with the adjoining floor.





Floating floors

Floors shall be WISA-Sprucefloor tongued and grooved plywood of 18/22mm thickness, 2400 x 600 mm.

When delivered to site, boards shall be stored in dry conditions, piled flat on a level surface clear of the ground in such a manner that they are free from warping or distortion. Boards shall 'condition' on site by loose laying them individually in the area to be laid for at least 24 hours before fixing. The sub floor must be clean, dry, flat and free from surface water, projecting ribs and loose material.

Polythene sheet, minimum 1000 gauge thickness, or other approved vapour check, shall be laid on the subfloor. Any joints in the sheet shall be lapped and sealed on the upper side with an appropriate vapour resistant tape.

All services, pipes and ducts laid on the subfloor shall be completed and approved before laying the floor. The specified type and thickness of sound/ thermal insulant shall be laid with all joints tightly butted and closely fitted around all services, pipes and ducts. Installation of underfloor heating systems shall be done in such a manner to ensure heating pipes do not come into direct contact with the WISA-Sprucefloor.

WISA-Sprucefloor shall be laid directly onto the assembly and shall not be fixed to the subfloor. Cross joints shall be staggered. Boards shall be spot bonded to the underlying insulating material using a suitably compatible bonding agent. Wedges or other cramping pieces shall be used around the floor perimeter to keep the board joints tightly butted together until the bonding agent has cured.

An expansion gap of 2 mm per metre run of board, but not less than 10 mm, shall be allowed between the edge of the floor and perimeter walls or other abutments. This shall be maintained at all times. Floor runs in excess of 15 metres shall have intermediate expansion gaps.

At door openings, a threshold strip shall be inserted and supported by a batten resting directly on the subfloor and projecting 25 mm to form a bearing surface beneath adjacent boards. Access traps should be formed in the positions marked on the floor plan. They shall be close fitting and finish flush with the adjoining floor. Battens of appropriate thickness fixed to adjacent boards shall form a bearing for the trap which shall be fixed to them with suitable countersunk screws.

Note

Care must be taken to ensure the floor is sufficiently flat before applying any overlay. If necessary joints shall be lightly sanded prior to applying an overlay. This is particularly important in respect of vinyl coverings. The use of vinyl tiles or thin vinyl sheeting should be avoided.

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UPM Plywood
www.wisaplywood.com
www.upm.com

In partnership with



Falcon Panel Products Ltd
Clock House, Station Approach
Shepperton, Middlesex
TW17 8AN
E sales@falconpp.co.uk

Tilbury Depot	T. 01375 487 300	tilbury@falconpp.co.uk
Nottingham Depot	T. 0115 919 2000	nottingham@falconpp.co.uk
West Bromwich Depot	T. 0121 525 8844	westbrom@falconpp.co.uk
Haydock Depot	T. 01744 416 600	haydock@falconpp.co.uk
Leeds Depot	T. 0113 887 2222	leeds@falconpp.co.uk

www.falconpp.co.uk