

**DECLARATION OF PERFORMANCE, UPM PLYWOOD**

**No. UPM027CPR**

1. Unique identification code of the product-type:  
Structural spruce plywood, uncoated, 18–22 mm
2. Intended uses:  
For internal use as a structural component in dry conditions, EN 636-1  
For protected external use as a structural component in humid conditions, EN 636-2
3. Manufacturer:  
WISA®  
UPM Plywood Oy  
P.O. Box 203  
FI-15141 Lahti, Finland  
[www.wisaplywood.com](http://www.wisaplywood.com)
5. System of AVCP:  
AVCP system 1
- 6a. Harmonized standard:  
EN 13986:2004 + A1:2015  
EN 13501-1+A1

Notified body:

Inspecta Sertifiointi Oy No. 0416 Certificate of constancy of performance 0416-CPR-9606.



The Biofore  
Company

7. Declared performance:

Essential characteristics	Performance	Harmonized standard
Point load strength and stiffness	See attachment 1.	EN 13986:2004+A1:2015
Racking resistance	Calculation according to EN 1995-1-1	
Impact resistance	See attachment 1.	
Water vapour permeability $\mu$	Wet 66, dry 190	
	Mean density 460 kg/m <sup>3</sup>	
Release of formaldehyde	E1	
Content of pentachlorophenol (PCP)	≤ 5 ppm	
Airborne sound insulation	NPD	
Sound absorption $\alpha$	0,10/0,30	
Thermal conductivity $\lambda$	0,13 W/mK	
Embedment strength	Calculation according to EN 1995-1-1	
Air permeability	NPD	
Bonding quality (acc. to EN 314-2)	Class 3	
Biological durability	Use class 2	

Reaction to fire			
End use condition <sup>(6)</sup>	Minimum thickness (mm)	Class <sup>(7)</sup> (excluding floorings)	Class <sup>(8)</sup> (floorings)
Any	18	B-s1, d0	Bfl-s1

<sup>(6)</sup> A vapour barrier with a thickness up to 0,4 mm and a mass up to 200 g/m<sup>2</sup> can be mounted in between the wood-based panel and a substrate if there are no air gaps in between.

<sup>(7)</sup> Class as provided for in Table 1 of the Annex to Decision 2000/147/EC.

<sup>(8)</sup> Class as provided for in Table 2 of the Annex to Decision 2000/147/EC.

Nominal thickness		18	22	Harmonised standard EN 13986:2004+A1:2015
Number of plies		7	9	
Essential characteristics		Performance		
Characteristic bending strength N/mm <sup>2</sup>	$f_{m \parallel}$	20,2	19,1	
	$f_{m \perp}$	12,7	13,6	
Characteristic compression strength N/mm <sup>2</sup>	$f_{c \parallel}$	17,1	16,3	
	$f_{c \perp}$	12,9	13,7	
Characteristic tension strength N/mm <sup>2</sup>	$f_{t \parallel}$	10,3	9,8	
	$f_{t \perp}$	7,7	8,2	
Mean MOE in bending N/mm <sup>2</sup>	$E_{m \parallel}$	8131	7658	
	$E_{m \perp}$	3866	4342	
Mean MOE in compression and tension N/mm <sup>2</sup>	$E_{t,c \parallel}$	6857	6526	
	$E_{t,c \perp}$	5143	5474	
Char. panel shear N/mm <sup>2</sup>	$f_{v \parallel}$	3,5		
	$f_{v \perp}$	3,5		
Char. Planar shear N/mm <sup>2</sup>	$f_{r \parallel}$	1,0		
	$f_{r \perp}$	0,8		
Mean MOR in panel shear N/mm <sup>2</sup>	$G_{v \parallel}$	350		
	$G_{v \perp}$	350		
Mean MOR in planar shear N/mm <sup>2</sup>	$G_{r \parallel}$	54	52	
	$G_{r \perp}$	36	42	
Strength and stiffness under point load	Appendix 1			
Impact resistance	Appendix 1			
$k_{mod}$ and $k_{def}$ values according to EN 1995-1-1				

The performance of the product identified above is in conformity with the set of declared performances. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:

Lahti, Finland, April 1st, 2019



Riku Härkönen, Product Manager  
UPM Plywood

## CONCENTRATED POINT LOAD OF WISA®-SPRUCEFLOORFR PLYWOOD

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 mm<sup>2</sup>) values and impact resistance for WISA-Sprucefloor<sup>FR</sup>.

			Point load			Soft body impact
			Characteristic strength		Mean stiffness	
Nominal thickness mm	Veneers/ layers	Span mm	Serviceability F <sub>ser</sub> ' k	Ultimate F <sub>ult</sub> ' k	Rm kN/mm	Impact resistance
			kN	kN		
<b>Floor decking</b>						
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 properties: Please see DoP (Declaration of Performance) UPM027CPR on [www.wisaplywood.com/dop](http://www.wisaplywood.com/dop).