The Biofore Company UPM

UPM ProFi® Vision S1-25

Technical Specification

Material: UPM ProFi Vision boards utilize new digital technology that enables subtle and intricate colour tones that exquisitely match those found in nature. The new high performance coating material significantly outperforms traditional WPC boards in terms of fading, staining and scratch resistance. As with UPM ProFi Lifecycle deck boards, the core is made from heat treated, recycled American red and white oak fibres, encapsulated in a hard polymer matrix.

Structure: Solid profile made by extrusion technology

Physical and mechanical properties:

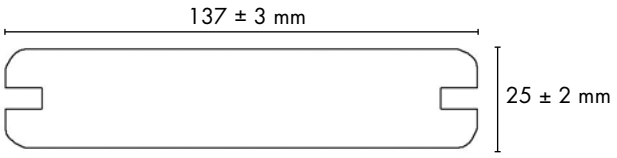
Property	Test method	Value
Density, g/cm^3		1
Falling mass impact, J (1 kg/1500 mm)	EN 477 *	No break (> 15)
Maximum allowable Uniform Live Load-Sleeper Mount, kN/m^2	ICC-ES AC 174 ASTM D7032 ASTM D6109	4.79
Maximum allowable Uniform Live load-joist mount, kN/m^2	ICC-ES AC 174 ASTM D7032 ASTM D6109	4.79
Modulus of Rupture, MN/m^2	ASTM D7032	17 **
Thermal expansion, 1/°C	ASTM D1037	3.6 x 10^{-5}
Coefficient of Friction	ASTM D2394	0.59/0.64 Static Dry Parallel/Perpendicular to grain
	ASTM D2394	0.92/0.84 Static Wet Parallel/Perpendicular to grain
Flame Spread	ASTM E84	Class "C" or Class III. Within the range of wood species commonly used for joists.
Modulus of Elasticity, MN/m^2	ASTM D7032, ICC-ES AC174	690 ***
	ASTM D7032	1,850 **
Water Absorption (24 h), %	EN 317 *	< 2.5

* (Based on CEN/TS 15534 wood plastic composites (WPC).)
** (Average value at ambient temperature. Not adjusted for temperature, freeze-thaw, UV exposure etc.)
*** (1. Value used to compute maximum allowable uniform live load for decking and railing applications. 2. Includes deductions for loss in stiffness due to temperature, UV exposure, and freeze-thaw cycles per ASTM D7032. 3. This value is given for informational purposes only and is NOT presented as a general design value.)

Profile dimensions: 25 mm x 137 mm; length 4.88 m; weight: 3.45 kg/m

Tolerances: The boards may have a slight curvature on one side due to the special production and natural cooling method.

Length: 4880 + 20 mm



Thermal expansion: UPM ProFi Vision will expand and contract with changes in temperature. The following table shows this effect over different temperature changes. The temperature change listed relates to the temperature of Vision material, not the air temperature. In strong sunshine, darker coloured boards will reach higher temperatures than lighter coloured boards. Also available are UPM ProFi Vision boards infused with CoolDeck™ technology which absorb up to 35% less heat than traditional WPC deck boards. On hot summer days, terraces made with CoolDeck™ will remain significantly cooler.

Thermal expansion/shrinkage of UPM ProFi Vision

Temperature change of board	mm expansion / shrinkage			
	1 m board	2 m board	3 m board	4 m board
10 °C	1	1	1	1
20 °C	1	1	2	3
30 °C	1	2	3	4
40 °C	1	3	4	6
50 °C	2	4	5	7
60 °C	2	4	6	9

Based on an expansion coefficient of 3.6 x 10^{-5} 1/°C.

Maintenance: UPM ProFi Vision requires no annual sanding, varnishing or staining. While most spills and stains can be wiped off easily, periodic cleaning with a jet wash is recommended (cf. cleaning instructions for UPM ProFi Vision).

Environment: 95 % of the materials used to manufacture the boards are recycled, including the oak fibres and plastic polymers. Giving these high quality materials a second life reduces landfill and waste incineration. No PVC is used in the manufacture of UPM ProFi Vision, and the material is itself fully recyclable.

UPM ProFi Vision is a durable, long-lasting alternative to conventional decking materials. They do not require paint or stains, therefore eliminating pollutants associated with those types of products.

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