

UPM ProFi® Deck Technical Specification

MATERIAL UPM ProFi is an environmentally innovative composite material that combines the best qualities of plastic and engineered fibers which fall as surplus by-products in self-adhesive label manufacture and processing. The material is virtually lignin free and contains no harmful chemicals.

STRUCTURE Hollow composite profile made by extrusion technology.

PROFILE DIMENSIONS	Standard mm	Standard Lengths m	Weight kg/m
Decking Board	28 x 150	4.0	2.7
Rail Step	28 x 110 x 68	4.0	2,8
Cover Strip	12 x 66	4.0	0.7
Support Rail	40 x 60	4.0	1.5

Custom lengths between 3.0 m & 7.0 m by request.
Actual length tolerances may vary from -2 mm upwards, subject to temperature.

PHYSICAL AND MECHANICAL PROPERTIES OF UPM PROFI DECK

Property	Test method	Typical value
Density, g/cm ³	EN ISO 1183*	1,1
Bending Strength, N/mm ²	EN 310*	13
Falling mass impact, J (1kg/1500mm)	EN 477*	No break (>15)
Surface Hardness (Brinell), N/mm ²	EN 1534*	28
Wear resistance (Taber 1000 r), mm	EN 438-2	0,06
Friction (wet / dry)	FSC 2000	0,54 / 0,83
Point load capacity	EN 1533	2600 N
Fire Class	EN 13501-1	E
Termite resistance (European termites)	EN 117	Resistant
Thermal Expansion Coefficient, 1/°C	ISO 11359-2*	4,0 x 10-5
Heat Transfer Coefficient, W/mK	ISO 8301	0,24
Water Absorption (24 h), %	EN 317*	< 2,5
Swelling, thickness (24 h), %	EN 317*	< 1

* Based on CEN/TS 15534 wood plastic composites (WPC).

The values above are characteristic values from quality tests and therefore not for strength calculations in the serviceability state.



**THERMAL EXPANSION:
INDICATIVE CHANGES IN LENGTH
AT DIFFERENT TEMPERATURES**

As with all composite decks, UPM ProFi Deck and its accessories made with UPM ProFi material will expand and contract with changes in temperature. The following table illustrates this effect over different temperature changes. The temperature change listed relates to the temperature of the UPM ProFi material, not the air temperature. In strong sunshine, darker coloured boards will reach higher temperatures than lighter coloured boards.

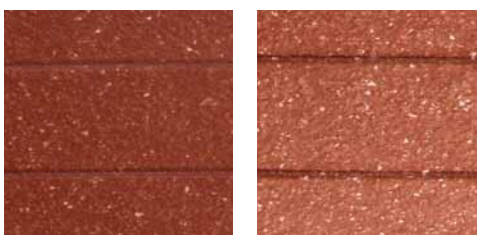
**THERMAL EXPANSION /
SHRINKAGE OF
UPM PROFI DECK**

Temp. change of board	mm expansion / shrinkage					
	1m board	2m board	3m board	4m board	5m board	6m board
10°C	0	1	1	2	2	2
20°C	1	2	2	3	4	5
30°C	1	2	4	5	6	7
40°C	2	3	5	6	8	10
50°C	2	4	6	8	10	12

Based on an expansion coefficient of 0.040 mm per 1° C per 1 m length. We recommend applying the same values for the UPM ProFi Alu Rail.

**COLOUR WEATHERING
AND MAINTENANCE**

Unlike conventional wpc and timber decks, UPM ProFi Deck is virtually lignin free, and will therefore not suffer from the usual "greying". Instead, over the years, the colours will fade slightly. The picture on the left gives an indication of the colour change that occurs during a three year simulation of climate conditions in Northern Europe. Cleaning with a jet hose or a normal hose and brush will help to maintain the colour. Such cleaning should be carried out periodically to ensure that surface is free of dirt and debris and that the space under the deck remains clear and able to drain water away effectively. UPM's unique high friction closed surface is very resistant to moisture absorption and therefore stains. If cleaned immediately after a spill, water is usually enough to remove all traces. Otherwise warm water, a household detergent and gentle brushing may be used.



BEFORE

AFTER

ENVIRONMENT

As there is no other significant re-cycling process for the label surplus material, the manufacture of UPM ProFi Deck actually reduces land-fill and waste incineration. The only added plastic is clean polypropylene. Production waste and off-cuts can be recycled into new UPM ProFi Deck. The material can also be disposed of with normal household waste for example to be converted into energy.

