

Characteristics and tests on Duofuse[®] wood composite

Description test	Conducted test	Value	Unit
Density at 20°C	EN ISO 1183-1:2006 Method A	1,39	g/cm ³
Vicat softening temperature	NBN EN ISO 306:2002 Method B	86,2	°C
Traction characteristics			
Traction at 23°C Yield stress	NBN ISO 527-2	35,8	N/mm ²
Modulus of elasticity	NBN ISO 527-2	6990	N/mm ²
Bending characteristics			
Flexural strength σ_b	ISO 178:2006	67,5	Mpa
Modulus of elasticity (Flexural test) E_b	ISO 178:2006	6460	Mpa
Brinell hardness	EN 1534:2002	111	HB
Linear modulus of elongation	ASTM D696	0,018	mm/m/°C
Stress grading	EN 350	1	
Verification of dimensional stability after immersion in water for 28 days			
	Maximum swelling in thickness	2,66	%
	Maximum elongation in length	0,31	%
Resistance to artificial weathering Xenon Alpha+	EN 513:2002 cycles with rain 18/102 PN-EN 20105-A02:1996	Colour change ≤ 2 on the grey scale	
Verification of dimensional changes under changes of humidity			
from 65% to 85%	PN-EN 1604:1999+A1:2006	0,093	%
from 65% to 30%	PN-EN 1604:1999+A1:2006	0,135	%

Characteristics and tests on Duofuse[®] decking

Description test	Conducted test	Value	Unit
Changes in length caused by internal tension	NBN EN 479	0,1	%
Coefficient of kinetic friction			
dry samples	BN-86/6781-02 PB LT-29	0,30/0,41	$\geq 0,24$
damped samples	BN-86/6781-02 PB LT-29	0,33/0,35	$\geq 0,12$
oiled samples	BN-86/6781-02 PB LT-29	0,09/0,26	$\geq 0,08$
Anti-slip characteristics	DIN 51130:2004 PB-LF 40	$\geq R11$	class
Abrasion resistance	EN ISO 5470-1:2001	933mg	≤ 1000
Fire reaction	EN 13501-1:2004	Cfl-S1	
Water absorption			
	EN 317:1999/Apl:2002 (23°C)		
	after 24 h	< 2	%
	after 28 days	< 3,5	%
Resistance to impact			
at temperature of 23°C - impact energy 5,0J	EN 950:2000	no damage	
at temperature of -23°C - impact energy 4,0J	EN 950:2000	no damage	
Bending properties			
Deflection under load of 1 kN span 400mm	EN 1533:2002	1,41	mm
Deflection under load of 1 kN span 500mm	EN 1533:2002	2,31	mm
Verification of resistance to permissible concentrated load	EN 12871:2004	No damage under loads of 1kN	

Maintenance



The Duofuse® decking is easy to clean and special cleaning products are not necessary. For normal maintenance a high pressure cleaner can be used (max. 80 bar). A mild cleaning product can be used. A rotating head is dissuaded. Grease stain and oil can be cleaned with a domestic degreasing agent. For persistent dirt, use a diluted bleach solution (25% bleach 10° and 75% water). Do not use solvent base materials. To keep a good drainage it is necessary to clean the space between each board.

In case of stains:

- 1 Removing the stain immediately: this is the best situation, the stain does not dry and penetrate the material. Clean with water and a mild soap solution.

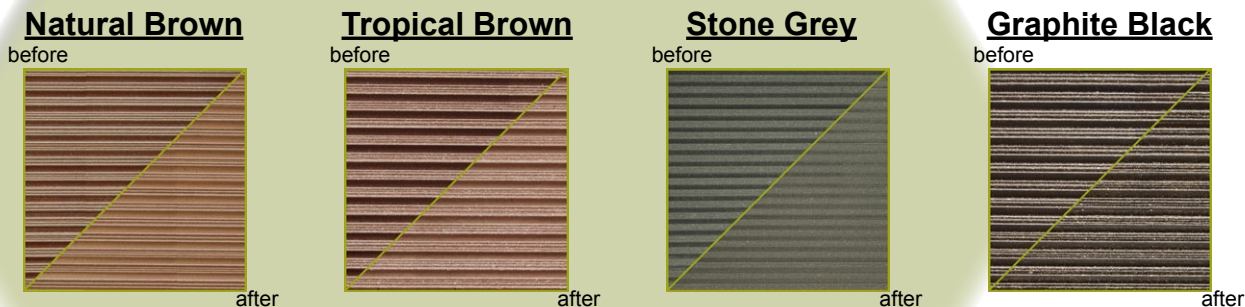
- 2 The stain isn't removed immediately: this is the worst situation, the stain can dry and penetrate the material. Thoroughly clean with high pressure cleaner. Scour in the direction of the grooves, the slight decolouration will even out in 6 to 10 weeks.

Colour saturation

After several days, the product will begin to fade slightly. This is a **temporary and a natural process** due to the leaking of the lignin. Afterwards the original colour is obtained again.

The reason is the wood composite material containing 50% PVC and 50% wood flour. Wood flour contains lignin in the cell wall and together with cellulose it determines the strength of wood. By sanding the surface during the manufacturing process, the wood fibres release the lignin and following exposure to UV light a slight discolouration occurs. In this early stage Stone Grey and Graphite Black get a yellow / green tint. The sun and rain loosen the lignin on the surface and a brown / yellow substance emerges. This substance is completely harmless and is responsible for the colour change. This may cause water circles or drip edges on the wood composite profiles. The more irrigated the boards, the faster the lignin disappears from the wall and after a few weeks / months, the original colour of the panels will be obtained. If you wish to speed up this process you can rinse the product regularly with water.

Boards that have started to fade can be perfectly positioned with boards that have not been subject to this discolouration process. Over time, all the boards will have the same even colour. Below is the original color with adjacent the final colour. There can be slight colour differences between different production series as 50% of the material is made of wood.



Warranty

Plastivan NV offers a 10 years warranty for all mechanical properties of the Duofuse® decking and against all ant and insect attacks. The warranty conditions are based on current knowledge and on a correct application of the product. Plastivan disclaims responsibility for damage caused by, or failure of, the product as a result of faulty installation caused by failure to follow the installation instructions that were available on the Plastivan website at the time of installation. Failure to follow these instructions will void Plastivan warranty. This warranty means we will replace damaged products. All works, withdrawing and replacing decking and related costs (e.g. transport costs) are excluded from warranty.