



Infinity **IS**

TECHNICAL DATA SHEET



Identification

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Product name: Fortress® Infinity™ co-extruded composite I-Series™ deck board
Product use: This product is primarily used for deck boards and other timber replacement items

Customer Care: 866-323-476
Email: CustomerCare@FortressBP.com

Technical data

The grooved deck board has narrow channels on either side of a rectangular profile. These grooves are designed to house the HULK hidden deck fasteners providing a clean and neat finish to the deck. This fixing system has been optimized to accommodate for expansion and contraction whilst firmly securing the board in place.



Profile properties	Measured value	Units	Notes
Width	135 x 25.5	mm	
Length			Varies
Mass per meter	3.19	kg/m	
Coverage	7.1	m/m ²	
Appearance			Planks are supplied in various colours and finishes

Mechanical properties (ASTM D6109)

Spans (mm)	350	400	450	500
Maximum load (kN)	5.5	4.9	4.2	3.7
Modulus of elasticity (MOE Mpa)	5449.2	5730.5	5753.8	5944.8
Modulus of rupture (MOR Mpa)	31.6	32.0	30.7	30.4
Total deflection (mm)	8,4	10.3	12.1	14.9
Loads at L/180 (kN)	1.38	1.26	1.06	0.96

Some decking installations require both grooved boards and square-edged boards or, more specifically, require an edge board with a single grooved side. An example of such installations that may require a square edge, grooved board and an edge board might be a picture frame—requiring a single grooved channel along the internal length of the grooved board, grooved boards for the body of the installation and a square-edged board for the front of the installation. This board is not only ideal to finish the edge of a deck, but for stair treads as well.



Profile properties	Measured value	Units	Notes
Width	135 x 25.5	mm	
Length			Varies
Mass per meter	3.09	kg/m	
Coverage	7.1	m/m ²	
Appearance			Planks are supplied in various colours and finishes

Mechanical properties (ASTM D6109)

Spans (mm)	350	400	450	500
Maximum load (kN)	N/A*	N/A*	3.38	N/A*
Modulus of elasticity (MOE Mpa)	N/A*	N/A*	5 387.96	N/A*
Modulus of rupture (MOR Mpa)	N/A*	N/A*	30.48	N/A*
Total deflection (mm)	N/A*	N/A*	12.56	N/A*
Loads at L/180 (kN)	N/A*	N/A*	0.70	N/A*

Based on internal testing. *Untested

Surface properties	Measured value	Units	Test standard	Notes
Value of residual indentation	0.08	mm	EN 15534-1:2014	Falling ball test
Maximum crack length	No crack	mm	EN 15534-1:2015	Falling ball test
Scratch resistance	20	N	FORD FLTM B0 162-01	
Colour fade - Tiger Cove	2.8	ΔE	EN 15534-1:2014	3000 hours testing
Gloss Change	0.1	%	EN 15534-1:2014	3000 hours testing
Finish V1				DIN equivalent rating (R11)
Slip resistance - Pendulum the with Grain	36		EN15534-1 EN15534-4	Pendulum (PTV , SRV) - Low moderate chance
Slip resistance - Pendulum te across Grain	33		EN15534-1 EN15534-4	Pendulum (PTV , SRV) - Low moderate chance
Abrasion	0.014 / 100	g/r	GB/T24137-2013	grams/rotation
Brinell hardness				Results pending
Cap delamination	60 / 50	N / mm	ISO 24345-2006	Average peel off - 5.32 mm (max allowable = 10mm)

The innovation of co-extruded technology resulted in the development of our Infinity® range. This advancement allowed for the cellulose-polymer composite to be wrapped in a protective cap, further improving the product's longevity. Fortress's® engineered polymer coat is loaded with a variety of additives that result in an extremely robust outer layer. This layer protects the products from weathering and biodegradation, even within particularly harsh conditions

Material properties

Core material					
Substance name	Approximate weight %	CAS #	Agency	Exposure limit	Note
Bamboo fibre	55 - 60	N/A	OSHA	PEL-TWA 15 mg per m	Total dust
				PEL-TWA 5 mg per m	Respiratory dust fraction
				TLV-TWA 3 mg per m	Respiratory dust fraction
				TLV-TWA 10 mg per m	Inhabitable particles
HDPE - Polyethylene	35 - 40	9002-99-4	N/A	N/A	Thermoplastic
Cap					
Information withheld					
Additional Additives					
Anti mould agent, coupling agent, uv stabilizers and colour pigments					Information withheld
REACH SVHC compliant					

Physical properties	Measured value	Units	Test standard	Notes
Linear thermal expansion coefficient	39.3 10 ⁻⁶	K ⁻¹	ASTM D6341	Temperature range of -20 °C to 60 °C
Bulk density	1390	kg/m ³		
Creep recovery	89	%	ASTM D7032	Average Recovery > 75 %
Flame spread index	110		ASTM E84	Requirement pass rate <=200
Smoke emissions	500		ASTM E84	
Water absorption after 24 hours %	0.2		EN 15534-1:2014	
Swelling after 24 hours	Thickness	0.1 %	EN 15534-1:2014	
	Width	0 %	EN 15534-1:2014	
	Length	0 %	EN 15534-1:2014	
Water absorption after 28 days	0.6	%	EN 15534-1:2014	Change in mass
Swelling after 28 days	Thickness	0.2 %	EN 15534-1:2014	
	Width	0 %	EN 15534-1:2014	
	Length	0.1 %	EN 15534-1:2014	
Termite resistance	Mass loss	0.02 %	ASTM D2017	Pass
	G.trabeum	Mass loss 0.77 %	ASTM D2017	Pass
	P.placenta	Mass loss 0.91 %	ASTM D2017	Pass
Fungal decay resistance	T.versicolor	Mass loss 0.90 %	ASTM D2017	Pass
	I.lacteus	Mass loss 0.91 %	ASTM D2017	Pass

Weathering effects and reduction factors (ASTM D 7032)

Physical properties	Differences (%)		Reduction factors (%)	
	Strength	Stiffness	Strength	Stiffness
High temperatures	96.80	90.30	0.97	0.90
Low temperatures	145.60	137.50	1.00	1.00
Moisture	108.30	108.50	1.00	1.00
UV Resistance	92.70	94.40	1.00	1.00
Freeze-thaw	104.80	100.70	1.00	1.00

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FortressBP.com | 866.323.4766 | 1720 N. 1st St., Garland, TX 75040



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