



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

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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 |
| Fungal decay resistance | G.trabeum | Mass loss 0.77 | % | ASTM D2017 | Pass |
| | P.placenta | Mass loss 0.91 | % | ASTM D2017 | Pass |
| | 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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