Natural.
Sustainable.
Smart.

Tiger Deck™

www.TigerDeck.com
Tiger Deck® Product Information

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To request contact information for your local distributor or more information about one of our products, please contact Tiger Deck’s Bob Hafner or Mike Gerstenberger:

**Bob Hafner**  
Office: 503-625-1747  
Cell: 503-780-2876  
bob@tigerdeck.com

**Mike Gerstenberger**  
Office: 208-623-3446  
Cell: 503-705-8075  
mike@tigerdeck.com

www.tigerdeck.com
Tiger Deck® is a complete hardwood decking system unlike any other. We combine naturally strong Astronium spp (Tigerwood) with our patented hidden fastening system to provide sustainable hardwood decking that is durable, easy to install, beautiful and low maintenance. Graded in the USA, Tiger Deck is rot-, decay-, and insect resistant. The decking requires no added surface treatments and can be allowed to age naturally.

We also offer Tigerwood siding, paneling, porch and flooring products.

We stand behind every product we sell with a 25-year limited warranty.

Tiger Deck is FSC™ Chain of Custody certified. The FSC Trademark is the mark of responsible forestry.

**Extremely Durable**

Tigerwood is naturally strong, hard and rot resistant. Through extensive R&D, Tiger Deck has taken the product even further, developing drying schedules and grading practices (including a US grade stamp on every deck board) that minimize the chance of cracking, cupping, or shrinking. Dried properly, this specie is extremely stable.

Tiger Deck products are dried to 8% +/- 3SD (2x2, 2x4, 2x6 and 4x4 are dried with the same schedule but yield a higher MC) and are graded in the USA to ensure a stable, consistent and beautiful product that will outlast typical North American softwood deck products by 2-3 times.

Joist spacing is graded 24” O.C. with 5/4 and 16” with 4/4 decking.
Hidden Fastening System
Tiger Deck is the only hardwood decking line with a patented hidden fastening system designed specifically for its deck boards. With two innovative clip designs and boards profiled to receive the stainless steel fasteners, Tiger Deck is fast and efficient to install, free from unsightly surface penetrations and maintains even spacing in various climatic and structural conditions.

The two stainless steel clip options are: A standard clip with legs that straddle a two inch joist and an angled clip to accommodate deck boards that are not perpendicular to the joist or joists wider than two inches. Clip usage is 1.7 clips/sq ft on 16” joist (4/4) and 1.3 clips/sq ft on 24” joist (5/4). Tiger Deck also provides its own stainless steel screw designed to fit the clip and provide strong holding power. Both are black oxide treated to remove the shiny stainless appearance.

Easy to Install and Low Maintenance
Once the deck foundation is in place, our hidden fastening system is fast, efficient and easy to use. The innovative clip design also makes deck boards easily accessible for repair or replacement, if necessary.

Each Tiger Deck board goes through a precise drying schedule and receives a US grade stamp to ensure extreme stability and a beautiful finish for numerous years with or without treatment. With no treatment at all, the color will age naturally from its natural state to a deeper red tone and eventually silver. UV protectant can be applied annually to maintain the hardwood’s striking color.
Sustainable
Tiger Deck is one of the most sustainable wood building materials available, based on the following criteria.

Fast Growing:
Tigerwood (Astronium spp.) is a member of the cashew-tree family, and grows very fast.

Long Life Cycle:
This tropical hardwood is naturally rot-, decay-, and insect-resistant. Additionally, our innovative drying schedules and US Grade stamp ensure an extremely durable and stable product that will last at least 25 years with or without UV protectant.

Responsibly Harvested:
We purchase raw Tigerwood from government agencies in Central and South America with land management plans based on selective and sustainable logging practices. Third party agencies such as the Forest Stewardship Council™ provide additional assurances. The suppliers we work with in these areas are required to submit detailed forest management plans prior to harvesting. These plans identify trees by specie and allow for selective harvesting. Seed trees and trees under a certain diameter are left behind to keep the cycle of growth healthy. In some cases government agencies require companies to replant areas that have been cleared in the past.

Recyclable:
Like all vegetable matter, this naturally rot-resistant wood specie can be recycled.
Properties Overview
Dimensional Stability: Stable, minimal checking and warping
Maintenance: Low
Fire Rating (NFPA): Independent fire rating tests verify NFPA Class 1 rating
Resistance to Insects & Decay: High
Movement in Service: Low
Weight in Lbs. (CU. FT): 50-55 lbs
Specific Gravity: .76-.85
Hardness (Janka Lbs.): 2,160
Slip Tests: Independent slip tests exceed OSHA hazardous footing guidelines (wet & dry)
Physical and Mechanical Properties

<table>
<thead>
<tr>
<th>Source or Method</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bending Strength (psi @ 12%)</td>
<td>USDA Forest Service</td>
</tr>
<tr>
<td>Modulus of Elasticity (1000 psi @ 12%)</td>
<td>USDA Forest Service</td>
</tr>
<tr>
<td>Maximum Crushing Strength (psi @ 12%)</td>
<td>USDA Forest Service</td>
</tr>
<tr>
<td>Janka Side Hardness (Dry)</td>
<td>USDA Forest Service</td>
</tr>
<tr>
<td>Weight (Green)</td>
<td>USDA Forest Service</td>
</tr>
<tr>
<td>Density (Oven Dry/Green Volume – Air Dry Wt)</td>
<td>USDA Forest Service</td>
</tr>
<tr>
<td>Radial Shrinkage (Green to Oven Dry)</td>
<td>USDA Forest Service</td>
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<tr>
<td>Tangential Shrinkage (Green to Oven Dry)</td>
<td>USDA Forest Service</td>
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<tr>
<td>Volumetric Shrinkage (Green to Oven Dry)</td>
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</tr>
<tr>
<td>Coefficient of Friction (Dry)</td>
<td>ASTM F1679</td>
</tr>
<tr>
<td>Coefficient of Friction (Wet)</td>
<td>ASTM F1679</td>
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<td>Durability—Fungi</td>
<td>USDA Forest Service</td>
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<tr>
<td>Durability—Dry Wood Borers</td>
<td>USDA Forest Service</td>
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<td>Durability—Termites</td>
<td>USDA Forest Service</td>
</tr>
<tr>
<td>Permeability</td>
<td>USDA Forest Service</td>
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<tr>
<td>Sawing &amp; Machining</td>
<td>Sawtooth Recommended</td>
</tr>
<tr>
<td>Knife Cutting Angle</td>
<td>Tungsten Carbide</td>
</tr>
<tr>
<td>15 Degrees</td>
<td></td>
</tr>
<tr>
<td>Nailing / Screwing</td>
<td>Pre-boring Recommended</td>
</tr>
<tr>
<td>Gluing</td>
<td>Use glues with longer open time such as exterior or woodworkers white glue</td>
</tr>
</tbody>
</table>
### Solid Wood Decking Load Table: Tiger Deck 4/4 (net 3/4”)

<table>
<thead>
<tr>
<th>Joist Spacing (inches)</th>
<th>Allowable Load (PSF)</th>
<th>Maximum Deflection</th>
<th>Maximum Flexural Stress (psi)</th>
<th>Deflection L/Span</th>
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<tr>
<td>12</td>
<td>40</td>
<td>0.00043</td>
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<td>16</td>
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<td>0.00137</td>
<td>104</td>
<td>L/11685</td>
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<tr>
<td>19.2</td>
<td>40</td>
<td>0.00284</td>
<td>149</td>
<td>L/6762</td>
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<tr>
<td>24</td>
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<td>L/3482</td>
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<td>16</td>
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<td>155</td>
<td>L/7790</td>
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<td>19.2</td>
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<td>0.00426</td>
<td>224</td>
<td>L/4508</td>
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<tr>
<td>24</td>
<td>60</td>
<td>0.01040</td>
<td>350</td>
<td>L/2308</td>
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<td>16</td>
<td>90</td>
<td>0.00308</td>
<td>233</td>
<td>L/5193</td>
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<tr>
<td>19.2</td>
<td>90</td>
<td>0.00639</td>
<td>336</td>
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<td>24</td>
<td>90</td>
<td>0.01560</td>
<td>524</td>
<td>L/1539</td>
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### Solid Wood Decking Load Table: Tiger Deck 5/4 (net 15/16”)

<table>
<thead>
<tr>
<th>Joist Spacing (inches)</th>
<th>Allowable Load (PSF)</th>
<th>Maximum Deflection</th>
<th>Maximum Flexural Stress (psi)</th>
<th>Deflection L/Span</th>
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</thead>
<tbody>
<tr>
<td>12</td>
<td>40</td>
<td>0.00022</td>
<td>37</td>
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<tr>
<td>16</td>
<td>40</td>
<td>0.00070</td>
<td>66</td>
<td>L/22822</td>
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<td>19.2</td>
<td>40</td>
<td>0.00145</td>
<td>95</td>
<td>L/13207</td>
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<tr>
<td>24</td>
<td>40</td>
<td>0.00355</td>
<td>148</td>
<td>L/6762</td>
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<td>12</td>
<td>60</td>
<td>0.00033</td>
<td>58</td>
<td>L/38085</td>
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<td>16</td>
<td>60</td>
<td>0.00105</td>
<td>99</td>
<td>L/15215</td>
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<tr>
<td>19.2</td>
<td>60</td>
<td>0.00218</td>
<td>143</td>
<td>L/6805</td>
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<tr>
<td>24</td>
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<td>0.00532</td>
<td>224</td>
<td>L/4508</td>
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<tr>
<td>12</td>
<td>90</td>
<td>0.00050</td>
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<td>0.00327</td>
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<td>24</td>
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<td>0.00799</td>
<td>335</td>
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</table>
# Decking Product Specifications

<table>
<thead>
<tr>
<th>Decking Products Pulled to Length</th>
<th>Nominal Size</th>
<th>NET Thick</th>
<th>NET Width</th>
<th>Lengths Available</th>
<th>WCLIB grade Target</th>
<th>Notes grade/quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tiger Deck</td>
<td>1X4</td>
<td>0.719</td>
<td>3.438</td>
<td>8'-20'</td>
<td>Premium R.E.D.</td>
<td>B&amp;Btr Clear Face</td>
</tr>
<tr>
<td>Tiger Deck</td>
<td>5/4X4</td>
<td>0.938</td>
<td>3.438</td>
<td>8'-20'</td>
<td>Premium R.E.D.</td>
<td>B&amp;Btr Clear Face</td>
</tr>
<tr>
<td>Tiger Deck</td>
<td>1X6</td>
<td>0.719</td>
<td>5.438</td>
<td>6'-20'</td>
<td>Premium R.E.D.</td>
<td>B&amp;Btr Clear Face</td>
</tr>
<tr>
<td>Pure FSC Tiger Deck</td>
<td>1X6</td>
<td>0.719</td>
<td>5.438</td>
<td>6'-20'</td>
<td>Premium R.E.D.</td>
<td>B&amp;Btr Clear Face</td>
</tr>
<tr>
<td>Tiger Deck</td>
<td>5/4X6</td>
<td>0.938</td>
<td>5.438</td>
<td>6'-20'</td>
<td>Premium R.E.D.</td>
<td>B&amp;Btr Clear Face</td>
</tr>
<tr>
<td>Pure FSC Tiger Deck</td>
<td>5/4X6</td>
<td>0.938</td>
<td>5.438</td>
<td>6'-20'</td>
<td>Premium R.E.D.</td>
<td>B&amp;Btr Clear Face</td>
</tr>
<tr>
<td>S4SE4E Trim</td>
<td>1x6</td>
<td>0.750</td>
<td>5.500</td>
<td>6'-10'</td>
<td>C&amp;Btr Clear</td>
<td></td>
</tr>
<tr>
<td>S4SE4E Trim/Step</td>
<td>5/4x6</td>
<td>1.000</td>
<td>5.500</td>
<td>6'-10'</td>
<td>C&amp;Btr Clear</td>
<td></td>
</tr>
<tr>
<td>S4SE4E Facia/Step Risers</td>
<td>5/4X8</td>
<td>0.906</td>
<td>7.125</td>
<td>6'-20'</td>
<td>Cface1edge</td>
<td></td>
</tr>
<tr>
<td>S4SE4E Facia</td>
<td>5X4X10</td>
<td>0.906</td>
<td>9.125</td>
<td>6'-20'</td>
<td>Cface1edge</td>
<td></td>
</tr>
<tr>
<td>S4SE4E Stepping/Jacks</td>
<td>5/4X12</td>
<td>0.906</td>
<td>11.125</td>
<td>6'-20'</td>
<td>Cface1edge</td>
<td></td>
</tr>
<tr>
<td>Profiled Hand (Cap) Rail</td>
<td>5/4X6</td>
<td>0.938</td>
<td>5.375</td>
<td>6'-16'</td>
<td>Cface2edges</td>
<td>3 9/16&quot; Plow</td>
</tr>
<tr>
<td>Profiled (Fits to Cap) Subrail</td>
<td>5/4X4</td>
<td>0.938</td>
<td>3.438</td>
<td>6'-16'</td>
<td>C&amp;Btr Clear</td>
<td>1 1/2&quot; Plow</td>
</tr>
<tr>
<td>S4SE4E Balusters (Subrail Fit)</td>
<td>5/4X2</td>
<td>1.438</td>
<td>1.438</td>
<td>3', 4', 6-12'</td>
<td>C&amp;Btr Clear</td>
<td>Graded 4 Sides</td>
</tr>
<tr>
<td>S4SE4E Balusters (Subrail Fit)</td>
<td>2X2</td>
<td>1.438</td>
<td>1.438</td>
<td>3', 4', 6-12'</td>
<td>C&amp;Btr Clear</td>
<td>Graded 4 Sides</td>
</tr>
<tr>
<td>S4SE4E RAIL (subrail or cap fit)</td>
<td>2X4</td>
<td>1.438</td>
<td>3.438</td>
<td>6'-16'</td>
<td>C&amp;Btr Clear</td>
<td>Graded 4 Sides</td>
</tr>
<tr>
<td>S4SEE Rail/Joist</td>
<td>2X6</td>
<td>1.438</td>
<td>5.438</td>
<td>6'-16'</td>
<td>C&amp;Btr Clear</td>
<td>Graded 4 Sides</td>
</tr>
<tr>
<td>S4SEE Posts (Hand Rail Cap Fit)</td>
<td>4X4</td>
<td>3.438</td>
<td>3.438</td>
<td>4'-16'</td>
<td>Select Str</td>
<td>Kiln Dried</td>
</tr>
<tr>
<td>Tiger Deck Clips</td>
<td>170/Box</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extra Bag of Screws</td>
<td>170/Bag</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tiger Deck Wood Plugs</td>
<td>100/Bag</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
- 1 Face 2 Edges
- D+Ind Clear Back
- Odd/Even Lengths
- Graded 4 Sides
- Kiln Dried

Return to Table of Contents
### Other Product Specifications

<table>
<thead>
<tr>
<th>Paneling/Ceiling/Molding Porch &amp; Interior Floor</th>
<th>Nominal Size</th>
<th>NET Thick</th>
<th>NET Width</th>
<th>Lengths Available</th>
<th>WCLIB grade Target</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profiled Lineal Molding</td>
<td>1X3</td>
<td>0.438</td>
<td>3.875</td>
<td>6’-20’</td>
<td>C&amp;Btr Clear</td>
<td>2” Mults to Length</td>
</tr>
<tr>
<td>Reversible Beaded-V Groove</td>
<td>1X4</td>
<td>0.719</td>
<td>4.500</td>
<td>3’ &amp; 4’ Only</td>
<td>C Ceiling</td>
<td>Odd/Even Lengths</td>
</tr>
<tr>
<td>T&amp;G Porch</td>
<td>1X4</td>
<td>0.703</td>
<td>3.125</td>
<td>7’, 8’, 9’, &amp; 10’</td>
<td>C&amp;Btr Floor</td>
<td>8’, 9’ &amp; 10’</td>
</tr>
<tr>
<td>T&amp;G Porch</td>
<td>1X6</td>
<td>0.703</td>
<td>5.125</td>
<td>7’, 8’, 9’, &amp; 10’</td>
<td>C&amp;Btr Floor</td>
<td>Separate</td>
</tr>
</tbody>
</table>
5/4 TIGER DECK

4/4 TIGER DECK

DETAIL A

DETAIL B

ALL DIMS: DECIMAL INCHES

DRAWN
JDR
DATE
11/01/09

CHECKED

QA

MFG

APPROVED

SCALE
1:1

4/4 & 5/4 Profiles
Deck Board Sections

002TW-00

1 of 2
ALL DIMS: DECIMAL INCHES

5' 4 TIGER DECK

4 / 4 TIGER DECK

Detail A

Detail B

5 / 4 & 4 / 4 Profiles
Knife Details

DRAWN

DATE

11/01/09

CHECKS

QA

5 / 4 & 4 / 4 Profiles
Knife Details

MFG

SIZE

500TW-00

FSCM NO.

002TW-00

APPROVED

REV

A

APPROVED

SCALE

1:0.75

SHEET

Sheet 2 of 2

NOTE CHG TO BOTTOM BLADE DIM TO 0.368
A decking system and clip apparatus used therein are provided. According to one aspect of the invention, the clip apparatus typically includes a top portion and a pair of lateral projections extending from opposite sides of the top portion. Each lateral projection is configured to contact a respective decking member, thereby maintaining a pre-defined distance between the decking members. The clip apparatus further typically includes a pair of spaced-apart downward projections extending downward from the top portion, the downward projections being separated by a visual size to receive the joist.

12 Claims, 2 Drawing Sheets
DECKING SYSTEM WITH CLIP APPARATUS

Inventor: Robert Hafner, 54202 SW South Ranch Rd., Newberg, OR (US) 97132

Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 584 days.

This patent is subject to a terminal disclaimer.

Appl. No.: 11/090,936
Filed: Mar. 23, 2005

Prior Publication Data
US 2006/0217193 A1 Oct. 6, 2005

Related U.S. Application Data
Continuation of application No. 10/603,399, filed on Jan. 24, 2003, now Pat. No. 6,871,467.
Provisional application No. 60/408,701, filed on Sep. 6, 2002.

Int. Cl.
E06B 3/54 (2006.01)
E04B 2/30 (2006.01)
E04B 2/00 (2006.01)
E04C 5/00 (2006.01)

U.S. Cl. 52/582.1; 52/586.1; 52/489.1; 52/480

Field of Classification Search 52/489.1; 52/489.2; 52/489.1; 52/489.2; 52/489.2; 52/489.2; 52/489.2; 52/489.2; 52/489.2;

See application file for complete search history.

References Cited
U.S. PATENT DOCUMENTS
D316,455 S 10 1979 Wilson D38,395
3,506,660 A 6 1971 Dickel 248,345
3,714,747 A 2 1973 Cunn 52,349.2
3,195,290 A 5 1965 Panza 52,922

Abstract
A decking system and clip apparatus used therein are provided. According to one aspect of the invention, the clip apparatus typically includes a top portion and a pair of lateral projections extending from opposite sides of the top portion. Each lateral projection is configured to contact a respective decking member, thereby maintaining a predetermined distance between the decking members. The clip apparatus further typically includes a pair of spaced-apart downward projections extending downward from the top portion, the downward projections being separated by a void sized to receive the joint.

5 Claims, 2 Drawing Sheets
Standard Method of Test for
Surface Burning Characteristics of Building Materials
ASTM E 84-05

1 x 6 Tiger Wood Deck

Report Number 05-050b1
Test Number 3676-6094
May 3, 2005

Tiger Deck, LLC
Wilsonville, Oregon

Commercial Testing Company is accredited for the ASTM E 84 test by the United States Department of Commerce, National Institute of Standards and Technology (NIST), through the National Voluntary Laboratory Accreditation Program (NVLAP) for compliance with criteria set forth in NIST Handbook 150-2901, all requirements of ISO/IEC 17025:1999, and relevant requirements of ISO 8602:1994.

Commercial Testing Company

This report is provided for the exclusive use of the client to whom it is addressed. It may be used in its entirety to gain product acceptance from duly constituted authorities. The test results presented in this report apply only to the samples tested and are not necessarily indicative of apparent identical or similar materials. Sample selection and identification were provided by the client. A sampling plan, if described in the referenced test procedure, was not necessarily followed. This report, or the name of Commercial Testing Company, shall not be used under any circumstances to advertising to the general public.

TESTED TO BE SURE*

*since 1974
ASTM E 84 TEST DATA

Client: Tiger Deck, LLC
Test Number: 3678-6094
Material Tested: 1 x 6 Tiger Deck
Date: May 3, 2005

Test Results:
- Time to Ignition = 00:07 minutes
- Maximum Flamespread Distance = 09.88 feet
- Time to Maximum Spread = 08.72 minutes
- Flame Spread Index = 45
- Smoke Developed Index = 70
Standard Method of Test for
Critical Radiant Flux of Floor-Covering Systems
Using a Radiant Heat Energy Source

ASTM E 648–03

Imported Hardwood, Astronium Graveolens

Report Number 04–07216
Test Number 3585–1879
July 19, 2004

Tiger Deck, LLC
Wilsonville, Oregon


Jonathan Jackson
(Authorized Signature)

This report is provided for the exclusive use of the client to whom it is addressed. It may be used in its entirety to gain product acceptance from duly constituted authorities. The test results presented in this report apply only to the samples tested and are not necessarily indicative of apparent identical or similar materials. Sample selection and identification were provided by the client. A sampling plan, if described in the referenced test procedure, was not necessarily followed. This report, or the name of Commercial Testing Company, shall not be used under any circumstance in advertising to the general public.

TESTED TO BE SURE®
Since 1974
TABLE I. FLOORING SYSTEM

**Flooring:**
- Identification: Imported Hardwood, Astronium Graveolens
- Type Flooring: Hardwood Tongue/Groove Flooring
- Color: Natural
- Plank Size: 5-1/2 inches wide by 3/4 inch thick

**Flooring System:**
- Installation: The flooring planks were assembled into T/G decks using three (3) 1/2-inch by 1-inch battens attached with 4d coated nails, two per plank.
- Subfloor: Simulated Concrete (Reinforced Cement Board)

### TABLE II. TEST RESULT

<table>
<thead>
<tr>
<th>Test Data</th>
<th>#1</th>
<th>#2</th>
<th>#3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Burn Distance (cm)</td>
<td>8.0</td>
<td>11.1</td>
<td>9.6</td>
</tr>
<tr>
<td>Time to Flame Out (min)</td>
<td>10.5</td>
<td>10.5</td>
<td>10.6</td>
</tr>
<tr>
<td>Critical Radiant Flux (W/cm²)</td>
<td>&gt;1.08</td>
<td>1.06</td>
<td>&gt;1.08</td>
</tr>
</tbody>
</table>

**Average Critical Radiant Flux**

>1.08 W/cm²

**NFPA 101 Classification**

Type I

### TYPICAL FLUX PROFILE

Chamber Operating Conditions:
- Panel Temperature — 500°C
- Gas Flow — 0.18 CMH Propane
- Air Flow — 690 SCFH
- Heat Flux Transducer: Medtherm Model 64-2-20
Slip-Resistance Assessment of Tiger Deck™ Hardwood Decking

Issued: September 5, 2003
### Discussion of Results:

The product demonstrated excellent slip-resistant properties when dry. In eight of the twenty-four measurements taken, a slip could not be created with the VIT. The lowest value for slip-resistance was 0.81. Most values approached unity.

Wet testing demonstrated results exceeding the recognized threshold of safety (0.50) in all but two of the twenty-four measurements. There also appeared to be individual variation between the pieces tested with one piece showing improved slip-resistance in comparison to the other. This individual variation in a natural product is to be expected. An average slip-resistance value provided by this test provides a reasonable estimation for this product. None of the values individually exceeded three standard deviation units from the average reported value.
The other notable and perhaps expected finding is that the material shows some directionality in slip resistance. In nearly all tests the east-west testing direction resulted in values higher than the north-south directional testing. In other words, slip resistance across the grain is greater than with the grain.

The material performed well in either direction. However, if there is a known travel direction, it may be best to install the material so that pedestrian travel occurs in the east-west direction (against the grain) when possible. It would seem that this would be the most common installation orientation as a deck material. The average directional variation ranged from 0.09 (dry) to 0.12 (wet).

Qualifications and Credentials:

Steven D. High of High Safety Consulting Services, Ltd. conducted all tests and developed this report. Mr. High has been involved in the safety and health field since 1988 and is a member of the ASTM F-13 Committee. He holds a B.S. in Business Administration from Elizabethtown College (1986) and a M.S. in Sciences Sciences at the Indiana University of Pennsylvania, with a thesis in sticktion as a function of residence time on drag-sled devices. Mr. High is certified as an XL tribometrist (CXLT) (Certificate No: F0202-0891) He is a board certified safety professional (CSP) (Certificate No:12394 ). Mr. High also completed coursework and testing obtaining the designation Associate in Risk Management (ARM) by the Insurance Institute of America. He is a recognized accident and illness prevention provider by the State of Pennsylvania and is currently certified as an Emergency Medical Technician. (#012414). Mr. High is an authorized OSHA instructor for both general industry and construction and has taught thousands of students in occupational safety topics.

He has been employed as a Safety Specialist, Safety & Training Coordinator, Corporate Manager of Safety, Industrial Hygiene, and Environmental Services. Currently Mr. High is the President of High Safety Consulting Services, Ltd. (HSCSL), an affiliate of High Industries, Inc. HSCSL provides slip-resistance testing services, indoor air quality assessments, compliance surveys, safety training, noise monitoring and abatement design, and general consultation services.
TO: CUSTOMERS OF TIGER DECK, LLC

Recent revision in the OSHA Hazard Communication Standard require that we supply a wood dust label and a Wood Dust Material Safety Data Sheet (MSDS) to our wood product customers. The OSHA standard requires that we advise downstream generators of wood dust of the potential hazards. Our products do not contain significant amounts of wood dust, but in downstream processing of our products, i.e. sawing, sanding, chaining or drilling, wood dust generation is possible.

Enclosed you will find current Material Safety Data Sheets and label.
TIGER DECK DUST LABEL

WOOD DUST / SAW DUST

FLAMMABLE

SAWING, SANDING OR MACHINING WOOD PRODUCTS CAN PRODUCE WOOD DUST WHICH CAN CAUSE AN EXPLOSIVE DUST CLOUD.

PROLONGED SKIN CONTACT MAY CAUSE ALLERGIC RESPONSE.

PROLONGED INHALATION MAY CAUSE RESPIRATORY IRRITATION.
TRADE NAME  Wood Dust, Tigerwood

SYNONYMS  Astronium Lecointei
           Astronium Graveolens
           Astronium Fraxinifolium
           Astronium Urundeuva
           Astronium Balansae

CASE NO.  None

DESCRIPTION

Particles generated by any manual or mechanical cutting or abrasion process performed on wood.

PHYSICAL DATA

Boiling Point ................................................. Not Applicable
Specific Gravity ............................................. .75 - .79
Vapor Density ............................................... Not Applicable
% Volatiles By Vol........................................ Not Applicable
Melting Point .............................................. Not Applicable
Vapor Pressure ............................................ Not Applicable
Solubility in H2O (% By Wt.) ......................... Insoluble
Evaporation Rate (Butyl Acetate + 1) .......... Not Applicable
pH .............................................................. Not Applicable
Appearance and Odor .................................. Light orange to reddish brown with black streaks.
                                                  No odor

FIRE AND EXPLOSION DATA

Flash Point .............................................. Not Applicable
Autoignition Temperature .......................... Variable (typically 400 - 500° F)
Explosive Limits in Air ............................. 40 grams/m³
Extinguishing Media ................................. Water, CO2, Sand
Special Fire Fighting Procedures ............... Use water to wet down wood dust to reduce the likelihood of ignition or dispersion of dust into the air. Remove burned or wet dust to open after fire is extinguished.
Unusual Fire and Explosion Hazard.............. Wood dust is a strong to severe explosion hazard if a dust “cloud” contacts an ignition source.

HEALTH EFFECTS INFORMATION

Exposure Limit .............................................. ACGIH TLV(R)
: TWA - 1.0 mg/m³

See footnote below concerning OSHA PELs for wood dust

Skin and Eye Contact .................................... Wood dust can cause eye irritation. Various species of wood dust can elicit allergic contact dermatitis in sensitized individuals.

Ingestion ........................................................ Not Applicable

Skin Absorption............................................. Not Known to Occur

Inhalation ....................................................... May cause nasal dryness, irritation and obstruction. Coughing, wheezing and sneezing; sinusitis and prolonged colds have also been reported.

¹See footnote below concerning OSHA PELs for wood dust

¹Although OSHA’s Air Contaminants Rule, including OSHA’s wood dust PELs, was struck down in AFL-CIF v. OSHA, 965 F. 2d 962 (11th Cir. 1992), a number of states have incorporated those provisions in their state plans. Additionally, OSHA has announced that it may cite companies under the OSHA Act general duty clause under appropriate circumstances for non-compliance with these levels.
Chronic Effects

Wood dust, depending on species, may cause dermatitis on prolonged, repetitive contact; may cause respiratory sensitization and/or irritation. Prolonged exposure to wood dust has been reported by some observers to be associated with nasal cancer. Wood dust is not listed as a carcinogen by IARC, NTP, ACGIH or OSHA.

REACTIVITY DATA

Conditions Contributing to Instability

Stable under normal conditions.

Incompatibility

Avoid contact with oxidizing agents and drying oils. Avoid open flame. Product may ignite at temperatures in excess of 400°F.

Hazardous Decomposition Products

Thermal oxidative degradation of wood produces irritating and toxic fumes and gases, including CO, aldehydes and organic acids.

Conditions Contributing to Polymerization

Not Applicable
PRECAUTIONS AND SAFE HANDLING

Avoid eye contact.

Avoid repeated or prolonged contact with skin. Careful bathing and clean clothes are indicated after exposure.

Avoid prolonged or repeated breathing of wood dust in the air.

Avoid contact with oxidizing agents and drying oils.

Avoid open flame.

GENERALLY APPLICABLE CONTROL MEASURES

Ventilation: Provide adequate general and local exhaust ventilation to maintain healthful working conditions.

Wear goggles or safety glasses. Other protective equipment such as gloves and approved dust respirators may be needed depending upon dust conditions.

EMERGENCY AND FIRST AID PROCEDURES

<table>
<thead>
<tr>
<th>Eyes</th>
<th>Flush with water to remove dust particles. If irritation persists, get medical attention.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin</td>
<td>If a rash or persistent irritation or dermatitis occur, get medical advise where applicable before returning to work where wood dust if present.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Remove to fresh air. If persistent irritation severe coughing, or breathing difficulties occur, get medical advice before returning to work where wood dust is present.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

SPILL/LEAK CLEAN UP PROCEDURES

Sweep or vacuum spills for recovery or disposal; avoid creating dust conditions. Provide good ventilation where dust conditions may occur. Place recovered wood dust in a container for proper disposal.

IMPORTANT: The information and data contained herein are believed to be accurate and have been compiled from sources believed to be reliable. It is offered for your consideration, investigation and verification. Tiger Deck, LLC makes no warranty of any kind, express or implied, concerning the accuracy or completeness of the information and data herein. Tiger Deck, LLC will not be liable for claims relating to any party’s use of or reliance on information and data contained herein regardless of whether it is claimed that the information and data are inaccurate, incomplete or otherwise misleading.